SHILO, L.Ya., gornyy inzh.

Ventilation system with by-pass ducts in the vertical plane.
Ugol' 37 no.11:52-54 N '62. (MIRA 15:10)

1. Shakhtoupravleniye No.5-6 "Zhdanovskoye" tresta Oktyabr'ugol' Donetskogo souveta narodnogo khozyaystva.
(Mine ventilation)

SHILO, M.P.; GRIGOR'YEVA, A.I., red.; GOR'KOVA, Z.D., tekhn.red.

[For high yields in the Ukrainian Polesye; practices of leading farmers in Zhitomir Province] Za vysokie urozhai v Ukrainskom Poles'e; iz opyta peredovykh khoziaistv Zhitomirskoi oblasti. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1957. 103 p. (MIRA 11:5)
(Zhitomir Province--Agriculture)

15-57-10-14264

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 142 (USSR)

AUTHOR: Shilo, N. A.

TITLE: Peculiarities in the Formation of Placers in the Permafrost Zone (Osobennosti obrazovaniya rossypey v zone razvitiya vechnoy merzloty)

PERIODICAL: Sov. geologiya, Nr 53, 1956, pp 102-117

ABSTRACT: The author believes that several of the assumptions of Yu. A. Bilibin concerning the conditions for concentrating minerals in placers have become obsolete or are not true. In particular, he casts doubt on the view that placers are formed by redeposition. He notes that the formation of alluvial deposits is closely associated with the parent sources and is accomplished in three stages: eluvial (residual weathering), deluvial (mass wasting and slope wash), and alluvial. Because of the relatively weak chemical weathering in subarctic regions, such minerals as gold and cassiterite

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Peculiarities in the Formation of Placers

are only partially freed from the vein matrix. Consequently these minerals, and a number of others, do not characteristically accumulate in the eluvial stage. The deluvial stage is more favorable for the development of economic concentrations of minerals; however, such deposits are relatively rare in northern latitudes because in great part the minerals are not yet freed at this stage from the vein matrix. Concentration of ore materials in the alluvial stage commonly leads to the development of large and rich placers derived from locally concentrated and lean parent sources. In southern latitudes minerals are actively freed from the vein matrix in the eluvial stage.

Card 2/2

Ye. I. Sobel'man

SHILO, N. A. (VNII-1)Magadan ; and MEL'NIKOV, G. A., (SOPS AN SSSR)

"Complex Extraction of Metals."

report presented at the Fifth Full Assembly of the Central Admininstration of the Non-Ferrous Metallurgical Sci.- Tech. Society, Moscow, 21-22 Feb 1958.

RUSAKOV, Viktor Pavlovich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv. red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; VANSHEYDT, N.A., red.

[Choice of an efficient mining method for thick coal seams of the Nizhne-Arkagala deposit] Vybor ratsional'noi sistemy razrabotki moshchnykh ugol'nykh plastov Nizhne-Arkagalinskogo mestorozhdeniia. Magadan, 1958. 15 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Gornoe delo. no.18) (MIRA 12:5)
(Magadan Province--Coal mines and mining)

GAVRIKOV, Sergei Ivanovich; SHILO, Nikolay Alekseyevich, otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Division of the upper Indigirka Valley into tectonic regions] O tektonicheskom raionirovanii basseina verkhnego techeniia r. Indigirki. Magadan, 1958. 17 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Geologiia, no.38). (MIRA 12:4)

(Indigirka Valley--Geology, Structural)

SHILO, Nikolay Alekseyevich; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Some principles for classifying placer deposits] Nekotorye printsipy rossypnykh proiavlenii. Magadan, 1958. 20 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy, Geologiia, no. 36). (MIRA 12:4)

(Ore deposits--Classification)

SOSNOVSKIY, Nikolay Pavlovich; KAZURINA, Nadezhda Mikhaylovna; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; MUZHDIN, I.I. red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Treatment of hard to concentrate tin-tungsten ores] Obrabotka trudnoobogatimoi olovianno-vol'framovoi rudy. Magadan, 1958. 26 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Obogashchenie i metallurgiia, no.28). (MIRA 13:4)

(Tin ores) (Tungsten ores) (Ore dressing)

FOMENKO, Timofey Grigor'yevich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam. otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I.,red.; KUZNETSOV, G.G.,red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; VANSHEYDT, N.A., red.

[Principles of the ore dressing process with use of concentrating tables] Osnovy protsessa obogashcheniia rud na kontsentratsionnykh stolakh. Magadan, 1958. 35 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Obogashchenie i metallurgiia, no.27). (MIRA 12:4)
(Ore dressing--Equipment and supplies)

MATSUYEV, Leonid Petrovich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv. red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHMAROVICH, L.A., red.

[Regularities in the process of disintegration and screening in washing cleaners and trommels] Nekotorye zakonomernosti dezintegratsii i grokhocheniia v skrybberakh i drazhnykh bochkakh. Magadan, 1958. 36 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Obogashchenie i metallurgiia, no.26). (MIRA 12:4)

(Ore dressing) (Screens (Mining))

PETROV, Appolinariy Stepanovich; SHILO, N.A., otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; POTEMKIN, S.V., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; VANSHEYDT, N.A., red.

[Production and use of soil concrete blocks in the construction of buildings of few stories] Proizvodstvo i primenenei gruntoblokov v maloetazhnom stroitel'stve Magadan, 1958. 47 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Mestnye stroimaterialy, no.7) (MIRA 12:5)

(Soil cement) (Building blocks)

KAR'YASHOV, Ivan Pavlovich; SHILO, N.A., otv.red.; POLEVKIN, S.V., zam.otv. red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BERGIN, V.P., red.; KALABIN, A.I., red.; KUZ'MINOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHMAROVICH, L.A., red.

