SMIRNOVA, I. V.

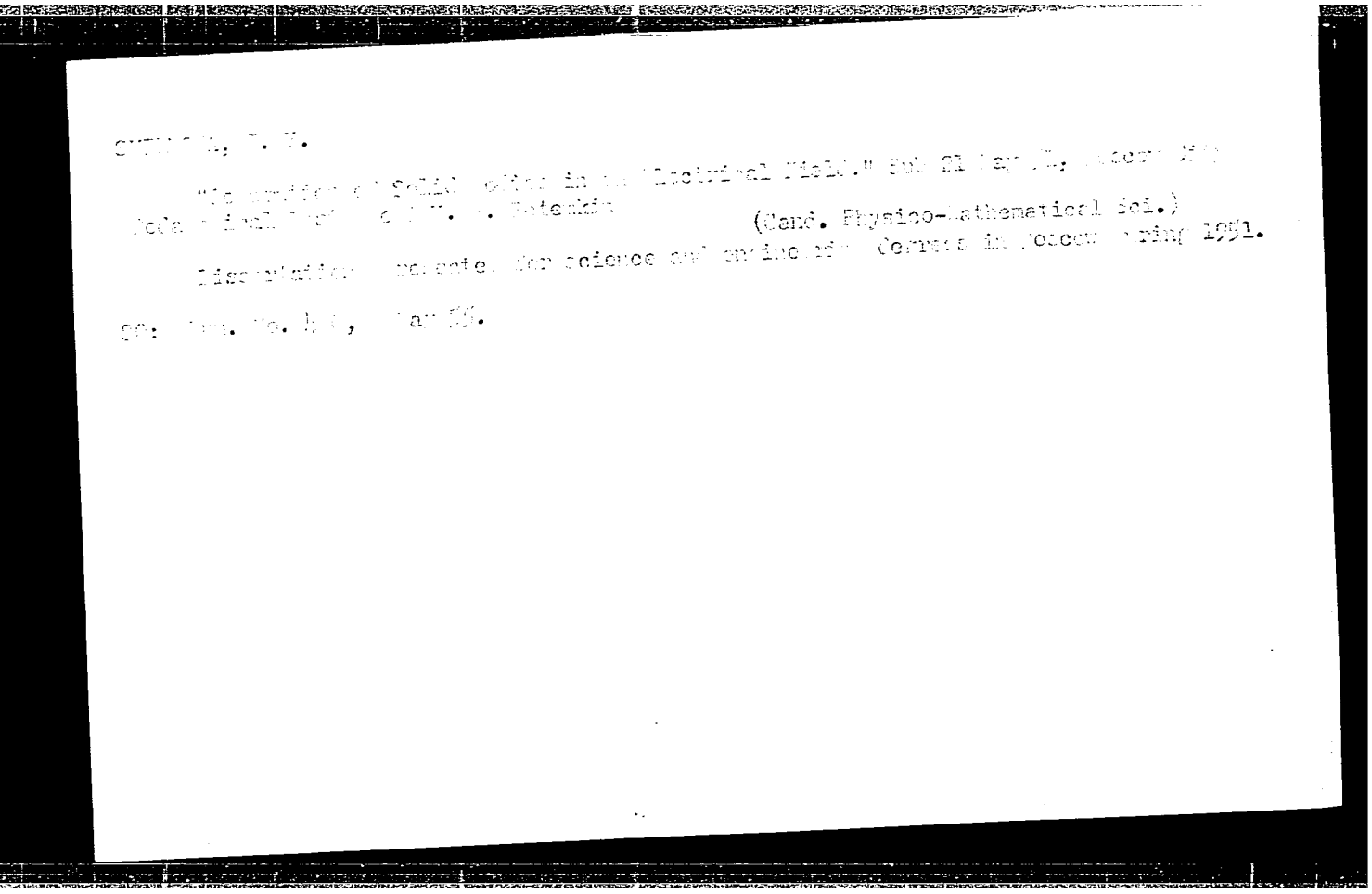
USSR/Engineering - Refractories, Slag Erosion Feb 50

"Solubility of Alumina-Silicate Refractories in Basic Slag," D. N. Poluboyarinov, Dr Tech Sci, I. V. Smirnova, Chair of Ceramics and Refractories of MKhTI imeni Mendeleyev

"Ogneupory" No 2, pp 71-81

Develops method for evaluating soly extent of refractory materials in slag in respect to time of their interaction, and for detg soln rate. Deg and rate of slag erosion decrease with increase of Al_2O_3 content in refractory.

204T19



(Cand. Physico-Mathematical Sci.)

CA SMIRNOVA, I.V.

The separability of solid bodies. Z. V. Volkova and I. V. Smirnova (Moscow State Teachers' Inst.). *Zhur. Prikład. Khim.* 22, 965-9(1951).—The efficiency of sepn. by grinding of the components of a heterogeneous solid depends on the degree of exposure (d.e.) of the components. A math. derivation of the formulas is given for calcg. degrees of exposure. The formulas derived for d.e. of included phase f_1 and of including phase f_2, are resp., $f_1 = n[(1/n) - W_1]$ and $f_2 = [n/(n-1)][(n-1)n] - W_2]$, where n is the ratio of vol. of solid body to vol. of included phase, W_1 is the probability of transition of included phase to particles of heterogeneous compn., and W_2 is the probability of transition of including phase to particles of heterogeneous compn. The d.e. of included phase does not depend on its content in the heterogeneous solid, but the d.e. of including phase increases sharply with decreasing content of included phase. The d.e. of both the phases depends on the form of the distribution function of the including grains. It is found that for a decreasing content of very fine including grains the values of f_1 and f_2 increase. For increasing values of k (the ratio of including grain sizes to powder particle sizes) the d.e. of both phases increases. For increasing values of n (the ratio of vol. of the solid body to the vol. of included phase) the d.e. of including phase sharply increases. G. S. Macy

SMIRNOVA, I. V.

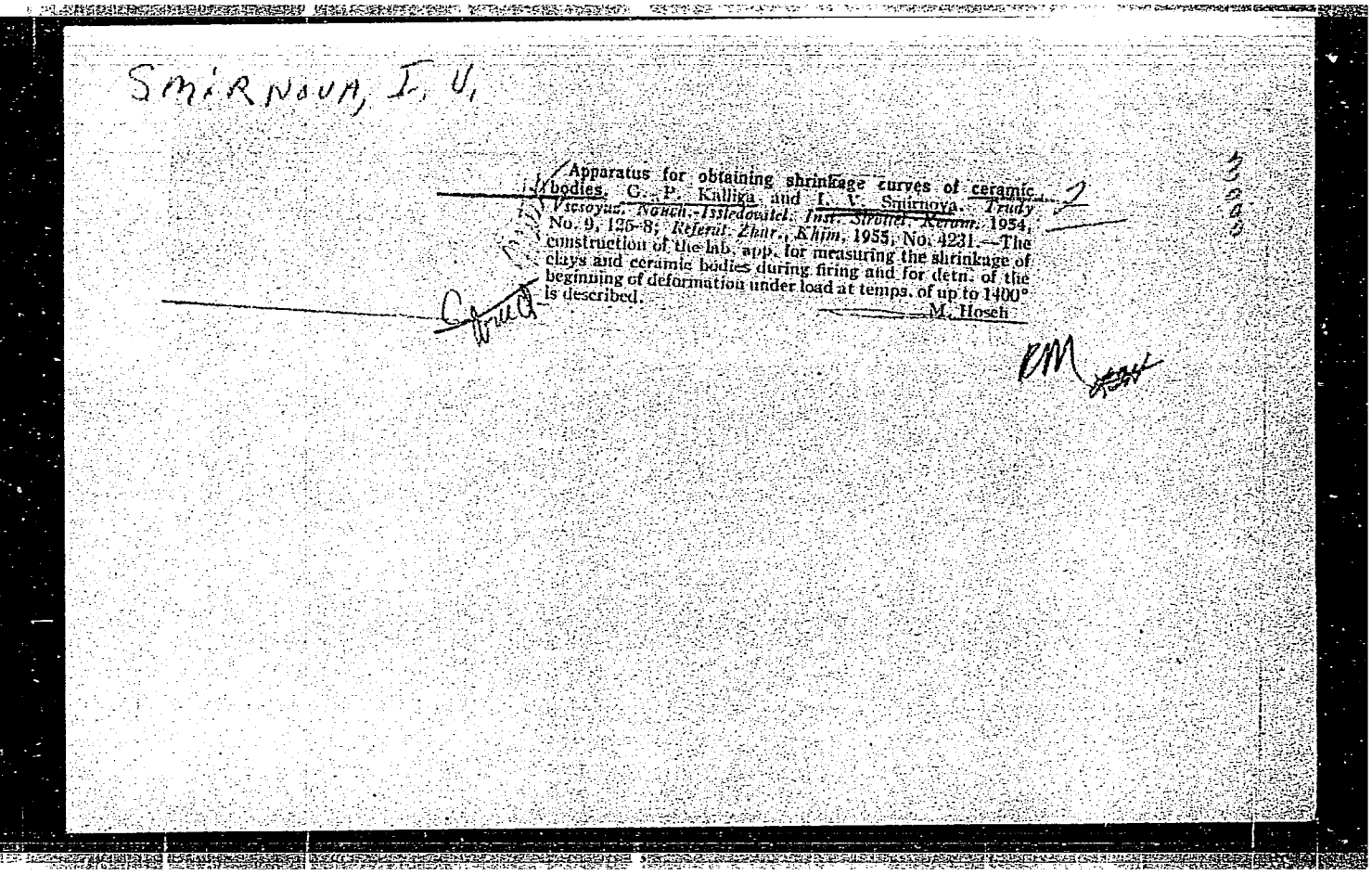
6

USSR.

Correction tables for calculating thermodynamic values of spectrum data at high temperatures. I. V. Smirnova and A. V. Frost. *Uchenye Zapiski Moskov. Gos. Univ.* No. 164, 146–51(1953); *Referat. Zhur., Khim.* 1954, No. 37427. —Addnl. tables are compiled for calcg. thermodynamic functions of gases by the Gordon and Barness method (*C.A.* 27, 3133) by varying the unharmonic factor from 0.025 to 0, and θ/T from 0.2 to 0.0. Thermodynamic values of a unidimensional harmonic oscillator are given for calcg. the 1st approximation and correction tables to the logarithm of the sum of state, entropy, and heat capacity, and tables of δ, δ^2, S_1, S_2, C_1, and C_2 functions supplementing the Gordon-Barness tables for the above mentioned θ/T interval are given for calcg. the 2nd approximation. M. Hoseh

CH

(1) Sm



SMIRNOVA, I. V.

Apparatus for obtaining shrinkage curves of ceramic bodies. G. P. Kalliga and I. V. Smirnova. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Stroitel. Keram.* 1954, No. 9, 126-8; *Referat. Zhur., Khim.* 1955, No. 4231.—The construction of the lab. app. for measuring the shrinkage of clays and ceramic bodies during firing and for detn. of the beginning of deformation under load at temps. of up to 1400° is described.

M. Hoseh

FROST, Andrey Vladimirovich, professor; DOLGOPOLOV, N.N., sostavitel'; TOPCHIYEVA, K.V., doktor khimicheskikh nauk, otvetstvennyy redaktor; GERASIMOV, Ya.I., redaktor; KOROBOV, V.V., kandidat khimicheskikh nauk, redaktor; SMIRNOVA, I.V., kandidat khimicheskikh nauk, redaktor; TETEVSKIY, V.M., doktor khimicheskikh nauk, redaktor; TILICHEYEV, M.D. doktor tekhnicheskikh nauk, redaktor; SHCHEKIN, V.V., redaktor izdatel'stva; ZELENKOVA, Ye.V., tekhnicheskiy redaktor

[Papers on kinetics and catalysis] Trudy po kinetike i katalizu. Moskva, Izd-vo Akademii nauk SSSR, 1956. 538 p. (MLRA 9:7)

1. Chlen-korrespondent AN SSSR (for Gerasimov)
(Catalysis) (Hydrocarbons) (Chemical reaction)

SMIRNOVA, I. V. and TOPCHIYEVA, K. V.