[Principles for making geomorphological prognosis maps of placer deposits] O printsipakh postroeniia geologo-geomorfologicheskikh prognoznykh kart rossypei. Magadan, 1958. 49 p. (Magadan, Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Geologiia, no.37). (MIRA 12:4)

(Ore deposits--Maps)

MANUYLOV, Pavel Ivanovich; GALKIN, Georgiy Semenovich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; FOMENKO, T.G., red.; SHAKHNAROVICH, L.A., red.

[Peat lifting by means of excavating machinery in stripping placer deposits in the Northeastern U.S.S.R.] Vskrysha torfov zemleroinymi mashinami na priiskakh Severo-Vostoka SSSR. Magadan, 1958. 68 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Gornoe delo no.19) (MIRA 12:5)

(Soviet Far East--Gold ores) (Peat) (Excavating machinery)

FIRSOV, Lev Vasil'yevich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; BEREZIN, V.P., red.; KALABIN, A.I., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FOMENKO, T.G., red. (MIRA 12:4)

[Structure, morphology, and mineralization of the Igumenskoye gold deposit] Struktura, morfologiia, mineralogiia i orudenenie Igumenovskogo zolotorudnogo mestorozhdeniia. Magadan, 1958. 71 p. (Magadan, Vsesoiuznyi nauchno- issledovatel'skii institut zolota i redkikh metallov. Trudy, no.33)
(Tenpke Valley--Gold ores)

LaLaBIN, Aleksey Il'ich; SHILO, N.A., otv.red.; POTEMKIN, S.V., zam.otv.red.; ALEKSANDROV, P.P., zam.otv.red.; ALEKSANDROV, P.P., red.; APEL'TSIN, F.R., red.; FOMENKO, T.G., red.; BEREZIN, V.P., red.; KUZNETSOV, G.G., red.; MATSUYEV, L.P., red.; NUZHDIN, I.I., red.; FIRSOV, L.V., red.; VANSHEYDT, N.A., red.

[Underground waters in the northeastern part of the U.S.S.R.] Podzemnye vody Severo-Vostoka SSSR. Magadan, 1958. 85 p. (Magadan. Vsesoiuznyi nauchno-issledovatel'skii institut zolota i redkikh metallov. Trudy. Merzlotovedenie, no.9). (MIRA 12:4)
(Russia, Northern--Water, Underground)
(Frozen ground)

ANIKEYEV, N.P., glavnyy red.; BISKE, S.F., red.; BOBYLEVSKIY, V.I., red.: VAS'KOVSKIY, A.P., red.; VERESHCHAGIN, V.N., red.; DRABKIN, I.Ye., red.; YEVANGULOV, B.B., red.; YEFIMOVA, A.F., red.; ZIMKIN, A.V., red.; LARIN, M.I., red.; LIKHAREV, B.K., red.; MENNER, V.V., red.; MIKHAYLOV, A.F., red.; NIKOLAYEV, A.A., red.; POPOV, G.G., red.; POPOV, Yu.N., red.; SAKS, V.N., red.; SEMEYKIN, A.I., red.; SIMAKOV, A.S., red.; TITOV, V.A., red.; SHILO, N.A., red.; EL'YANOV, M.D., red.; YAKUSHEV, I.R., red.: V redaktirovanii prinimali uchastiye: ANDREYEVA, O.N., red.; BAYKOVSKAYA, T.N., red.; BOLKHOVITINA, N.A., red.; BORSUK, M.O., red.; VASIL'YEV, I.V., red.; VASILEVSKAYA, N.D., red.; VOYEVODOVA, Ye.M., red.; YEVSEYEV, K.P., red.; KIPARISOVA, L.D., red.; KRASNYY, L.I., red.; KRISHTOFOVICH, L.V., red.; KULIKOV, M.V., red.; LIBROVICH, L.S., red.; MARKOV, F.G., red.; MODZALEVSKAYA, Ye.A., red.; NIKIFOROVA, O.I., red.; OBUT, A.M., red.; PCHELINTSEVA, G.T., red.; RZHONSNITSKAYA, M.A., red.; SEDOVA, M.A., red.; STEPANOV, D.L., red.; TIMOFEYEV, B.V., red.; KHUDOLEY, K.M., red.; CHEMEKOV, Yu.F., red.; CHERNYSHEVA, N.Ye., red.. DERZHAVINA, N.G., red.izd-va; GUROVA, O.A., tekhn.red.

(Continued on next card)

ANIKEYEV, N.P.---(continued) Card 2.
[Decisions of the Interdepartmental Conference on the Unified Stratigraphic Columns of the Northeastern Part of the U.S.S.R.]
Reshenila Mezhvedomstvennogo soveshchaniia po razrabotke unifitsirovannykh stratigraficheskikh skhem dlia Severo-Vostoka SSSR, Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1959. 65 p. (MIRA 13:2)

1. Mezhvedomstvennoye soveshchaniye po razrabotke unifitsirovannykh stratigraficheskikh skhem dlya Severo-Vostoka SSSR, Magadan, 1957.
(Soviet Far East--Geology, Stratigraphic)

KARTASHOV, I.P.; SHILO, N.A.

Regularities in the distribution of placers undergoing exogenetic processes. Zakon.razm.polezn.iskop. 3:304-32[illegible] '60. (MIRA 14:11)

1. Severo-Vostochnyy kompleksnyy nauchno-issledovatel'skiy institut Sibirskogo otdeleniya AN SSSR.
(Ore deposits)

SHILO, N.A.; ORLOVA, Z.V.