"Rol' poverkhnostnikh soyedineniy prĭ izuchenii kagaligicheskoy degidratatsii spirtov nad okis'yu alyuminiya i alyumosilikatnymi katalizagopami," paper presented at the International Congress on Catalysis, Philadelphia, Pa., 10-14 Sep 56

E-3068659 - An Branch #5

Smirnova, I. V.

The sorption of methanol vapors on dehydrogenation catalysts over a wide temperature range. I. V. Smirnova, K. V. Topchieva, and V. S. Yunusman (M. V. Lomonosov State Univ., Moscow). *Zhur. Fiz. Khim.* 31, 1337–43(1957).—The MeOH adsorption-desorption isotherms were investigated at −20, 0, 20, 60, 80, and 110° on 1:1 SiO_2–Al_2O_3 catalysts prepd. by a coppth. of the gels, and on Al_2O_3. A nonreproducible hysteresis at low vapor pressure, caused by chemisorption, was found on the isotherms. The proportion of the surface coated with chemisorbed MeOH mols. was practically the same for Al_2O_3 and the mixed catalysts at all the temps. investigated; this indicated the same type of chemisorption activity centers. The amt. of MeOH chemisorption increased between −20° and +80°, but the total adsorption was reduced. The proportion of the chemisorption-active surface kept increasing up to the MeOH catalytic-dehydrogenation temp., which made it probable that in the catalyst studies the catalytically active centers were identical with the chemisorption active centers. W. M. Sternberg

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1

PM

Distr: 4E4j

5(3) SOV/55-58-2-32/35

AUTHORS: Smirnova, I.V. and Topchiyeva, K.V.

TITLE: Adsorption of Individual Hydrocarbons on Industrial Aluminum Oxide (Adsorbtsiya individual'nykh uglevodorodov na promyshlennoy okisi alyuminiya)

PERIODICAL: Vestnik Moskovskogo Universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 2, pp 233-240 (USSR)

ABSTRACT: A report on the contents of the present paper was given in December 1957 at the Leningrad conference on the production, structure and properties of sorbents. There was investigated the adsorption of the n-propylbenzene and of the allylbenzene under 20° and 40° and of the benzene, isopropylbenzene, isopropenylbenzene and propenylbenzon under 20° from solutions in n-heptane by industrial aluminum oxide. The isothermal lines of the adscrption show a normal course for consolute liquids. The adsorption remains monomolecular up to the concentration which corresponds to the maximum. The molecules of the considered hydrocarbons are in parallel with the catalyzer surface under adsorption with the plane of the benzene ring. The adsorption decreases with increasing temperature.

Card 1/2

Adsorption of Individual Hydrobarbons on Industrial Aluminum Oxide SOV/55-58-2-32/35

The maximum of adsorption displaces into the direction of smaller concentrations which causes an increase of the adsorption potential. The adsorption layers are less dense for 40° than for 20°.
There are 5 figures, 1 table, and 16 references, 14 of which are Soviet, 1 is German, and 1 Indian.

ASSOCIATION: Kafedra fizicheskoy khimii (Chair of Physical Chemistry)

SUBMITTED: January 30,1958

Card 2/2

5(4)
AUTHORS: Smirnova, I. V., Topchiyeva, K. V. SOV/20-123-2-30/50

TITLE: The Adsorption of Hydrocarbons at Increased Temperatures (Adsorbtsiya uglevodorodov pri povyshennykh temperaturakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 316-319 (USSR)

ABSTRACT: The present paper contains data concerning adsorption from solutions of isopropyl benzene, isopropenyl benzene, propenyl benzene, allyl benzene, and cyclohexene on aluminum oxide, which, as is known, catalyzes many important processes as e.g. the isomerization of hydrocarbons. Short reference is made to 4 earlier papers dealing with this subject. The authors compare the adsorption of the aforementioned hydrocarbons with that of n-propyl-benzene and also with the adsorption of benzene. The investigation of this carbon series makes it possible to solve also the problem of the influence exercised by a conjugate double bond in the side chain of an aromatic ring. Also the relative adsorbability of hydrocarbons in an unsaturated bond in various positions is investigated (allyl benzene - propenyl benzene). Adsorption from the solutions was measured interferometrically, in which case normal heptane

Card 1/3

served as a solvent. The adsorbent used was normal technical aluminum oxide. Adsorption measurements were carried out at 20, 30, and 40°. The isothermal lines of the adsorption of the investigated hydrocarbons at 20 and 40° are shown by 2 diagrams. The presence of a conjugate double bond in the side chain of an alkyl-aromatic molecule does not vary its plane-parallel orientation in the mono-layer in the case of adsorption on the catalyzer surface. With an increase of temperature, the part of the surface that corresponds to each adsorbed molecule increases, but the thickness of the adsorption layer decreases somewhat. According to the data obtained by adsorption measurements carried out at 20°, propenyl benzene, isopropenyl benzene, and allyl benzene (which contain a double bond in the side chain) are better adsorbed than aromatic molecules with a saturated alkyl radical with the same number of carbon atoms. According to the results obtained at 40°, adsorption becomes weaker in the two investigated hydrocarbons if temperature rises. The molecules of cyclohexene are at first adsorbed planely on the surface of the aluminum oxide but they stand up with increasing concentration. Thus,

the existence of a double bond in the molecule of a cyclic hydrocarbon adsorbed on a catalyzer gives rise to certain particularities in the adsorption process. There are 3 figures, 1 table, and 13 references, 11 of which are Soviet.

ASSOCIATION: Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair for Physical Chemistry at Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 2, 1958, by P. A. Rebinder, Academician

SUBMITTED: June 18, 1958

AUTHORS: Smirnova, I. V., Topchiyeva, K. V., Mil'kova, L. P. 76-1-6/32

TITLE: The Adsorption of Alkylaromatic Hydrocarbons From Solutions by Means of Industrial Catalysts. I. (Adsorbtsiya iz rastvorov alkilaromaticheskikh uglevodorodov na promyshlennykh katalizatorakh. I.)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp. 43-46 (USSR)

ABSTRACT: The question of the problem of the influence of the conjugated double compound in the side chain of an aromatic ring or the adsorption from a solution is treated by means of the example of isopropylbenzene and isopropenylbenzene adsorbed by industrial catalysts. The systems investigated here are infinitely intermixing liquids. The adsorption of isopropylbenzene from solutions in n-heptane and in carbon tetrachloride, the adsorption of isopropenylbenzene from solutions in n-heptane by means of industrial catalysts of Houdry and aluminum oxide at 20°C was investigated. The adsorption isothermal lines pass through a maximum and cross the concentration axis in a point near to $c_s = 1/V_m$.

Card 1/3

V_m = the molecular volume of carbon, c_s = the concentration. Up to the concentrations corresponding to the maximum the adsorption remains monomolecular. The authors show that the selective adsorption of isopropylbenzene is essentially greater from a compound with n-heptane than with a compound with carbon tetrachloride. The authors stated that the molecules of the alkylaromatic hydrocarbons investigated here are, with the benzene ring level, orientated parallel to the catalyst surface in the case of an adsorption from solutions in n-heptane. The authors also show that the presence of a conjugated double compound in the side chain of the aromatic ring at the transition from isopropylbenzene to isopropenyl-benzene essentially increases the adsorption potential. This proves the change of the molecular constant from 60 $Å^2$ to 56 $Å^2$ in the case of isoprenylbenzene. There are 4 figures, 3 tables, and 28 references, 19 of which are Slavic.

ASSOCIATION: Moscow State University imeni M. V. Lomonosova (Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova).

SOV/76-33-5-16/33

5(4)
AUTHORS: Smirnova, I. V., Topchiyeva, K. V., Smetanko, N. P. (Moscow)

TITLE: The Adsorption From Solutions of Alkylaromatic Hydrocarbons on Industrial Catalysts 2. (Adsorbtsiya iz rastvorov alkil-aromaticheskikh uglevodorodov napromyshlennykh katalizatorakh.2)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 5, pp 1059 - 1064 (USSR)

ABSTRACT: This paper shows the results of the investigation of the adsorption of allyl benzene, propenyl benzene, and - in comparison - n-propyl benzene from solutions of n-heptane on Al_2O_3 at 20° and 40°. Table 1 shows the physical data of the hydrocarbons used. Figure 1 shows the isothermal adsorption lines at 20°, figure 2 at 40°. The absolute isothermal adsorption lines and their molecular constants were determined considering the extent of the specific surface of Al_2O_3. Figure 2 shows the isothermal lines, table 2 the data obtained . The thickness of the adsorption layer of propenyl benzene agrees with the theoretically calculated thickness of the benzene ring = 3.7 Å. Thus the molecules of propenyl

Card 1/2

benzene show a parallel orientation towards the catalyst surface with the surface of the benzene ring. The same is true of allyl benzene and n-propyl benzene. The presence of a double bond in the side chain does not change the plano-parallel orientation of the benzene derivative. The adsorbability of the hydrocarbons with various molecular volume decreases in the order propenyl-, allyl-, n-propyl benzene. A conjugated double bond increases the adsorption potential. Adsorption decreases with increasing temperature, the adsorption layers become less dense. There are 3 figures, 2 tables, and 16 references, 14 of which are Soviet.

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

SUBMITTED: October 12, 1957

FROST, Andrey Vladimirovich, prof. [deceased]. Prinimali uchastiye: BUSHMAKIN, I.N.; VVEDENSKIY, A.A.; GRYAZNOV, V.M.; DEMENT'YEVA, M.I.: DINTSES, A.I.; DOBROHRAVOV, R.K.; ZHARKOVA, V.R.; ZHERKO, A.V.; IPAT'YEV, V.N.; KVYATKOVSKIY, D.A.; KOROBOV, V.V.; MOOR, V.G.; NEMTSOV, M.S.; RAKOVSKIY, A.V.; REMIZ, Ye.K.; RUDKOVSKIY, D.M.; RYSAKOV, M.V.; SEREBRYAKOVA, Ye.K.; STEPUKHOVICH, A.D.; STRIGALEVA, N.V.; TATEVSKIY, V.M.; TILICHEYEV, M.D.; TRIFEL', A.G.: FROST, O.I.; SHILYAYEVA, L.V.; SHCHEKIN, V.V.. DOLGOPOLOV, N.N., sostavitel'; GERASIMOV, Ya.I., otv.red.; SMIRNOVA, I.V., red.; TOPCHIYEVA, K.V.; YASTREBOV, V.V., red.; KONDRASHKOVA, S.F., red. izd-va; LAZAREVA, L.V., tekhn.red.

[Selected scientific works] Izbrannye nauchnye trudy. Moskva, Izd-vo Mosk.univ., 1960. 512 p. (MIRA 13:5)

1. Chlen-korrespondent AN SSSR (for Gerasimov).
(Chemistry, Physical and theoretical)

81654
S/181/60/002/06/44/050
B006/B056

24.2600

AUTHORS: Shuba, Yu. A., Smirnova, I. V.

TITLE: Photoelectronic Emission from Copper- and Silver Iodide

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 6, pp. 1321-1322

TEXT: The external photoeffect occurs on pure halides of the elements of the first group of the periodic system in the far ultraviolet. Hitherto, the photoemission from CuI and AgI has been investigated mainly within the longwave range of ultraviolet emission. The authors of the present paper measured the relative spectral distribution of photoemission from CuI and AgI in the shortwave range of from 2600 to 1100 A. For this purpose, a vacuum monochromator with aluminized replica with diffraction grating (radius of curvature 500 mm) was used. As a radiation source a hydrogen gas discharge lamp with LiF-window (of 1 mm thickness) was used, which allowed a radiation of up to 1050 A to pass. Photoemission was measured by using the samples to be investigated as photocathodes in open electronic multipliers. The measuring results obtained are shown in a figure (abscissa: photoenergy in ev, ordinate:

Card 1/2

Photoelectronic Emission From Copper- and Silver Iodide

S/181/60/002/06/44/050
B006/B056

quantum yield in relative units). Uniform rules were observed for all samples. At low energies the quantum yield rises steeply with photon energy (for CuI by more than 6 orders of magnitude). Within the short-wave range a certain saturation sets in. The method of producing the CuI and AgI layers warranted a nearly stoichiometrical ratio of the components. It may be assumed that the photoemission threshold in the layers under investigation corresponds to a photoelectron excitation beyond the lattice boundaries direct from the valency band vortex. With increasing $h\nu$ the number of band levels increases, whose electrons are able to participate in the photoemission, which leads to an increase of the quantum yield. With a further increase of $h\nu$ the level number remains the same if the bottom of the valency band is in a depth of 7.5 ev with respect to the vacuum level, and scattering of electrons on the valency band electrons occurs. There are 1 figure and 6 references: 2 Soviet, 1 German, 1 British, and 1 American.

ASSOCIATION: Opticheskiy institut im. S. I. Vavilova Leningrad
(Optical Institute imeni S. I. Vavilov, Leningrad)

SUBMITTED: September 2, 1959

Card 2/2

SMIRNOVA, I.V.; KUBASOV, A.A.; TOPCHIYEVA, K.V.

Heat of wetting aluminum oxides by benzene, cyclchexane, and cyclohexene solutions in n-heptane. Dokl. AN SSSR 139 no.1: 150-153 Jl '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Aluminum oxide) (Heat of wetting)

VAVILOV, V. S.; SMIRNOVA, I. V.; CHAPNIN, V. A.

"On Defects Introduced by Fast Electrons into silicon Doped by Lithium "

Paper was submitted at the International Conference on
Crystal Lattice Defedts at Kyoto, 7-12 Sep ' 62

(for Vavilov, v. s.) P. N. Lebedev Inst. of Physics
Leninsky Prospect 53, Moscow

37925
S/181/62/004/005/009/055
B102/B138

24770

AUTHORS: Vavilov, V. S., Smirnova, I. V., Chapnin, V. A.

TITLE: The interaction of lithium atoms introduced into silicon with the radiation defects of the structure

PERIODICAL: Fizika tverdogo tela, v. 4, no. 5, 1962, 1128-1131

TEXT: The authors studied the interaction of Li impurity atoms in Si single crystals with the structural defects that were produced by fast-electron bombardment. The Li impurity was introduced by diffusion from a Sn-Li melt containing 0.2 - 1% Li. Li equilibrium concentration in Si was reached at 550-650°C. The Li samples were p-type ($\rho \sim 150$ ohm·cm) and cut out of single crystals. After introduction of Li the p-type samples were transformed to n-type with carrier concentrations of $3 \cdot 10^{14}$-10^{16} cm^{-3}. Since Li formed oxide ions LiO^+, which have shallow donor levels and are relatively stable at room temperature, the carrier concentration (n) equals the sum of the ions $Li^+ + LiO^+$. Electron bombardment (0.9 Mev) took place at room temperature. At Li concentrations

Card 1/5 2

44163
S/181/62/004/012/003/052
B104/B102

AUTHORS: Smirnova, I. V., Chapnin, V. A., and Vavilov, V. S.

TITLE: Radiation defects in lithium-doped silicon

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3373-3380

TEXT: The effect of lithium on the formation of stable radiation defects in silicon and on the annealing of these defects is studied by determining the temperature dependence of the carrier concentration from the Hall effect. The lithium was introduced into Si single crystals by diffusion annealing (550-650°C) from a tin-lithium alloy. The single crystals had a resistivity of 100 ohm·cm; after doping they had n-type conductivity. The carrier concentration lay between $3 \cdot 10^{14}$ and $2 \cdot 10^{17}$ cm^{-3}. The specimens were irradiated by 0.9-Mev electrons at room temperature. Results: In n-type silicon with lithium up to concentrations of $(1-2) \cdot 10^{17}$ cm^{-7}, shallow energy-levels arise in the range from 0.06 to 0.14 ev below the bottom of the conduction band, which are related to primary radiation defects, e.g., to pairs of interstitial atoms and

Card 1/2

vacancies which are separated by different distances. The lithium in the Si crystal interacts with these defects. Such interaction is similar to the processes that occur during the annealing of genetically unrelated vacancies and interstitial atoms. The trapping radius has the same order as the lattice constant, ($r_{min} = 5.4 \cdot 10^{-8}$ cm). In crystals that, after part of the lithium has been deposited in the defects, are again of p-type conductivity, the levels 0.45 ev, 0.28 ev and 0.21 ev were observed above the top of the valency band. The centers corresponding to the level E_v + 0.28 ev did not disappear completely even during annealing for several hours at 450°C and above; those corresponding to the level E_v + 0.21 ev disappeared completely during annealing at 450°C. There are 4 figures.

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

SUBMITTED: June 16, 1962

SMIRNOVA, I.V.; TOPCHIYEVA, K.V.; KUBASOV, A.A.; SAVCHENKO, L.V.

Adsorption of methylcyclohexene from solutions at elevated temperature. Dokl. AN SSSR 147 no.3:660-662 N '62. (MIRA 15:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno akademikom P.A. Rebinderom.
(Cyclohexene) (Adsorption)

SMIRNOVA, I.V.; KARPUKHINA, G.V.; TOPCHIYEVA, K.V.

Adsorption of allylbenzene and allylcyclohexane on a chromia catalyst. Neftekhimiia 3 no.1:71-73 Ja-F '63. (MIRA 16:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Benzene) (Cyclohexane) (Adsorption)

S/204/63/003/001/006/013
E075/E436

AUTHORS: Smirnova, I.V., Karpukhina, G.V., Topchiyeva, K.V.

TITLE: Adsorption of allylbenzene and allylcyclohexane on chromia catalyst

PERIODICAL: Neftekhimiya, v.3, no.1, 1963, 71-73

TEXT: The adsorption from n-heptane of the two hydrocarbons on Cr_2O_3 was studied to gain an insight into the mechanism of the polymerization of unsaturated hydrocarbons. The catalyst was prepared by a previously described method (A.V.Topchiyev et al. Dokl. AN SSSR, v.130, 1960, 344) and had the surface area of 330 m^2/g. There were no catalytic reactions taking place during the experiments. The adsorption isotherms were determined at 20°C by interferometry. Allylbenzene was shown to occupy an area on the catalyst similar to that occupied by benzene on silica gel or alumina. Allyl groups were apparently above the level of the adsorbed benzene nuclei making the adsorbed mono-layer relatively thick and not in contact with the catalyst surface. The molecules of adsorbed allylcyclohexane occupied much larger area, the allyl groups being in direct contact with the surface.

Card 1/2

TOPCHIYEVA, K. V.; SMIRNOVA, I. V.; KUBASOV, A. A.

"Concerning the mechanism of cyclene isomerization over alumina."

report submitted to 3rd Intl Cong on Catalysis, Amsterdam, 20-25 Jul 64.

Moscow State Univ im Lomonosov.

KUBASOV, A.A.; SMIRNOVA, I.V.; TOPCHIYEVA, K.V.

Gas chromatographic determination of the heats of adsorption of hydrocarbons on aluminum oxide. Kin. i kat. 5 no.3:520-525 My-Je '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, Khimicheskiy fakul'tet.

[illegible], [illegible]; [illegible], [illegible]; [illegible]V, Martin; [illegible]HIYEVA, K.V.

Heats of wetting of aluminum oxide by solutions of methylcyclohexenes in n-heptane. Dokl. AN SSSR 160 no.1:170-173 Ja '65. (MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet. Submitted July 2, 1964.

[illegible]

[illegible], Intestinal [illegible] parasitic

Ascariasis and its role in acute abdominal diseases. Khirurgiia no. 4 (1952)

Monthly List of Russian Accessions, Library of Congress, August, 1952. UNCLASSIFIED.

SMIRNOVA, K.A.

An unusual complication of gastric resection. Vest.khir. 76 no.7: 126-127 Ag '55. (MLRA 8:10)

1. Iz khirurgicheskog otdeleniya 3-y gorodskoy bol'nitsy g. Ivanovo (zav.K.A. Smirnova)
(STOMACH, neoplasms
caused by surg. & anastomosis of stomach)

SMIRNOVA, Kh.A

Smirnova, H. A. Problem of g-circles. Mat. Sb. N.S. 39(81) (1956), 397–399. (Russian)

Gupta [Proc. Nat. Inst. Sci. India 19 (1953), 315–316; MR 15, 149] introduced the notion of so-called g-circles defined as follows. Given a finite set of non-concyclic points on the plane or sphere any circumference or straight line passing through three and only three points of the set is called a g-circle. Gupta's results were based upon the hypothesis that the number of g-circles is always greater than or equal to 4. The author's principal result is to prove this hypothesis. The method of proof is based upon the consideration of closed convex polyhedra in the sense of A. D. Alexandrov [Convex polyhedra, Gostehizdat, Moscow-Leningrad, 1950; MR 12, 732].

D. K. Kazarinoff (Ann Arbor, Mich.)

SMIRNOVA, Kh.A.

Systems of algebraic equations with a single unknown. Izv. vys. ucheb.zav.;mat.no.5:160-164 '60. (MIRA 13:10)

1. Moskovskiy poligraficheskiy institut.
(Equations)

AND[illegible]EVSKIY, Feodosiy Petrovich; SMIRNOVA, Kh.A., dots., red.; MAKOVSKAYA, R.P., red.

[Elementary theory of Fourier series. Fourier integrals; supplementary chapters to a course in higher mathematics] Nachal'nye svedeniia o riadakh Fur'e. Integral Fur'e; dopolnitel'nye glavy k kursu vysshei matematiki. Moskva, Mosk. poligraficheskii in-t. No.2. 1964. 39 p. (MIRA 18:6)

S/075/62/017/005/001/007
I033/I233

AUTHORS: Brudz', V.G., Titov, V.I., Osiko, Ye. P., Drapkina, D. A., and Smirnova, K.A.

TITLE: Sulphonazo as a reagent for the determination of scandium

PERIODICAL: Zhurnal analiticheskoy khimii, v.17, no.5, 1962, 568-573

TEXT: Properties of various reagents which produce colored compounds with Sc ions were investigated and compared. The best results were obtained in the case of sulphonazo. For a solution of pH 4.0 - 5.5, buffered by urotropine or acetate, the peak of optical density is obtained at 610-620 mμ. The Beer law is obeyed

Card 1/3

S/075/62/017/005/001/007
I033/I233

Sulphonazo as a reagent....

institut mineral'nogo syr'ya (All-Union Scientific Research Institute of Chemical Reagents and High Purity Chemical Substances, and All-Union Scientific Research Institute of Mineral Raw Materials) Moscow

SUBMITTED: May 20, 1961

Card 3/3

DRAPKINA, D.A.; BRUDZ', V.G.; SMIRNOVA, K.A.; DOROSHINA, N.I.