Middle Quaternary glacial spore-pollen complex from the alluvium in the Kolyma River. Sov. geol. 3 no.8:115-119 Ag '60. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zolota i redkikh metallov.
(Kolyma River--Alluvium) (Palynology)

ABDULLAYEV, Kh.M.; ALYAVDIN, V.F.; AMIRASLANOV, A.A.; ANIKEYEV, N.P.; ARAPOV, Yu.A.; BARSANOV, G.P.; BELYAYEVSKIY, N.A.; BOKIY, G.P.; BORODAYEVSKAYA, M.B.; GOVOROV, I.N.; GODLEVSKIY, M.N.; SHCHEGLOV, A.D.; SHAKHOV, F.N.; SHILO, N.A.; YARMOLYUK, V.A.; DRABKIN, I.Ye.; YEROFEYEV, B.N.; YERSHOV, A.D.; IVANKIN, P.F.; ITSIKSON, M.I.; KARPOVA, Ye.D.; KASHIN, S.A.; KASHKAY, M.A.; KORZHINSKIY, D.S.; KOSOV, B.M.; KOTLYAR, V.N.; KREYTER, V.M.; KUZNETSOV, V.A.; LUGOV, S.F.; MAGAK'YAN, I.G.; MATERIKOV, M.P.; ODINTSOV, M.M.; PAVLOV, Ye.S.; SATPAYEV, K.I.; SMIRNOV, V.I.; SOBOLEV, V.S.; SOKOLOV, G.A.; STRAKHOV, N.M.; TATARINOV, I.M.; KHRUSHCHOV, N.A.; TSAREGRADSKIY, V.A.; CHUKHROV, F.V.

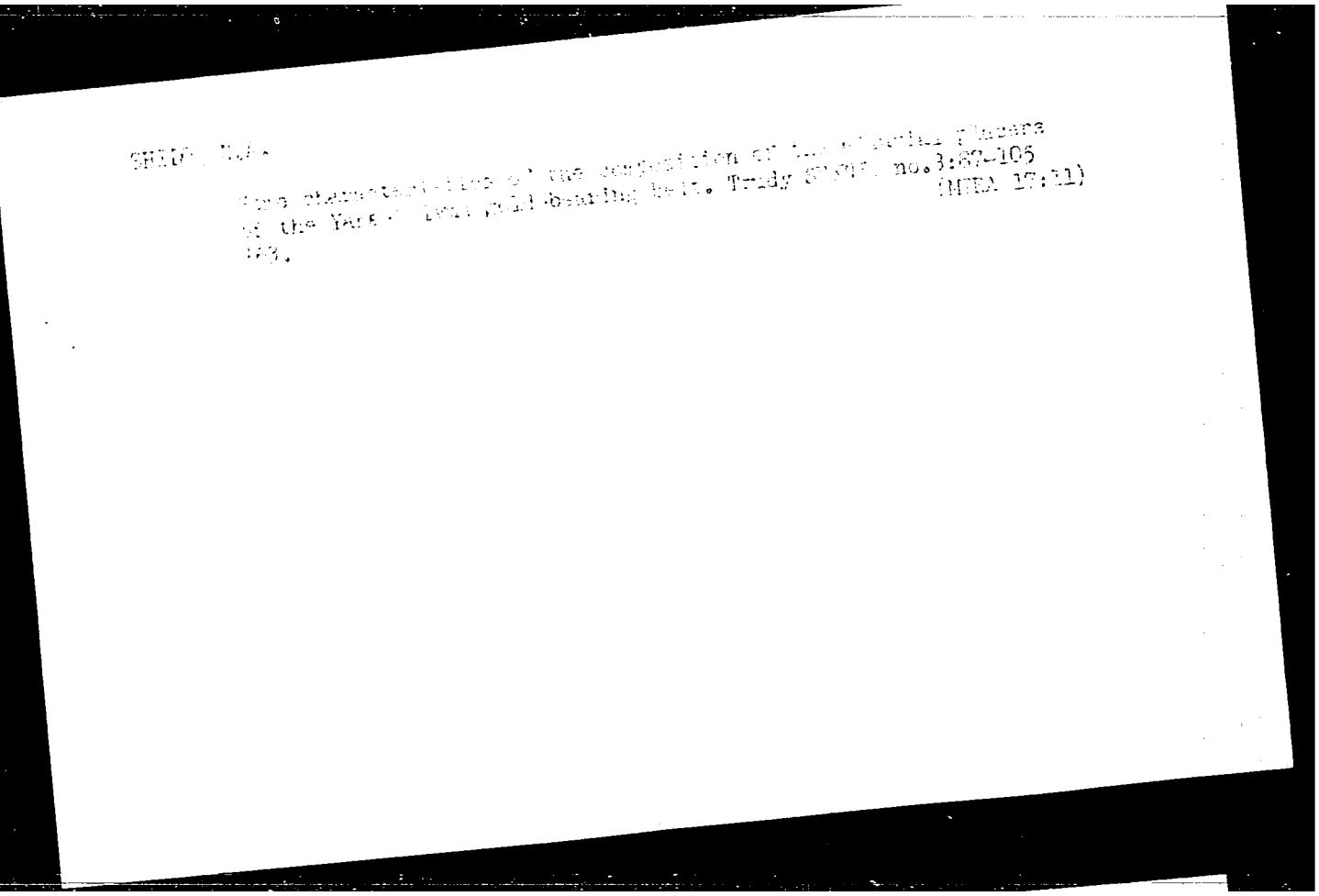
In memory of Oleg Dmitrievich Levitskii; obiturary. Sov.geol. 4 no.5:156-158 My '61. (MIRA 14:6)
(Levitskii, Oleg Dmitrievich, 1909-1961)

SHILO, N. A.

Dissertation defended for the degree of Doctor of Geologo-Mineralogical Sciences at the Joint Academic Council on Geologo-Mineralogical, Geophysical, and Geographical Sciences; Siberian Branch 1962

"Alluvial Deposits of the Yano-Kolymskiy Gold Field, Their Geological Characteristics and Conditions of Formation."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145



KASHTANOV, I.N., glav. red.; BEREZIN, V.P., red.; TOSIFOVICH, N.L., red.; POTEMKIN, S.V., red.; SHILO, N.A., doktor geol.-miner. nauk, prof., red.; FROLOVA, M.F., red.