Photometric determination of cadmium by means of "bromobenzothiazo". Zhur.anal.khim. 17 no.8:940-944 N '62. (MIRA 15:12)

1. All-Union Scientific-Research Institute of Chemical Reagents and Chemical Substances of Special Purity, Moscow.
(Cadmium--Analysis) (Chemical tests and reagents)

LUKIN, A.M.; SMIRNOVA, K.A.; ZAVARIKHINA, G.B.

New reagent for the photometric and complexonometric determination of calcium. Zhur.anal.khim. 18 no.4:444-449 Ap '63. (MIRA 16:6)

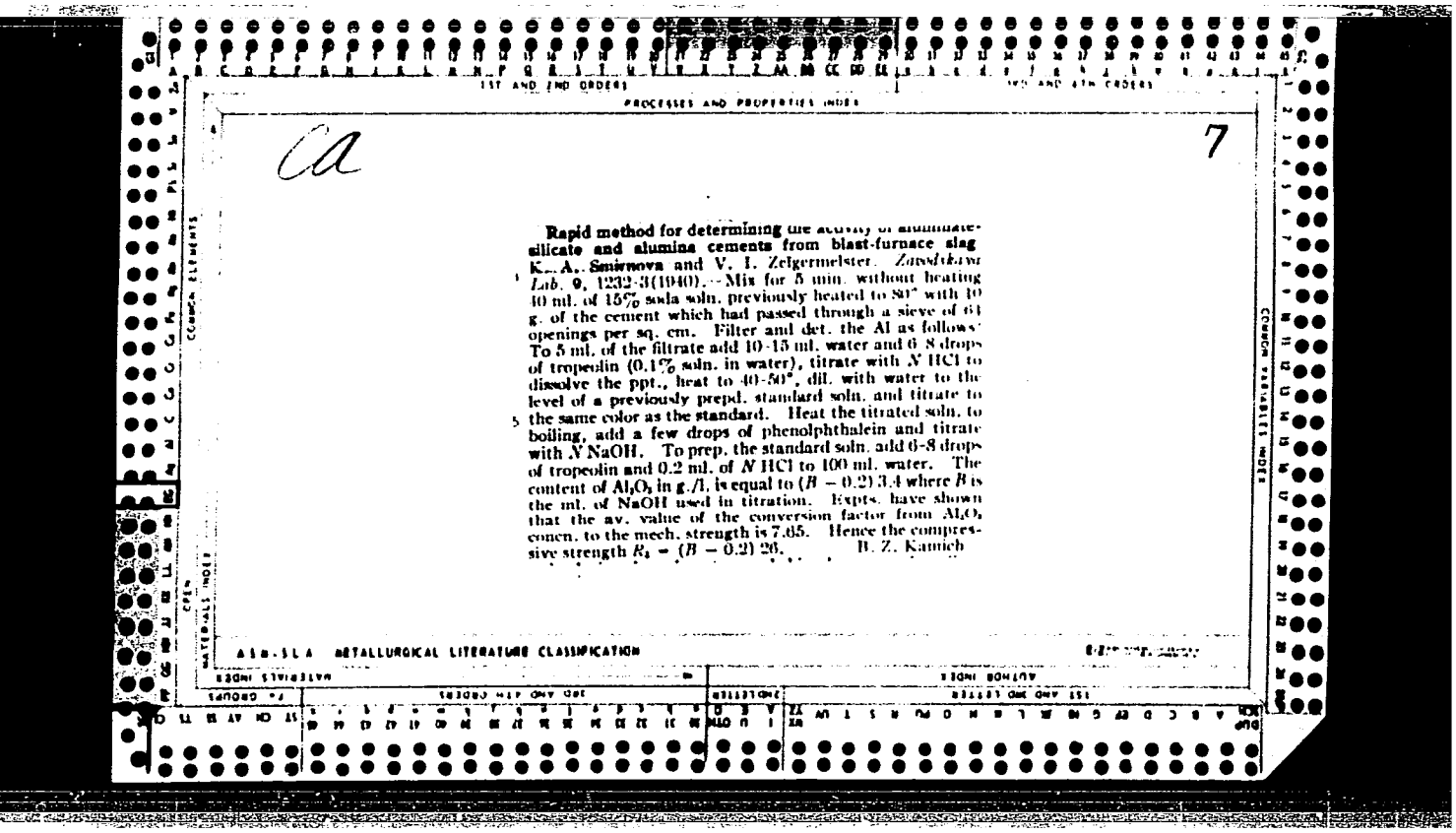
1. All-Union Scientific-Research Institute of Chemical Reagents and Chemical Substances of Special Purity, Moscow.
(Calcium--Analysis) (Complexons) (Photometry)

VISHNYAKOV, D.Ya., doktor tekhn.nauk, prof.; SOVALOVA, A.A., kand.tekhn.nauk, dotsent; SMIRNOVA, K.A., inzh.

Mechanical properties of steel at low temperatures. Trudy MATI no.31: 100-106 '58. (MIRA 11:7)
(Steel--Testing) (Mechanical wear) (Metals at low temperature)

ABASHINA, V.I.; AKSEL'ROD, S.S.; RUTKOVSKIY, G.M.; SMIRNOVA, K.A.

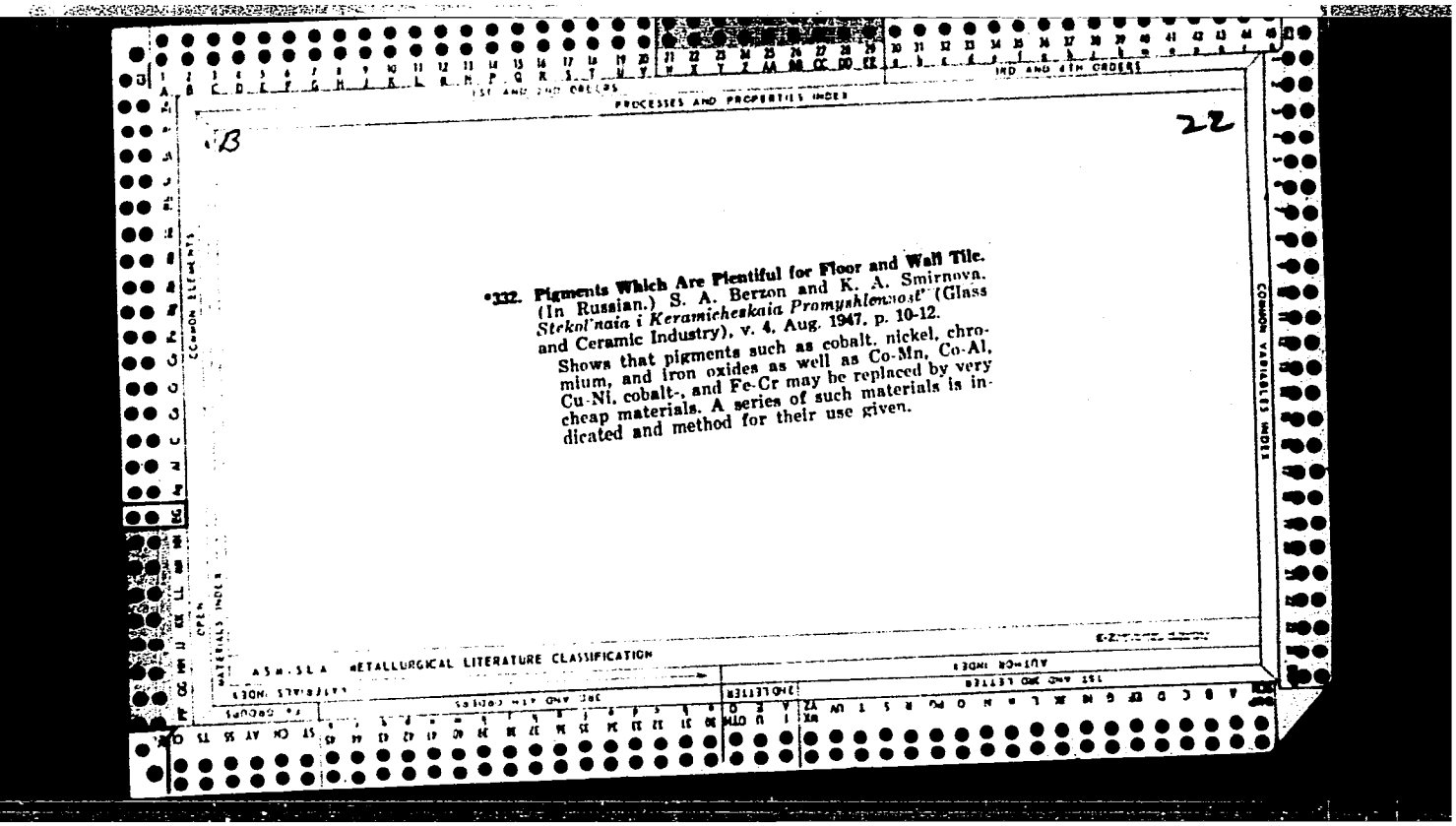
The SF-8 recording spectrophotometer. Zhur. prikl. spekt. 3 no. 2:182-186 Ag '65. (MIRA 18:12)



Ca 7

Rapid method for determining the activity of aluminate-**silicate and alumina cements from blast-furnace slag** K. A. **Smirnova** and V. I. Zelgermelster. *Zavodskaya Lab.* 9, 1232-3(1940).—Mix for 5 min. without heating 40 ml. of 15% soda soln. previously heated to 80° with 10 g. of the cement which had passed through a sieve of 64 openings per sq. cm. Filter and det. the Al as follows: To 5 ml. of the filtrate add 10-15 ml. water and 6-8 drops of tropeolin (0.1% soln. in water), titrate with *N* HCl to dissolve the ppt., heat to 40-50°, dil. with water to the level of a previously prepd. standard soln. and titrate to the same color as the standard. Heat the titrated soln. to boiling, add a few drops of phenolphthalein and titrate with *N* NaOH. To prep. the standard soln. add 6-8 drops of tropeolin and 0.2 ml. of *N* HCl to 100 ml. water. The content of Al_2O_3 in g./l. is equal to $(B - 0.2)3.4$ where B is the ml. of NaOH used in titration. Expts. have shown that the av. value of the conversion factor from Al_2O_3 concn. to the mech. strength is 7.85. Hence the compressive strength $R_A = (B - 0.2)\,26$. B. Z. Kamich

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

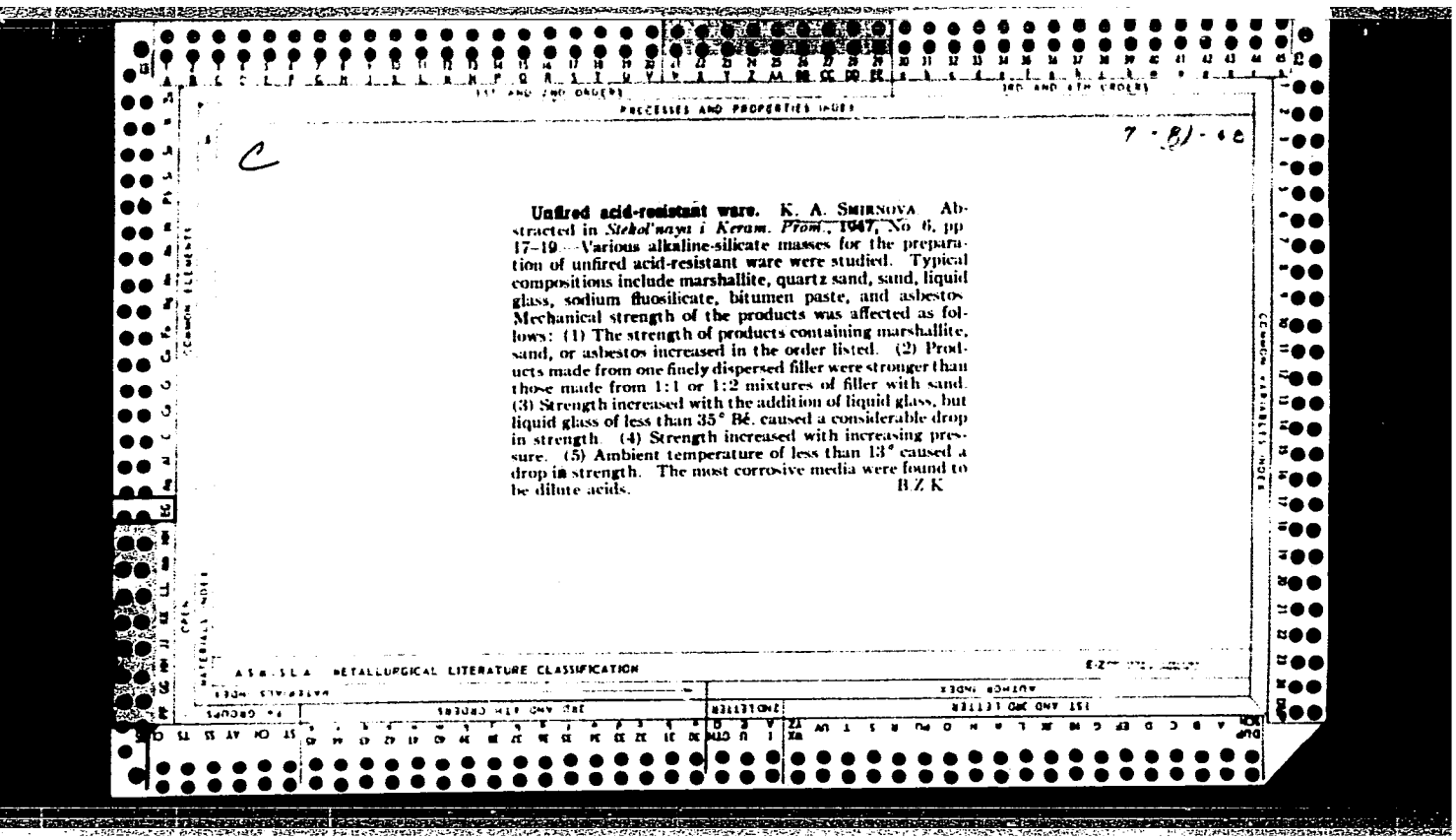
B

22

*332. **Pigments Which Are Plentiful for Floor and Wall Tile.** (In Russian.) S. A. Berzon and K. A. Smirnova. *Stekol'naia i Keramicheskaia Promyshlennost'* (Glass and Ceramic Industry), v. 4, Aug. 1947, p. 10-12.

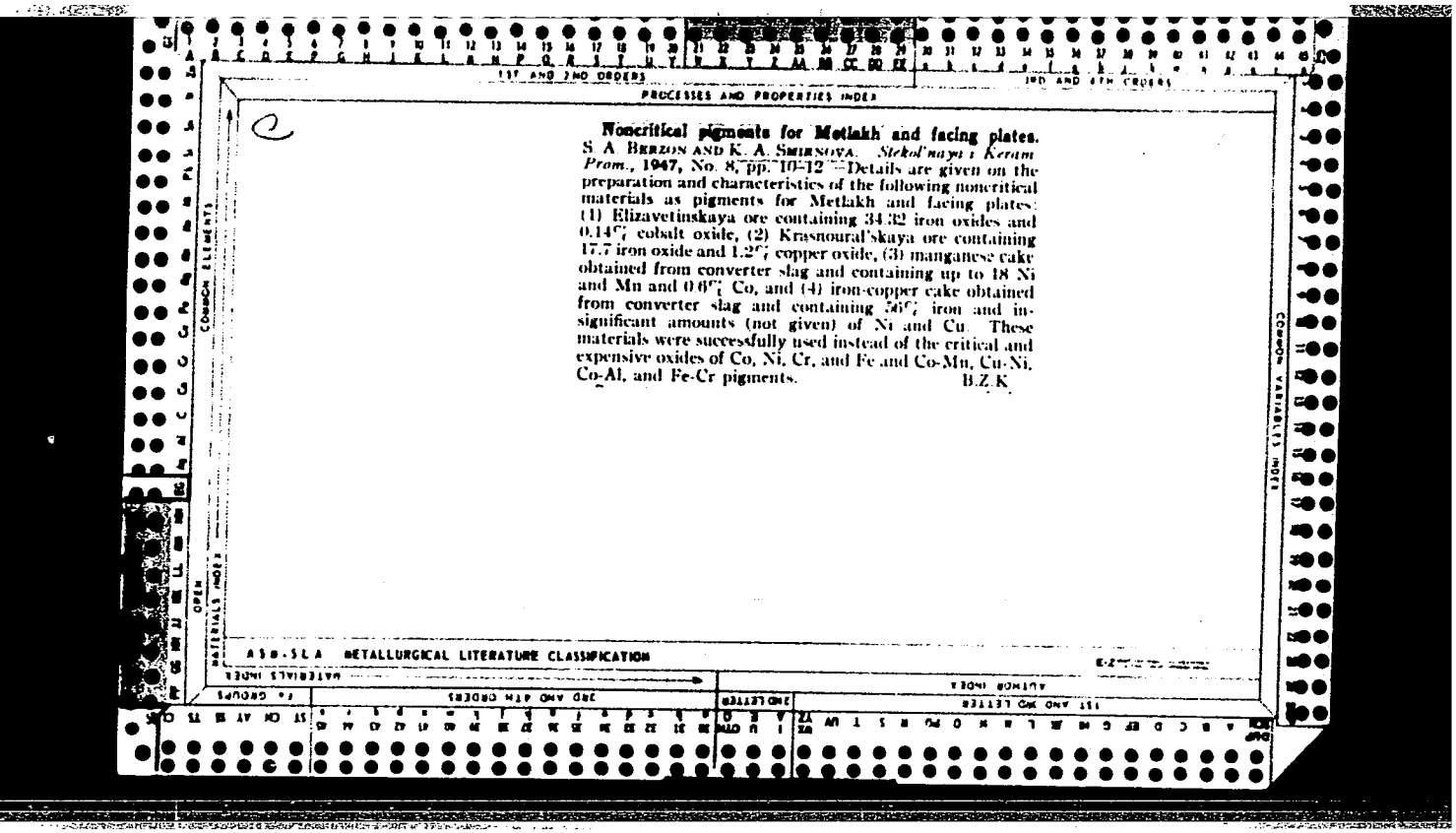
Shows that pigments such as cobalt, nickel, chromium, and iron oxides as well as Co-Mn, Co-Al, Cu-Ni, cobalt-, and Fe-Cr may be replaced by very cheap materials. A series of such materials is indicated and method for their use given.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Unfired acid-resistant ware. K. A. SMIRNOVA. Abstracted in *Steklo'naya i Keram. Prom.*, 1947, No. 6, pp. 17–19.—Various alkaline-silicate masses for the preparation of unfired acid-resistant ware were studied. Typical compositions include marshallite, quartz sand, sand, liquid glass, sodium fluosilicate, bitumen paste, and asbestos. Mechanical strength of the products was affected as follows: (1) The strength of products containing marshallite, sand, or asbestos increased in the order listed. (2) Products made from one finely dispersed filler were stronger than those made from 1:1 or 1:2 mixtures of filler with sand. (3) Strength increased with the addition of liquid glass, but liquid glass of less than 35° Bé. caused a considerable drop in strength. (4) Strength increased with increasing pressure. (5) Ambient temperature of less than 13° caused a drop in strength. The most corrosive media were found to be dilute acids.

B Z K



PROCESSES AND PROPERTIES INDEX

Noncritical pigments for Metlakh and facing plates. S. A. Berzon and K. A. Smirnova. *Steklo'naya i Keram. Prom.*, 1947, No. 8, pp. 10-12.—Details are given on the preparation and characteristics of the following noncritical materials as pigments for Metlakh and facing plates: (1) Elizavetinskaya ore containing 34.32 iron oxides and 0.14% cobalt oxide, (2) Krasnoural'skaya ore containing 17.7 iron oxide and 1.2% copper oxide, (3) manganese cake obtained from converter slag and containing up to 18 Ni and Mn and 0.6% Co, and (4) iron-copper cake obtained from converter slag and containing 56% iron and insignificant amounts (not given) of Ni and Cu. These materials were successfully used instead of the critical and expensive oxides of Co, Ni, Cr, and Fe and Co-Mn, Cu-Ni, Co-Al, and Fe-Cr pigments. B.Z.K.

A 58-51 A METALLURGICAL LITERATURE CLASSIFICATION

SMIRNOVA, K.A., Eng.

"Obtaining Acidproof Plates Without Roasting on a Base of Soluble Glass." Thesis for degree of Cand. Technical Sci. Sub. 6 Jun 49, Moscow Order of Lenin Chemicotechnological Inst imeni D.I. Mendeleyev.

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

SMIRNOVA, K.A.

30344

Razrabotka ryetsyeptury i tyekhnulogii izgotovlyeniya byezobzhigovykh kislotoupornykh plitok. Trudy Obshchyesoyuz. Nauch. - isslyed. in- ta strcit. kyeramiki, vyp. 2, 1949 s. 16-38. - Bibliogr: 14 Nazv.

SO: LETOPIS' No. 34

SMIRNOVA, K. A.

New type porous ceramics shapes. I. S. Dobrovol'skii and K. A. Smirnova. Steklo i Keram., 7 (8) 18--20 (1950).---In making porous shapes from quartz sand and water glass, the method involves selecting the most uniformly sized sand grains and determining the optimum amount of water glass which, during firing, will produce a fine vitreous film around the grains, cement them, and create open pores by not filling the spaces between the grains. The materials are mixed, shaped with the aid of a press or vibration platform, and fired at 900° to 950°C. Photos and characteristics of filter shapes are given. B.Z.K.

BCS

Pottery

1323. Porous ceramics made from grog bonded with alkali-silicate.—K. A. SAMSONOVA (*Stek. Keram.*, **8**, No. 10, 16, 1951). Porous ceramics for filtration, aeration, purification of air and gases, etc., must often resist thermal shock (inserts for dry acetylene preparation, cylinders for petrol combustion, etc.). As a filler for thermally stable porous products, grog with a refractoriness of 1,670°–1,690° C., bulk density of 1·9 g/ml., and containing 67·30% SiO_2 and 30·31% Al_2O_3, was used. Na silicate is used with a modulus of 2·8 and density of 1·42, with the addition of Na_2SiF_6 containing 12% of impurities, the bulk of which is SiO_2. The investigations have shown that, in the hardening of such compn., the main process is the coagulation of SiO_2 of the Na silicate under the influence of the Na_2SiF_6. This conclusion is confirmed by the fact that when even a small amount of Na_2SiF_6 (4–7%) is added, 70–80% of all SiO_2 present in the Na silicate is in the colloidal state, whereas only 10–15% SiO_2 should theoretically form as a result of reaction between the Na silicate and the same quantity of Na_2SiF_6. Colloidal SiO_2 coats grog grains as a gel-like film. Owing to the removal of moisture during drying and syneresis, the gel solidifies to provide a strong linkage of grog grains between each other and thus increase the overall strength of the products. After shaping and setting, the products contain in addition to the grog grains a bond of 40–45% alkalis and 50·60% SiO_2. Considering that 20–25% of the mixture of Na silicate with Na_2SiF_6 is introduced into the mix, the whole body will contain *c.* 15% colloidal SiO_2 and 10% alkali. NaF forming from reaction between Na silicate and Na_2SiF_6 is present in the body in small amounts (<1%). The porosity depends on the making pressure and amount of Na silicate added. The following manufacturing process is recommended. Grog is crushed in edge runners and the 0·3–0·4 mm. fraction is used. To this, 5% (by wt. of grog) of Na_2SiF_6 (0·4 mm.) is added; this is carefully mixed with 28% (by

SMIRNOVA, K. A.