[10 years of Magadan Province] 10 let Magadanskoi oblasti. Magadan, Magadanskoe knizhnoe izd-vo, 1963. 210 p. (MIRA 17:8)

1. Direktor kompleksnogo nauchno-issledovatel'skogo instituta Sibirskogo otdeleniya AN SSSR (for Shilo). 2. Direktor nauchno-issledovatel'skogo instituta zolota i redkikh metallov (for Potemkin). 3. Sekretar' oblastnogo komiteta KPSS (for Kashtanov).

SMIRNOV, V.I., akademik, otv. red.; ROZHKOV, I.S., red.; TROFIMOV, V.S., red.; SHILO, N.A., red.; KAMSHILINA, Ye.M., red.

[Geology of placers] Geologiia rossypei. Moskva, Nauka, 1965. 399 p. (MIRA 18:6)

1. Akademiya nauk SSSR. Nauchnyy sovet po rudoobrazovaniyu.

SHILO, N. A.

"Concerning the history of development of the lowlands of the Sub-Arctic zone at northeastern Asia on the Anthropogene."

report submitted for the 7th Intl Cong, Intl Assoc for Quaternary Research, Boulder & Denver, Colorado, 30 Aug-5 Sep 65.

D

TOMIRDIARO, S.V.; GOL'DTMAN, V.G., nauchnyy red.; SHILO, N.A., red.; KARTASHOV, I.P., red.; DIKOV, N.N., red.; DRABKIN, I.Ye., red.; ZIL'BERMINTS, A.V., red.; NIKOLAYEVSKIY, A.A., red.; FIRSOV, L.V., red.; YANOVSKIY, V.V., red.

[Thermocalculations of foundations in the regions of permafrost.] Teplovye raschety osnovanii v raionakh vechnoi merzloty. Magadan, 1963. 104 p. (Akademiia nauk SSSR. Sibirskoe otdelenie. Severo-Vostochnyi kompleksnyi nauchno-issledovatel'skii institut. Trudy, no.4) (MIRA 18:11)

SHILO, N.A.

Second conference on the geology of mineral placers. Geol. i geofiz. no.7:132-136 '64. (MIRA 18:8)

SHILO, N.F.

Neuropsychic changes in toxoplasmosis. Zdrav. Bel. 7 no.8:40-44 Ag '61. (MIRA 15:2)

1. Kafedra psikhiatrii (zav. kafedroy - prof. M.A.Chalisov) Minskogo meditsinskogo instituta.
(PSYCHOSES) (NERVOUS SYSTEM--DISEASES)
(TOXOPLASMOSIS)

SHILO, N.N.

Statically controlled zero-reference phase-shifting device. Izv. vys. ucheb. zav.; elektromekh. 4 no.2:123-135 '61. (MIRA 14:9)
(Phase converters)

LITVISHKO, I.I. (Khar'kov); GOL'DOVA, T.G. (Khar'kov); SHILO, N.S. (Khar'kov); HREGADZE, A.A. (Khar'kov)

Hygiene of the oral cavity in pregnant women as one of the preventive methods against postnatal diseases. Probl.stom. 6:369-373 '62. (MIRA 16:3)
(TEETH--CARE AND HYGIENE) (PREGNANCY)

S/079/62/032/009/003/011
I048/I242

AUTHORS: Blokh, G.A., Shilo, R.Ya, Tsipenyuk, E.V., and Yeroshkina, Ye.A.

TITLE: The effect of benzoic acid, phtalic anhydride, and maleic anhydride on the isotopic exchange of sulfur atoms

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 9, 1962, 2800-2803

TEXT: The rate of isotopic exchange of S atoms between S and 2-mercaptobenzothiazole in the system 2-mercaptobenzothiazole - radioactive S - diphenylguanidine (1 : 2 : 1) was studied either in the presence or in the absence of benzoic acid, phtalic anhydride, or maleic anhydride, in an attempt to determine the relationship between the anti-scorching effect of the above acids and anhydrides in the vulcanization of rubber and the rate of exchange of S atoms between the elemental S and some S-containing accelerators used in the process. The experiments were carried out at 125 or 145°C; the activity of the 2-mercaptobenzothiazole was measured after 30-180

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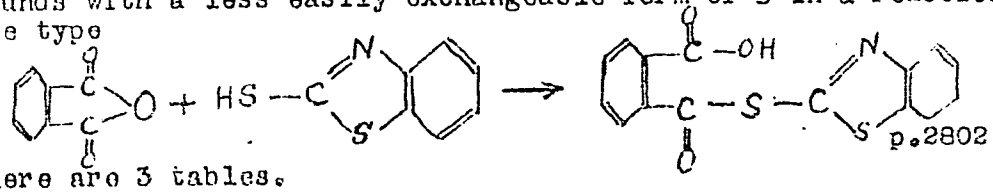
I048/I242

The effect of benzoic acid...

min from the start of the reaction by counting the soft- radiation in an end-window counter. At 125°C the rate of exchange in the presence of the organic acids (or anhydrides) was much slower than in their absence; in some cases, e.g., in the 120-min experiments with phtalic anhydride, the fraction of S-atoms exchanged in the absence of the anhydride was twice as large as that exchanged in its presence. The antiscorching effect of the above acids is attributed to their interaction with the 2-mercaptobenzothiazole to form compounds with a less easily exchangeable form of S in a reaction of the type



p.2802

There are 3 tables.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskiy institut (The Dnepropetrovsk Institute of Chemical Technology)

SUBMITTED: August 7, 1961

Card 2/2

SHILO, S., kand.filosof.nauk

Popular manual ("Marxist-Leninist philosophy" by I.Vorob'iov, A.Kogan. Reviewed by S.Shilo). Nauka i zhyttia 11 no.6:56-57 Je '61. (MIRA 14:7)

(Communism) (Vorob'iov, I.) (Kogan, A.)

SAMOR, Yu.Yu.; SHILO, V.A.

Unsaturated tertiary amino alcohols. Part 2: Compounds having potentially-local anesthetic properties. Zhur. org. khim. 1 no.11:1959-1963. N '65. (MIRA 18:12)

1. Uzhgorodskiy gosudarstvennyy universitet. Submitted June 29, 1964.

GORYUNOVA, N.A.; KOLOMIYETS, B.T.; SHILO, V.P.

Glassy semiconductors. Part 2: Virification of phosphorus, arsenic, antimony, bismuth, and thallium chalcogenides in alloys. Zhur. tekh. fiz. 28 no.5:981-985 My '58. (MIRA 11:6)

1.Fiziko-tekhnicheskiy institut AN SSSR, Leningrad.
(Chalcogenides) (Semiconductors)

PHASE I BOOK EXPLOITATION SOV/5055

Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 3d, Leningrad, 1959.

Stekloobraznoye sostoyaniye; trudy Tret'yego vsesoyuznogo soveshchaniya Leningrad, 16-20 noyabrya 1959 (Vitreous State; Transactions of the Third All-Union Conference on the Vitreous State, Held in Leningrad on November 16-20, 1959) Moscow, Izd-vo AN SSSR, 1960. 534 p. Errata slip inserted. 3,200 copies printed. (Series: Its: Trudy)

Sponsoring Agencies: Institut khimii silikatov Akademii nauk SSSR. Vsesoyuznoye khimicheskoye obshchestvo imeni D.I. Mendeleyeva and Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova.

Editorial Board: A.I. Avgustinik, V.P. Barzakovskiy, N.A. Bezborodov, O.K. Botvinkin, V.V. Vargin, A.G. Vlasov, K.S. Yevstrop'yev, A.A. Lebedev, M.A. Matveyev, V.S. Molchanov, R.L. Myuller, Ye.A. Poray-Koshits, Chairman, N.A. Toropov, V.A. Florinskaya, A.K. Yakhkind; Ed. of Publishing House: I.V. Suvorov; Tech. Ed.: V.T. Bochever.

PURPOSE: This book is intended for researchers in the science and technology of glasses.

COVERAGE: The book contains the reports and discussions of the Third All-Union Conference on the Vitreous State, held in Leningrad on November 16-19, 1959. They deal with the methods and results of studying the structure of glasses, the relation between the structure and properties of glasses, the nature of the chemical bond and glass structure, and the crystallochemistry of glass. Fused silica, mechanism of vitrification, optical properties and glass structure, and the electrical properties of glasses are also discussed. A number of the reports deal with the dependence of glass properties on composition, the tinting of glasses and radiation effects, and mechanical, technical, and chemical properties of glasses. Other papers treat glass semiconductors and soda borosilicate glasses. The Conference was attended by more than 300 delegates from Soviet and East German scientific organizations. Among the participants in the discussions were N.V. Solomin, Ye. V. Kuvshinskiy, Yu.A. Gastev, V.P. Pryanishnikov, Yu. Ya. Gotlib, O.P. Mchedlov-Petrosyan, G.P. Mikhaylov, S.M. Petrov, A.N. Lazarev, D.I. Levin, A.V. Shatilov, N.T. Ploshchinskiy, A.Ya. Kuznetsov, E.V. Degtyareva, G.V. Byurganovskaya, A.A. Kalenov, M.M. Skornyakov, P.Ya. Bokin, E.K. Keller, Ya.A. Kuznetsov, V.P. Pozdnev, R.S. Shevelevich, Z.G. Pinsker, and O.S. Molchanova. The final session of the Conference was addressed by Professor I.I. Kitaygorodskiy, Honored Scientist and Engineer, Doctor of Technical Sciences. The following institutes were cited for their contribution to the development of glass science and technology: Gosudarstvennyy opticheskiy institut (State Optical Institute), Institut khimii silikatov AN SSSR (Institute of Silicate Chemistry, AS USSR), Fizicheskiy institut AN SSSR (Physics Institute AS USSR), Fiziko-tekhnicheskiy institut AN SSSR (Physicotechnical Institute AS USSR), Institut fiziki AN BSSR, Minsk (Institute of Physics, Academy of Sciences, Belorusskaya SSR, Minsk), Laboratory of Physical Chemistry of Silicates of the Institut obshchey i neorganicheskoy khimii AN BSSR, Minsk (Institute of General and Inorganic Chemistry, Academy of Sciences, Belorusskaya SSR, Minsk), Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High Molecular Compounds, AS USSR), Gosudarstvennyy institut stekla (State Institute for Glass), Gosudarstvennyy institut steklovolokna (State Institute for Glass Fibers), Gosudarstvennyy institut elektrotekhnicheskogo stekla (State Institute for Electrical Glass), Sibirskiy fiziko-tekhnicheskiy institut, Tomsk (Siberian Physicotechnical Institute, Tomsk), Leningradskiy gosudarstvennyy universitet (Leningrad State University), Moskovskiy khimiko-tekhnologicheskiy institut (Moscow Institute of Chemical Technology), Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad Technological Institut imeni Lensovet), Belorusskiy politekhnicheskiy institut Minsk (Belorussian Polytechnic Institute, Minsk), Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute), and Sverdlovskiy politekhnicheskiy institut (Sverdlovsk Polytechnic Institute). The Conference was sponsored by the Institute of Silicate Chemistry AS USSR (Acting Director - A.S. Gotlib), the Vsesoyuznoye khimicheskoye obshchestvo im. D.I. Mendeleyeva (All-Union Chemical Society imeni D.I. Mendeleyev), and the Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I. Vavilova (State "Order of Lenin" Optical Institute imeni S.I. Vavilov). The 15 resolutions of the Conference include recommendations to organize a Center for the purpose of coordinating the research on glass, to publish a new periodical under the title "Fizika i khimiya stekla" (Physics and Chemistry of Glass), and to join the International Committee on Glass. The Conference thanks A.A. Lebedev, Academician, Professor, and Chairman of the Organization of Committee; Ye.A. Poray-Koshits, Doctor of Physics and Mathematics, Member of the Organizational Committee; and R.L. Myuller, Doctor of Chemical Sciences, Member of the Organizational Committee. The editorial board thanks G.M. Bartenev, M.V. Vol'kenshteyn, L.I. Demkina, D.P. Dobychin, S.K. Dubrovo, V.A. Ioffe, and B.T. Kolomiyets. References accompany individual reports.