USSR.

Water-resistant porous shapes bonded with soluble glass. K. A. Smirnova. *Steklo i Keram.* 11, No. 6, 15–16(1954).—Shapes made from 80–86% grog, 10% sol. glass, and 4% Na_2SiF_6 were fired at 1100 and 1200°. After 2 months in water, 2 months in the open, and drying in a thermostat, the crushing strength was 120–140 kg./sq. cm. Abs. porosity was 43 and 48%, water absorption 29 and 34%, pore size 70 and 110 μ, air permeability 8 and 21 cu. m. cm./sq.m. hr. mm. water column. B. Z. Kamich

SMIRNOVA, K.A.

USSR/ Engineering - Porous ceramic tiles

Card 1/1 Pub. 104 - 12/14

Authors : Smirnova, K. A.

Title : Production of porous ceramic tiles used for unloading and pneumatic transportation of powdered materials should be expanded.

Periodical : Stek. i ker. 11/11, 27-29, Nov 1954

Abstract : An analysis is made of the factors involved in making porous tiles. These include the fineness of the grinding of raw materials, the pressure applied in forming the tiles, and the heat applied in the firing. Figures are presented to show how the size of the pores can be regulated by the pressure and fineness of the grain. Seven USSR references (1936-1954). Table.

Institution: .....

Submitted: .....

SMIRNOVA, K.A.

Microstructure of filter ware made from quartz sand in its connection with the composition of the binder additions. K. A. Smirnova and M. E. Yakovleva. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Stroitel. Keram.* 1955, No. 10, 197–205.—A mix of Na_2 waterglass, Na_2SiF_6, and glass cullet powder is an excellent binder for quartz sand filter bodies sintered at relatively low temps. (900–1000°). The mix with the sand will then contain *in toto* 2.2–4.9% Na_2O, 1.0–3.5% F, and 1.4% CaO. The fused binder acts as a strong mineralizer, and the SiO_2 from the sand recrystallizes as metacristobalite (cf. Kainarskii and Kuryakin, *C.A.* 47, 6827*e*, 8334*c*), while from the melt contg. dissolved SiO_2, tridymite crystallizes as the primary phase. Devitrite, ($Na_2O.3CaO.6SiO_2$) and $CaSiO_3$ (wollastonite and (or) pseudowollastonite) are typical crystns. from the glass addn. of the binder. The mech. strength of the sintered quartz filter bodies and their water permeability are very satisfactory if the sinter temp. is not higher than 900–1000°. Higher sintering temps. (1100–1200°) are observed with a binder contg. bentonite (with its lower contents in alkalies, etc.) and an addn. of 2% Al_2O_3 to the mass. Also, in this case, in the sintered body metacristobalite is formed from the quartz; tridymite does not appear in considerable amts. if firing temps. below 1300° were used. Industrially useful quartz filter bodies of this second type require a sintering temp. of 1200° for 8 hrs. Typical bodies of this kind contain about 54% glassy matrix (with metacristobalite) and 46% quartz, with pores of 6–11 μ in diam. A further progressive crystn. of metacristobalite brings about larger pores (16 μ) and a higher water permeability, but also a lower mech. strength of the filter body. W. Eitel

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MATVEYEV, Mikhail Aleksandrovich; SMIRNOVA, Klavdiya Aleksandrovna; SIL'VESTROVICH, S.I., nauchnyy redaktor; KRUGLOV, S.A., redaktor; LYUDKOVSKAYA, N.I., tekhnicheskiy redaktor

[Porous silicate products] Poristye silikatnye izdeliia. Moskva, Gos. izd-vo lit-ry po stroit. materialam, 1956. 106 p. (MLRA 9:10)
(Building materials) (Silicates)

SMIRNOV, K

USSR /Chemical Technology. Chemical Products and Their Application I-12

Silicates. Glass. Ceramics. Binders.

Abs Jour: Referat Zhur - Khimiya, No 9, 1957, 31562

Author : Matveyev M., Smirnova K.

Title : Porous Panels for Pneumatic Transfer of Pulverulent Materials

Orig Pub: Stroit. materialy, izdeliya i konstruktsii, 1956, No 8, 28-29

Abstract: Description of the technological process of production, and testing procedures for air-permeability, of porous chamotte panels, made with water glass, for pneumatic transfer of dust-like and pulverulent materials.

Card 1/1

SMIRNOVA, K. A.

USSR/Chemical Technology. Chemical Products and Their Application -- Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5223

Author: Nosova, Z. A., Smirnova, K. A.

Institution: None

Title: Effect of Vibratory Grinding of Materials on Properties of Sanitary and Building Articles Made of Semiporcelain

Original Publication: Steklo i keramika, 1956, No 4, 18-23

Abstract: Described are the results of investigations of samples of semiporcelain paste prepared by using vibration-ground filler materials: predried quartz sand and pegmatite calcined at 800°. Vibratory grinding of the materials was carried out in a M-200 vibratory mill of intermittent action, using uralite balls, and the grinding was done to different degrees of dispersion. The latter was determined by the Robinson pipette method used in conjunction with the method of Sabanin; specific surface was determined by calculation on the basis of the

Card 1/2

SMIRNOVA, K.A.

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27

2196. Cerimetric determination of iron in iron salts. K. A. Smirnova. *Trudy Vses. Nauch. Inst. Khim. Reaktivov*, 1956, (21), 52–54; *Ref. Zhur., Khim.*, 1956, Abstr. No. 54,774.—After reduction of the sample (ferric oxide or ferric nitrate) with $SnCl_2$ by the standard method, 0·1 to 0·2 g of Na_2CO_3 is added to remove air from the flask, and then one drop of molybdosilicic acid soln. (Fainberg *et al.*, *Zavod. Lab.*, 1945, 11, 381) is added and the hot soln. is titrated with 0·1 *N* $Ce(SO_4)_2$ until a green colour appears. The cooled soln. is then treated with 100 ml of dil. H_2SO_4 (1 + 2) and 0·3 ml of 1% phenylanthranilic acid soln., and titrated until the colour changes to brown. From the total vol. of the $Ce(SO_4)_2$ soln. used, the amount expended in oxidising the excess of $SnCl_2$ is deducted. The results obtained by this method and the cerimetric method in which $HgCl_2$ is used are in close agreement.

G. S. SMITH

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MATVEYEV, M.A.; SMIRNOVA, K.A.

Porous ceramic tiles for the aeration of drainage water. Gor. khoz. Mosk. 30 no.8:30-31 Ag '56. (MLRA 9:10)

(Tiles)

SMIRNOVA, K., kand. tekhn. nauk.

Influence of the structure of semidry pressed bricks on their frost resistance. Stroi. mat. 3 no.12:30 D '57. (MIRA 11:2)
(Bricks--Testing)

AUTHOR: Smirnova, K. A. SOV/72-58-9-11/20

TITLE: Influence of Finely Ground Quartz Sand and Feldspar Upon the Properties of Semi-Porcelain (Vliyaniye tonkogo izmel'cheniya kvartsevogo peska i polevogo shpata na svoystva polufarfora)

PERIODICAL: Steklo i keramika, 1958, Nr 9, pp 31 - 35 (USSR)

ABSTRACT: By experiments formerly carried out in collaboration with Z.A.Nosova it was found that the addition of fine dispersion agents leads to deterioration of the molding and drying properties of the semi-porcelain batches with a 30% clay content. In the experiments, covered by this paper, batches were used with a clay content of 27, 24 and 22%, the total composition of which is given in table 1. Their percentual chemical composition is given in table 2, and the dispersion of the raw materials in figure 1. Next the preparation of the batches is described. In figure 2 the microstructure of a sample from batch Nr 1 (Table 1) is portrayed, which was produced from raw materials of customary dispersion and which was baked at a temperature of 1160°. In figure 3 the

Card 1/4

above specimens were produced. L.A.Lifshits, Chief Engineer of the Lobnya Works, Z.I.Puchkova, Head of the Laboratory and V.I.Kanayeva, Head of the Experimental Department assisted in this work. The specimens were baked at a temperature of 1200-1230°. The water absorption after baking varied between 2,5 and 3,5%, which complies with the standard specifications GOST for structural semi-porcelaine for sanitary purposes. There are 7 figures, 4 tables, and 1 reference, 1 of which is Soviet.

ASSOCIATION: NIIstroykeramika (Scientific Research Institute of Structural Ceramics)

SMIRNOVA, K.A., kand.tekhn.nauk

Sturcture and properties of filtering ceramics with use of various bonding elements. Trudy NIIStroikeramiki no.13:203-218 '58. (MIRA 12:5)

(Ceramics)
(Filters and filtration)

MATVEYEV, M.A., kand. tekhn. nauk; SMIRNOVA, K.A., kand. tekhn. nauk

Using porous ceramics in constructing dust collectors and pneumatic systems for transporting bulk materials. Stroi. mat. 5 no.6:25-27 Je '59. (MIRA 12:8)
(Ceramic materials) (Dust collectors) (Pneumatic-tube transportation)

SOV/99-59-9-7/14

30(1)

AUTHOR: Karambirov, N.A. and Smirnova, K.A., Candidates of Technical Sciences, and Shimanovskiy, V.V., Senior Engineer

TITLE: Porous Ceramic Filters for Water Supplying

PERIODICAL: Gidrotekhnika i melioratsiya, 1959, Nr 9, pp 44-50 (USSR)

ABSTRACT: The stepping-up of water output from water-bearing layers consisting of fine sand, requires the building of special filters, as the application of common filters, owing to their quick clogging by the fine sand particles, does not always answer the purpose. For a solution of the problem of an efficient filtering of water containing many suspended sand particles, the authors did research, in 1957-1958, at the "VSEGINGEO" institute, to work out a filter design, which would meet the requirements. Research has shown that filters made of porous ceramic are the most satisfactory for the above purpose. As filter mediums, granulated fire

Card 1/3

Porous Ceramic Filters for Water Supplying

clay and sifted quartz gravel were proposed. The chemical and granulometrical specifications of these filters are given in Tables 1 and 2. As binding materials, liquid glass mixed with silicofluorsodium and a number of glazes were proposed. Compositions of binding materials are given in Table 3. The blocks manufactured of granulated fire clay and liquid glass withstand well the process of baking, without changing their dimensions. In Figure 6, the porous ceramic filter components are shown; they were manufactured at the Kuchinskiy plant. Because of their high mechanical stability and porosity, these filters satisfy to a high degree all the requirements that might be made -- even in face of the heaviest odds -- of the process of filtering. In the current year, the Kushinskiy plant manufactured a test batch of ceramic filters on the basis of fire clay and liquid glass with silicofluorsodium. The Promburvod All-Union Hydrogeological Trust and other building organizations

Porous Ceramic Filters for Water Supplying

are, at the present time, conducting tests of these filters, under different hydrogeological conditions. These tests will permit establishing of application fields and parameters of the new filters. There are 2 graphs, 5 tables and 4 photographs.

ASSOCIATION: Institut VSEGINGEO (VSEGINGEO Institute)
(V.V. Shimanovskiy)

S/072/60/000/008/006/007/XX
B021/B054

AUTHORS: Matveyev, M. A. Smirnova, K. A.