Shilo, V.P.

AUTHOR: Syritskaya, Z. M.

S/072/60/000/03/021/023
B003/B008

TITLE: 3rd All-Union Conference on the Vitreous State

PERIODICAL: Steklo i keramika, 1960, Nr 3, pp 43-46 (USSR)

ABSTRACT: The 3rd All-Union Conference on the Vitreous State was held in Leningrad at the end of 1959. It was organized by the Institut khimii silikatov AN SSSR (Institute of the Chemistry of Silicates AS USSR), Vsesoyuznoye khimicheskoye obshchestvo imeni D. I. Mendeleyeva (All-Union Chemical Society imeni D. I. Mendeleyev) and Gosudarstvennyy opticheskiy institut imeni S. I. Vavilova (State Optical Institute imeni S. I. Vavilov). More than 100 reports on the structure of glass, investigation methods of the vitreous state, the mechanism of vitrification and physicochemical and technical properties of glasses were delivered. The Conference was opened by Academician A. A. Lebedev. [illegible]. At the 5th meeting, 9 reports dealt with the investigation results of sodium-boron-silicate glasses. A. A. Appen and Gan' Fu-Si, "Boron and Aluminoboron Anomaly of the Properties of Silicate Glasses"; Ye. I. Galant, "On the Coordination Numbers of Aluminum and Boron in Some Glasses"; S. P. Zhdanov reported on structural changes in boron-silicate glasses; Ye. A. Poray-Koshits and S. P. Zhdanov reported on some controversial problems concerning the structure of boron-silicate glasses and their porous products; Ye. A. Poray-Koshits and N. S. Andreyev, "Submicroscopic Inhomogeneities in the Structure of Complex Glasses". The 15 reports at

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the 6th meeting dealt with the electric properties of glasses. L. M. Belyavskaya reported on the structure determination of glass with the aid of an inhomogeneous electric field; K. N. Yarebyrshik and V. I. Odelevskiy, "Structure and Properties of Some Oxide Glasses in the Light of the Polymer-theory of the Vitreous State"; R. L. Myuller reported on the agility and the degree of dissociation as functions of the ionic and atomar composition of the glass; V. I. Odelevskiy reported on the nature of dielectric losses in glasslike and crystalline aluminosilicates; V. P. Petrosyan, "Investigation of the Dielectric Polarization and the Losses in Phosphate Glasses"; V. A. Prosnov, V. I. Caman and L. M. Krasil'nikov reported on investigations of the conductivity of glasses in electric high-tension fields, K. K. Yevstrop'yev on the diffusion of Na^{22} and K^{42} in some silicate glasses, V. A. Ioffe, I. S. Yanchevskaya and G. I. Khvostenko on electric properties of crystalline and glasslike aluminosilicates. O. V. Mazurin spoke on his studies which were carried out under the supervision of Professor K. S. Yevstrop'yev at the Kafedra stekla LTI imeni Lensoveta (Chair for Glass of the Leningrad Technological Institute imeni Lensovet) in the report: "The Dependence of the Electroconductivity of Glasses on the Chemical Composition". V. A. Khar'yuzov, O. V. Mazurin and N. M. Zubkova gave investigation results on the specific electroconductivity of glasses of the system $SiO_2 - B_2O_3 - BaO$ in the tem-

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perature range of from 400-1300° and on the influence of additions of aluminum- and zinc oxide on the electric conductivity of these glasses. At the 7th meeting, 6 reports dealt with glasses as semiconductors, 9 with the coloring of glasses and the influence of radiation and 4 reports with technical properties of glasses. V. A. Ioffe and G. I. Khvostenko, "Electric Properties of Some Semiconductor Glasses". B. T. Kolomiyets, N. A. Goryunova and V. P. Shilo reported on methods for the production of chalcogenide glasses, on some of their general properties and on the limits of the vitreous state in the systems $Tl_2Se - As_2Se_3$, $Tl_2Se - Sb_2Se_3$, $Sb_2Se_3 - As_2Se_3$, Tl - As - Se. B. T. Kolomiyets and B. V. Pavlov reported on the optical absorption in a number of binary chalcogenide systems. B. T. Kolomiyets, T. N. Mamontova and G. P. Nazarova reported on the electron conductivity of chalcogenide glasses. A. A. Vaypolin, Ye. A. Poray-Koshits, "Radiographic Investigation of the Structure of Vitreous Arsenic Chalcogenides". V. V. Tarasov and V. A. Romanovskiy reported on the chain structure of the vitreous arsenious sulphide determined by them with calorimetric measurements. K. P. Azarov reported on structure and properties of ferrous boron glasses and

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APPROVED FOR RELEASE: 08/25/2000 CIA-RDP86-00513R001549420017-8"

RABINOVICH, B.D.; Prinimali uchastiye: VDZEN'KOVSKIY, V.I.; DERKACH, I.I.; KOCHKINA, L.V.; POLOVKO, Ye.T.; SHILO, V.P.

Investigating the performance of a vibratory screening machine. Trudy UkrNIISP no.5:21-33 '59. (MIRA 16:11)

81774

S/181/60/002/02/16/033
B006/B067

5.4110

AUTHORS: Goryunova, N. A., Kolomiyets, B. T., Shilo, V. P.

TITLE: Vitreous Semiconductors. 19. Vitrification in Complex Chalcogenides on the Basis of Arsenic Sulfide and Selenide

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 2, pp. 280-283

TEXT: In investigating binary chalcogenides on the basis of sulfur and selenium it was observed that the elements of the 5th group - phosphorus and arsenic in this case - which have no vitrifying properties when alloyed with selenium and sulfur, easily form glass in a wide concentration range with essential deviations from the stoichiometric ratio. Also alloys of phosphorus and arsenic chalcogenides with chalcogenides of other elements of this group (antimony, bismuth) form glass. Chalcogenides of any other element proved to have no vitrifying properties under the experimental conditions of the authors, neither alone nor in alloys. The only exception is germanium. The chalcogenides of the elements of the 5th group are called vitrifying and those of the 1st - 4th group (with the exception of Ge) non-vitrifying. Vitreous substances were

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Vitreous Semiconductors. 9. Vitrification in Complex Chalcogenides on the Basis of Arsenic Sulfide and Selenide

S/181/60/002/02/16/033
B006/B067

also obtained by fusing chalcogenides of the elements of the 5th group with chalcogenides of the elements of other groups. Furthermore, the authors investigated the influence exercised in such melts by non-vitrifying chalcogenides on the vitrifying capability of the melt of the two (interacting) chalcogenides. Melts on the basis of arsenic sulfide and selenide were produced with the sulfides and selenides of the elements of the 1st - 4th group (except for B, Al, C, and Si). The syntheses were made in the concentration ranges of ~5 mole% of the ternary systems Me - X - As, where Me is an element of the first four groups, X - sulfur or selenium. The vitrification of the systems As - Se - Me is illustrated by phase diagrams for the elements of the groups I - IV in Figs. 1-4. The sulfides yielded similar results. Figs. 5 and 6 show the experimental results in the form of diagrams which illustrate the ratio between the vitrification ranges of all elements from Cu to Pb. In conclusion, the results are briefly discussed and compared with those of Zachariasen and Winter-Klein. There are 7 figures and 4 references: 3 Soviet and 1 American.

Shilo, V. P.

1

S/109/62/007/006/021/024
D234/D308

9.4340

AUTHORS: Kolomiyets, B. T., Litvinova, E. M., Miselyuk, Ye. G., Tkhorik, Yu. A. and Shilo, V. P.

TITLE: Effect of fusible glass coating on the characteristics of germanium diodes

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 6, 1962, 1054-1055

TEXT: Three types of glass coatings on germanium diffusion diodes were tested: $As_2Se_3.I_{1.5}$; $As_2Se_3.Tl_2Se$; $2As_2S_3.Tl_2S$. The whole exposed surface of the semiconductor, including the p-n transition, was coated. A graph of a typical variation of V-A characteristics after coating is given. The characteristics so obtained were practically unchanged over many days. Glass coating is found to improve essentially the inverse branches of the characteristics. The effect of all three types of glass is nearly the same. Improvement of characteristics was also observed when the glass had been re-

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moved immediately after coating which disagrees with the result of other Soviet authors. There is 1 figure.

ASSOCIATION: Institut poluprovodnikov AN USSR; Fiziko-tekhnicheskiy institut im. A. F. Joffe AN SSSR (Institute of Semiconductors, AS UkrSSR; Physico-Technical Institute im. A. F. Joffe, AS USSR)

SUBMITTED: February 13, 1961

SHILO, V.P.

1

S/051/62/012/002/015/020
E202/E192

AUTHORS: Bashko, A., Prokopova, G., Kolomiyets, B.T., Pavlov, B.V., and Shilo, V.P.

TITLE: Absorption spectra of glasses of the As_2S_3-As_2Se_3 system

PERIODICAL: Optika i spektroskopiya, v.12, no.2, 1962, 275-277

TEXT: The purpose of this work was to extend the study of the absorption spectra of the above system to the region of 25 μ, so as to determine the wavelengths of all the absorption bands. The glasses were compounded according to the method given previously (Ref.4: B.T. Kolomiyets, N.A. Goryunova, ZhTF, 25, 1955, 984; B.T. Kolomiyets, N.A. Goryunova, V.P. Shilo, Tr. III Vsesoyuzn. soveshch. po stekloobrazn. sost. (Proceedings of the 3rd Conference on vitreous state) L., 1959). The following were prepared: As_2S_3; $5As_2S_3 \cdot As_2Se_3$; $2As_2S_3 \cdot As_2Se_3$; $As_2S_3 \cdot As_2Se_3$; $As_2S_3 \cdot 2As_2Se_3$; $As_2S_3 \cdot 5As_2Se_3$; As_2Se_3. Disc-shaped samples 20 mm in diameter and 0.15-3.0 mm thick were cut out, ground and

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polished. Transmission spectra were measured on spectrophotometers Сф-4 (SF-4) (0.5-1.2 μ); ИКС-14 (IKS-14) (0.8-18.0 μ); and Zeiss UR-10 (2-25 μ). In the region of 1-18 μ, the authors found certain discrepancies between their data for the absolute transmittivity and the position and depth of the strongest absorption bands, and those given in previous papers (Refs. 1 and 2: Proc. of the 3rd Conference on vitreous state, L., 1959). In the long wavelength region all the glasses had their absorption bands beyond $\lambda = 25$ μ, and hence could not be determined accurately. Optical absorption curves for As_2S_3; $As_2S_3 \cdot As_2Se_3$; and As_2Se_3 were given. Some of the absorption bands were attributed to traces of As_2O_3, and others to the so far unidentified contaminants.
There are 2 figures and 2 tables.