TITLE: Ceramic Filter Elements for Selenium Production

PERIODICAL: Steklo i keramika, 1960, No. 8, pp. 30 - 35

TEXT: Selenium sulfite solutions are purified by ceramic filter elements. P. I. Galkin and M. I. Eykhmans (Vsesoyuznyy institut mineral'nogo syr'ya (All-Union Institute of Mineral Raw Materials)) studied the production of finely porous ceramics in 1930, and R. M. Yurchak and Professor R. T. Makhl' in 1939. In the present paper, the authors studied fine ceramics with addition of dolomite. Mixtures of 9-17% clay, 30-33% kaolin, 6-29% quartz sand, 5% feldspar, 0-16% body, and 0-50% dolomite were mixed in a ball mill (after previous grinding), stirred with soda and water glass, cast in plaster molds, and left standing at room temperature for 84 h. Burning at 1100°, 1160°, or 1200°C followed. Pore dimensions and filtering capacity were determined. Table 5 gives the properties of samples as dependent on burning temperature. The filtering capacity of porous ceramics, burned

Card 1/2

at 1160°C, increased with increasing dolomite content. It was found that the samples of ceramics No. 6 and No. 7 with 40, and 50% of dolomite, respectively, had the best filtering properties; they were recommended for the production of ceramic filters to purify selenium sulfite solutions.

Their pore dimension is 5 - 7μ, the bending strength attains 172 kg/cm^2. There are 8 figures, 5 tables, and 4 Soviet references.

SMIRNOVA, K.A., kand.tekhn.nauk; Prinimala uchastiye RYBAKOVA, Z.S., mladshiy nauchnyy sotrudnik

Sound-absorbing porous ceramic material. Trudy NIIStroikeramiki no.16:132-148 '60. (MIRA 15:2)
(Acoustical materials)
(Ceramic materials)

VEANKOV, V.T.; LOBANOV, N.I.; SMIRNOVA, K.A.

Soundproof porous ceramic. Stek.i ker. 18 no.8:26-30 Ag '61. (MIRA 14:8)

(Ceramics) (Acoustical materials)

SMIRNOVA, K. A., kand. tekhn nauk

Leadless, nonboron raw glaze on a soluble glass base. Trudy NIIStroikeramiki no. 19:29-35 '62. (MIRA 17:5)

SMIRNOVA, K. A., kand tekhn nauk; RYBAKOVA, Z. S., mladshiy nauchnyy sotrudnik

Ceramic cores for modeling oil-bearing layers. Trudy NIIStroiker-amiki no. 19:36-42 '62. (MIRA 17:5)

MATVEYEV, M.A., doktor tekhn.nauk; SMIRNOVA, K.A., kand.tekhn.nauk

New soundproofing materials. Stroi. mat. 8 no.2:28-29 F '62. (MIRA 15:3)

(Acoustical materials)

MATVEYEV, M.A., doktor tekhn.nauk, prof.; SMIRNOVA, K.A.; USTINOVA, V.P.

Filtering ceramics made of substances based on wastes from asbestos-dressing plants. Stek. i ker. 19 no.8:28-32 Ag '62. (MIRA 15:9)

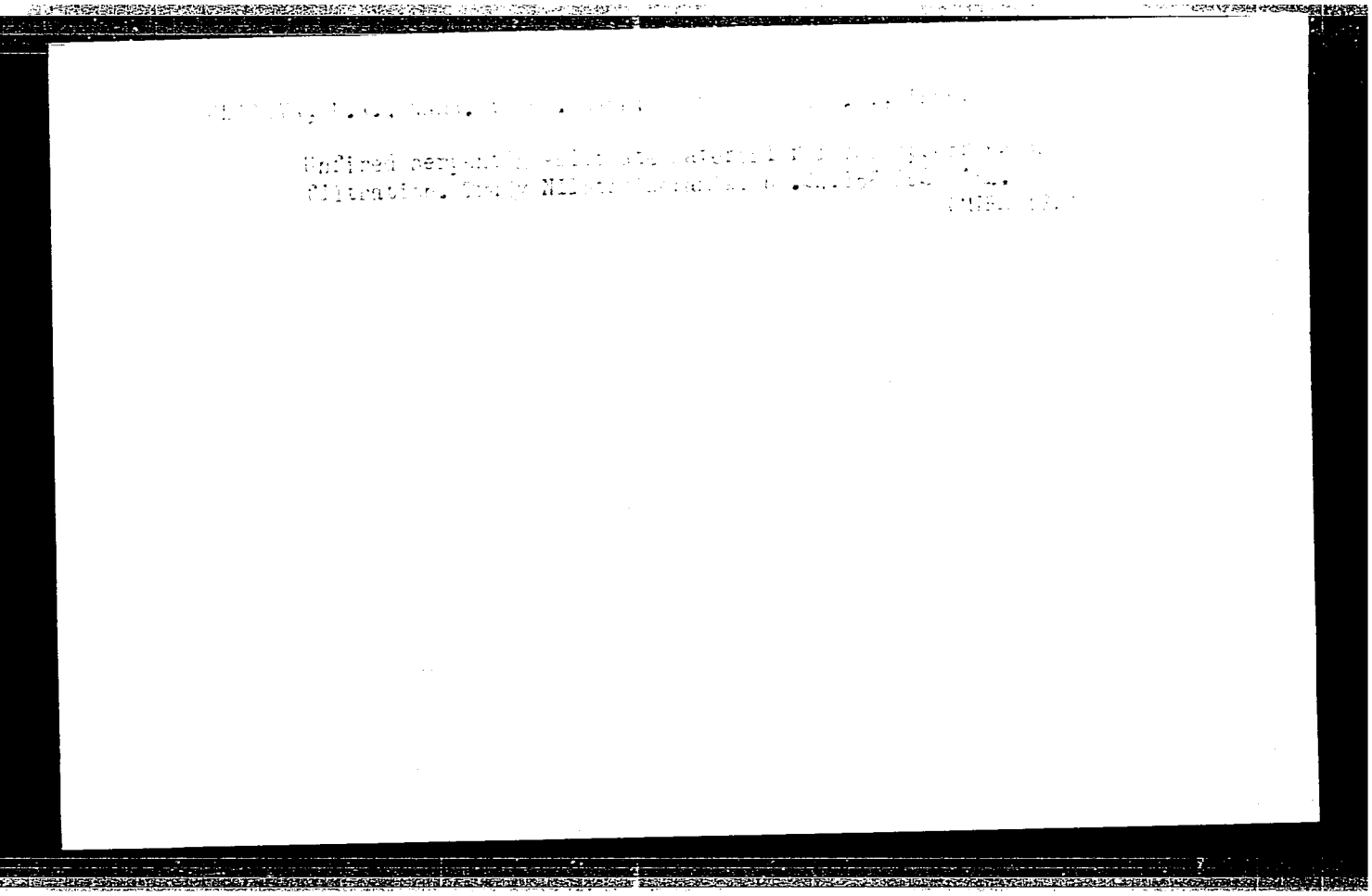
(Ceramic materials) (Filters and filtration)

SMIRNOVA, F.A., kand.tekhn.nauk; RODINA, T.I., inzh.

Prospects for the use of wollastonite in the manufacture of filter ceramics. Trudy NIIStroikeramiki no.21:99-118 '63. (MIRA 17:2)

BRUDZ', V.G.; SHAFRAN, I.G.; SMIRNOVA, K.A.; DRAPKINA, D.A.; ZELICHENOK, S.L.; PODOL'SKAYA, B.L.; Prinimala uchastiye MASLINIKOVA, V.I.

Sulfonazo, a new reagent for vanadium. Trudy IREA no.25:17-23 '63. (MIRA 18:6)



SMIRNOVA, K.F. (Moskva)

Differential diagnosis of acute cholecystitis. Fel'd. i akush. 26 no.3:8-12 Mr '61. (MIRA 14:3)
(GALL BLADDER--DISEASES)

SHABANOV, A.N., prof.; SMIRNOVA, K.F.

Errors in the diagnosis of acute cholecystitis. Sov.med. 26 no.8:37-43 Ag '62. (MIRA 15:10)

1. Iz kafedry obshchey khirurgii (zav. - prof. A.N.Shabanov) sanitarno-gigiyenicheskogo fakul'teta I Moskovskogo meditsinskogo instituta imeni I.M.Sechenova na baze 24-y gorodskoy bol'nitsy (glavnyy vrach V.P.Uspenskiy).
(GALL BLADDER--DISEASES)

POTEKAYEVA, M.A.; SMIRNOVA, K.F. (Moskva)

Histological diagnosis of unrecognized gall bladder cancer. Klin. med. 40 no.10:118-120 O '62. (MIRA 15:12)

1. Iz kafedry obshchey khirurgii (zav. prof. A.N.Shabanov) sanitarno-gigiyenicheskogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M.Sechenova i patologo-anatomicheskogo otdeleniya 24-y gorodskoy bol'nitsy (glavnyy vrach V.P.Uspenskiy).
(GALL BLADDER--CANCER) (DIAGNOSIS, CYTOLOGIC)

MIKIRTUMOV, S.M.; VARNOVITSKIY, G.I.; SMIRNOVA, K.F.

Diagnostic possibilities of intravenous cholegraphy in the detection of diseases of the biliary tract and gall bladder. Sov.med. 26 no.12:25-28 D '62. (MIRA 16:2)

1. Iz kafedry obshchey khirurgii (zav. - prof. A.N. Shabanov) sanitarno-gigiyenicheskogo fakul'teta i kafedry rentgenologii (zav. - prof. L.D. Lindenbraten) I Moskovskogo ordena Lenina meditsinskogo instituta imeni I.M. Sechenova.
(BILIARY TRACT--RADIOGRAPHY) (GALL BLADDER--RADIOGRAPHY)

TYUTNEV, Ya.A.; GRACHEVA, N.A.; SIDEL'NIKOVA, T.M.; SMIRNOVA, K.I.; YUSHCHAK, T.F.

Long-range prognoses of fall and spring ice phases of the Baltic Sea. Trudy TSIP no.57:83-97 '57. (MLRA 10:9)
(Baltic Sea--Ice)

L 63386-65 EWT(1)/EWA(j)/EWA(b)-2 JK

ACCESSION NR: AP5020098 UR/0016/65/000/008/0104/0107
576.851.2.06 : 576.8.095.37

AUTHOR: Smirnova, K. I.

TITLE: Relationship between bacteriophage sensitivity and pathogenic properties of staphylococcus cultures

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 8, 1965, 104-107

TOPIC TAGS: bacteriophage, staphylococcus, toxin

ABSTRACT: A study was made of 507 strains of staphylococci isolated from children with various diseases. These included 446 *S. aureus* and 61 *S. albus* strains. Of the former, 413 coagulated plasma, 33 did not. Only 6 *S. albus* strains coagulated plasma while 55 did not. Thus, the great majority of *S. aureus* coagulated plasma and formed toxin. In 99% of the cultures a correlation was noted between their plasma-coagulating capacity and toxigenicity. Among the *S. albus* cultures a predominant number of strains did not coagulate plasma or possess toxigenic properties. Two sets of staphylococcal bacteriophages (international and Leningrad) were used

Card 1/2

L 63386-65

ACCESSION NR: AP5020098

2

for typing purposes. Of 399 toxigenic staphylococci, 92.5% were typed with bacteriophages, whereas among 68 non-toxigenic strains, only 17% were typed. Fifty-seven per cent were in bacteriophage group III and 33.6% in group I of the international set. Among the same strains, 86.5% were sensitive to the Leningrad bacteriophages--40% in the G group, 28.7% in the B group. The author concluded that there is a direct relationship between plasma-coagulating capacity, toxigenicity, and bacteriophage sensitivity of staphylococcus cultures. Referring to *S. albus*, she said that the nature of the plasma-coagulating white staphylococci is still obscure, that, specifically, it is still unclear whether they constitute an independent variety or are genetically related to the golden staphylocci, having merely lost their pigment. Orig. art. has: 2 tables.

ASSOCIATION: Leningradskiy pediatricheskiy meditsinskiy institut (Leningrad Pediatric Medical Institute) 55

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NO REF SOV: 011 OTHER: 001

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Card 2/2

SMIRNOVA, K.M.; SUSHKANOVA, N.P.

Effect of pure and mixed pine plantations on the dynamics of the composition of lysimeter waters. Pochvovedenie no.10:56-66 O '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

KRISHCHANOVICH, Viktor Yakovlevich; SMIRNOVA, K.M., red.; BELEN'KAYA, I.Ye., tekhred.

[Laboratory work in cartography; methodological directions for students of geographical faculties of universities] Laboratornye zaniatiia po kartografii; zadaniia i metodicheskie ukazaniia dlia studentov geograficheskikh fakul'tetov universitetov. Minsk, Izd-vo Belgosuniv. im. B.I.Lenina, 1960. 112 p. (MIRA 13:9)
(Cartography--Problems, exercises, etc.)

VOROPAYEVA, Anastasiya Vasil'yevna; PODKOVSHCHIKOVA, Yelana Ivanovna; SMIRNOVA, K.M., red.; BELEN'KAYA, I.Ye., tekhn. red.

[Dynamic series; textbook] Dinamicheskie riady; uchebnoe posobie. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1961. 22 p. (MIRA 15:1)
(Statistics)

SIMONOV, Vyacheslav Grigor'yevich; SMIRNOVA, K.M., red.; DUBOVIK, A.P., tekhn. red.

[Matter and the electromagnetic field] Veshchestvo i elektromagnitnoe pole. Minsk, Izd-vo MVSS i PO BSSR, 1962. 126 p. (MIRA 17:3)

BAZHAN, Antonina Vasil'yevna; SMIRNOVA, K.M., red.; MORGUNOVA, G.M., tekhn. red.

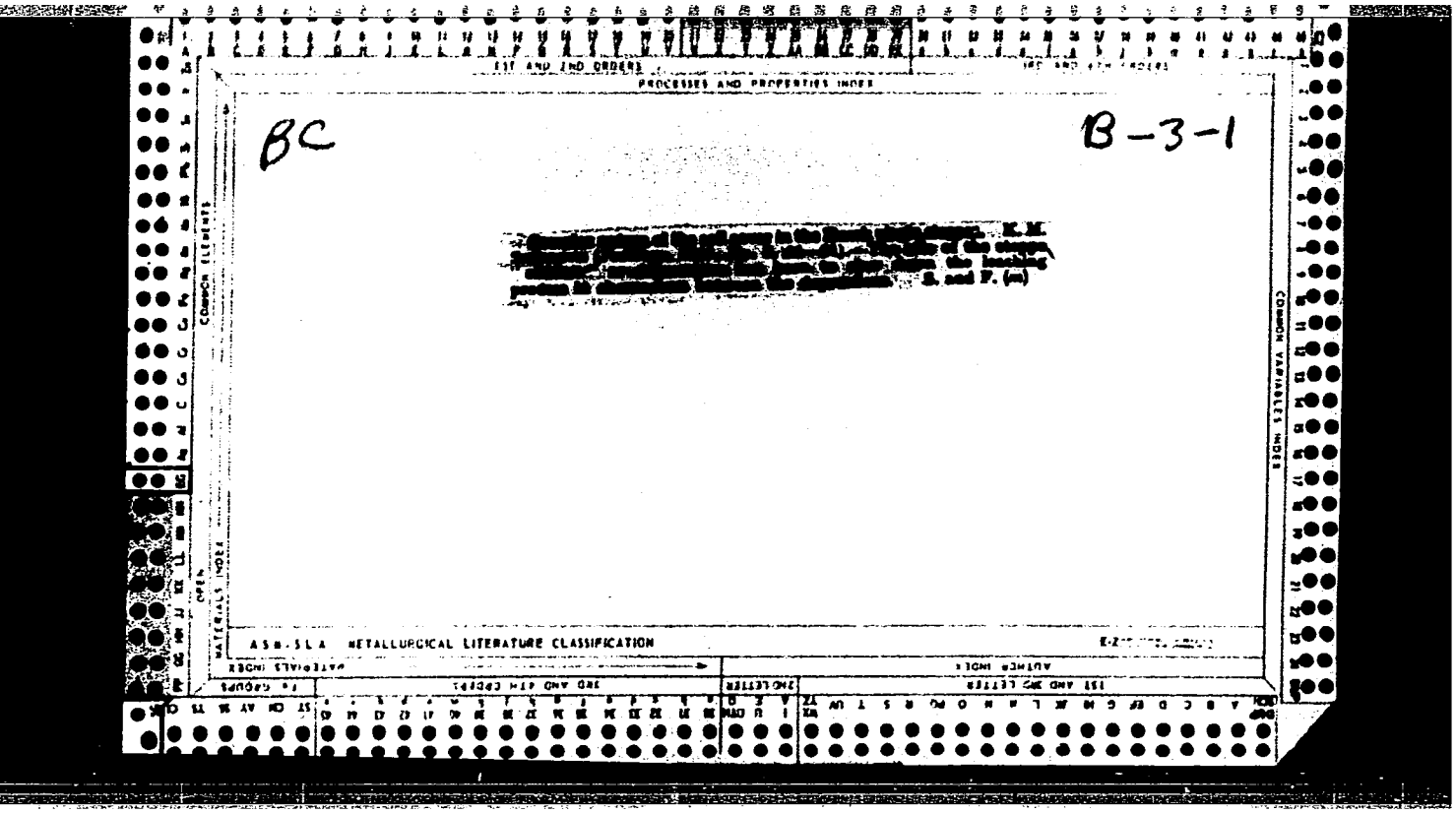
[Statistics of capital construction] Statistika kapital'nogo stroitel'stva. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1963. 55 p. (MIRA 16:5)

(Construction industry--Statistics)

REMEZOV, N.P. [deceased]; RODIN, L.Ye.; BAZILEVICH, N.I.; Prinimali uchastiye: ALEKSANDROVA, V.D.; BORISOVA, I.V.; BYKOVA, L.N.; ZONNA, S.V.; KARPOVA, V.G.; MINA, V.N.; NECHAYEVA, N.T.; PONYATOVSKAYA, V.M.; REMEZOVA, G.L.; SAMOYLOVA, Ye.M.; SMIRNOVA, K.M.; SUKHOVERKO, R.V.

Methodological instructions for studying the biological cycle of ash substances and nitrogen of terrestrial plant communities in the main natural zones of the temperate zone. Bot. zhur. 48 no.6:869-877 Je '63. (MIRA 17:1)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad i Pochvennyy institut imeni V.V. Dokuchayeva Ministerstva sel'skogo khozyaystva SSSR, Moskva.



SMIRNOVA, K.M.

Changes in several physicochemical properties of podzolized soils as a result of cultivation. Uchenye zapiski Moskov. Gosudarst. Univ. im. M.V. Lomonosova No.105, Pt. 2, 35-54 '46.
(CA 47 no.21:11619 '53)

15

CA

The nitrogen and ash-element cycle in pine-green moss location. K. M. Smirnova. *Vestnik Moskov. Univ.* 6, No. 3, *Ser. Fiz.-Mat. i Estestven. Nauk* No. 2, 69-83(1951).—

Analysis of the turn-over of N and ash elements in pine forest with moss undercover was carried out. Pine tree accumulates relatively little mineral matter during early years of life, but old trees fix considerable amts. of the ash elements, which can be arranged in a descending series: CaO, N, K_2O, P_2O_5, S, Al_2O_3, SiO_2, MgO, MnO, and Fe_2O_3. Small amts. of the ash elements are fixed in the moss cover (N, K_2O, CaO, P_2O_5, S). The max. utilization of N by the pine tree occurs at 35–40 years of age. Fixation of K declines with age and most K that returns to the soil does so by the way of dead trees. Max. fixation of Ca takes place at about 38 yrs. of age. A pine forest shows max. increase of its org. mass at the 30–60-year period, at which time max. mass of root matter develops also. The annual return of organic matter to the soil by dead trees is 3–4 times greater than is the return by fallen needles, branches, etc. The accumulation of the ash elements continues to 100-yr. age of the tree. G. M. Kosolapoff

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11 D

The turnover of nitrogen and the ash elements in complex conifer forests. K. M. Smirnova. *Vestnik Moskovsk. Univ., 6, No. 10, Ser. Fiz. Mat. i Estestven. Nauk No. 6, 107-22(1951).* Extensive observational material on conifer forests that contain a small quantity of birches and related trees indicates the following: The highest amt. of nutritional elements are taken up during the 3rd stage of development, i.e., the period of most intense growth. The nutritional elements are returned to the soil overwhelmingly in the form of needles; the return by the falling branches, etc., is relatively small. Forests of the above type display much more vigorous elemental turnover than do forests with moss undercover; particularly active are: N, P, K, and Ca. Trees with small leaf forms are generally characterized by rather rapid elemental turnover. The grass covering of the soil aids mineralization of plant residues and enrichment of the soil.

G. M. Kosolapoff
E. G. Meyer

SMIRNOVA, K. M.

Mordovian A.S.S.R. - Linden

Consumption and cycle of nutritive elements in linden groves of the Mordvinian State Forest Preserve. Vest. Mosk. un. no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1953, Uncl.

MISHUSTIN, Ye.N.; SMIRNOVA, K.M., redaktor; SOMOROV, B.A., tekhnicheskiy redaktor

[Microorganisms and fertile soils] Mikroorganizmy i plodorodie pochvy. Moskva, Izd-vo Akademii nauk SSSR, 1956. 246 p. (MIRA 9:3)

(Micro-organisms, Nitrogen-fixing)

[redacted], K. M.

"Seasonal Changes in the Properties of Soils of Needle and Leaf Forests," Lomonsov Lectures in 1956, Vest. Mosk. U., Physico Math and Natural Sciences Series, 4, No. 6, pp 147-160, 1956, Biological Soil Faculty

Translation U-3,054,363

SMIRNOVA K.M.

Accumulation of nutritive elements in fir in relation to soil conditions. K. M. Smirnova. *Vestnik Moskov. Univ.* 11, No. 3, *Ser. Fiz.-Mat. i Estestven. Nauk* No. 2, 117–24 (1958).—Examn. of conditions in fir forests showed that Ca tends to be low in the organic matter of pure fir forests in comparison with those of mixed nature; the reverse is true of K and Mg. Si is highest in trees grown on green moss soil, the same being true of Al and Mn, while the reverse is true of N. The content of P and S is relatively const.

G. M. Kosolapoff

Chair of Soil Science

USSR/Soil Science - Physical and Chemical Properties of Soil. J.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15275

Author : K.M. Smirnova

Inst : -

Title : Seasonal Change in Soil Properties of the Coniferous and Deciduous Forests.
(Sezonnyye izmeneniya v svoystvakh pochv khvoynykh i listvennykh lesov).

Orig Pub : Pochvovedeniye, 1956, No 12, 1-16

Abstract : A study was made in 1954-1955 of the modes of movement of those elements which are involved in biological cycles, in the pine and the fir plus club moss forests, in those birch groves with mixed grass and those with widespread grasses and hemp nettle. The litter accumulation in the beds is 30-45 tons per hectare. The coniferous-moss plantations have an annual mineralization of 20-28% of the litter store, the mixed grass birch groves

Card 1/2

16

SMIRNOVA, K.M.; GLEBOVA, G.I.

Amount of mobile compounds in Podzolic soils in the Moscow [with summary in English]. Pochvovedenie no.8:45-52 Ag '58. (MIRA 11:9)

1.Moskovskiy gosudrastvennyy universitet.
(Moscow Province--Podzol)