SUBMITTED: February 11, 1961

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L 17897-63 EWP(q)/EWT(m)/BDS AFFTC/ASD Pg-4 WH
ACCESSION NR: AP3004688 S/0072/63/000/008/0010/0012

AUTHOR: Kolomiyets, B. T. (Dr. of technical sciences); Shilo, V. P. (Engineer)

TITLE: Softening temperature of some chalcogenide glasses

SOURCE: Steklo i keramika, no. 8, 1963, 10-12

TOPIC TAGS: arsenic sulfide, arsenic selenide, thallium sulfide, thallium selenide, chalcogenide glass, thallium-arsenic-sulfur system, thallium-arsenic-selenium system, thallium-containing chalcogenide glass, germanium-containing chalcogenide glass, iodine-containing chalcogenide glass, iodine-containing chalcogenide glass, softening temperature, optical use, semiconductor-device sealing, chalcogenide-glass structure, softening-temperature rise, softening-temperature drop, glass stability, structure, semiconductor, optics

ABSTRACT: The changes in softening temperatures (T_g) of some chalcogenide glasses were studied in an effort to obtain materials with a wide range of such temperatures. Chalcogenide glasses with lower T_g than those currently known could be used for sealing semiconductor devices, while chalcogenide glasses with high T_g are required for optical purposes. Several T_g were obtained by changing the

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ACCESSION NR: AP3004688

stoichiometric composition of glasses of the Tl-As-S and Tl-As-Se systems and by introducing Ge or I into some of these glasses as additives. The glass-formation regions of these systems are shown in Fig. 1 of Enclosure. Samples were prepared by heating the requisite amounts of the elements in an evacuated and sealed quartz test tube to 700C (in case of Ge-containing compositions, to 900C) for 2 hr; the samples were then cooled to room temperature in the furnace. The softening temperatures were determined with Lazurkin's apparatus. The results indicate that an increase in the Tl_2S or Tl_2Se content of the glasses resulted in a noticeable T_g drop. Two glassy compounds were selected as starting materials for further study: $Tl_2S \cdot As_2S_3$ and $Tl_2Se \cdot As_2Se_3$. One-half to 2 germanium or 3 iodine atoms per molecule were introduced into As_2S_3, As_2Se_3, and $Tl_2Se \cdot As_2Se_3$. Germanium was introduced to strengthen the system by cross-linking it with covalent bonds to form a three-dimensional network structure. Iodine was added to weaken the system and shorten the chains of the original chain structure. In the presence of the additives T_g ranged from 30 to 450C for As_2S_3 and As_2Se_3 and rose from 109 to 214C for $Tl_2Se \cdot As_2Se_3$. The germanium-containing glasses were very stable, but those containing iodine seem to be unstable and evolve iodine spontaneously if the iodine content is high. The study indicated that T_g can be regulated to range from room temperature to 450C. Liquids can be obtained by introduction of iodine into arsenic sulfide or selenide. The results seem to confirm the chain

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L 17897-63
ACCESSION NR: AP3004688

structure of the glasses. In connection with this structure, study of their electric properties is recommended. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physicotechnical Institute, AN SSSR)

SUBMITTED: 00 DATE ACQ: 28Aug63 ENCL: 01

SUB CODE: CH, MA NO REF SOV: 006 OTHER: 002

Card 3/4 3

L 10396-65 EWT(m)/EWP(b)/EWP(e) Pq-4 WH

ACCESSION NR: AP4044636 S/0048/64/028/008/1285/1287

AUTHOR: Shilo, V. P.; Kolomiyets, B. T.

TITLE: Oxychalcogenide glasses

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 28, no. 8, 1964, 1285-1287

TOPIC TAGS: chalcogenide glass, oxychalcogenide glass, mixed oxide chalcogenide glass, substitution solid solution, oxychalcogenide glass properties, semiconducting glass

ABSTRACT: A study of the feasibility of preparing mixed oxide and chalcogenide ("oxychalcogenide") glasses has been undertaken in compliance with a recommendation of the Third All-Union Conference on the Glassy State. The experiments were first conducted by preparing substitutional solutions of components similar in structure, such as As_2S_3 or As_2Se_3 and Sb_2O_3. It was shown that large glassy-state regions exist in both As_2S_3-Sb_2O_3 and As_2Se_3-Sb_2O_3 binary systems and the As_2S_3-As_2Se_3-Sb_2O_3 ternary system. Further experiments con-

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ACCESSION NR: AP4044636

ducted with components differing in structure showed that glasses are formed also in the As_2S_3-As_2Se_3-PbO, As_2S_3-As_2Se_3HgO, $BeSe_2$-As_2Se_3-HgO, and Sb_2O_3-PbO-Sb_2S_3 systems. The Sb_2O_3-PbO-Sb_2S_3 system forms small amounts of glasses and has two glass formation regions differing with respect to color and properties. Some properties of the new "oxychalcogenide" glasses are given in Table 1 of the Enclosure. Since the conductivity of these glasses is in the range 10^{-10}-10^{-12} ohm^{-1}cm^{-1} and since most of them exhibit a photoconductive effect, they can be classified as semiconductors. The solubility of the new glasses in acids and alkalis is higher than that of chalcogenide glasses. Their density is lower but their softening point higher than those of chalgonite glasses. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe AN SSSR (Physicotechnical Institute AN SSSR)

SUBMITTED: 00 ATD PRESS: 3110 ENCL: 01

SUB CODE: MT NO REF SOV: 005 OTHER: 002

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L 10396-65
ACCESSION NR: AP4044636 ENCLOSURE: 01

Table 1. Some parameters of oxychalcogenide glasses

Nr	System	Conductivity (σ), $ohm^{-1} cm^{-1}$	Softening point (T_G), °C	Density (d), $G\ cm^{-3}$	Micro-hardness (ΔH), $kg\ mm^{-2}$
1	$As_2S_3 - As_2Se_3 - Sb_2O_3$	$10^{-13} - 10^{-12}$	194 - 215	3,661 - 4,747	103 - 145
2	$As_2S_3 - As_2Se_3 - PbO$	$10^{-13} - 10^{-12}$	194 - 208	3,545 - 3,948	93 - 145
3	$AS_2S_3 - As_2Se_3 - HgO$	$10^{-13} - 10^{-10}$	197 - 208	4,392 - 4,605	93 - 145
4	$GeSe_2 - As_2Se_3 - HgO$	$10^{-12} - 10^{-11}$	212 - 260	4,498 - 4,675	114 - 189
5	$Sb_2O_3 - PbO - SB_2S_3$				
	Region No. 1	$10^{-13} - 10^{-12}$	241 - 255	4,115 - 4,393	129 - 189
	Region No. 2	$10^{-13} - 10^{-12}$	278 - 318	4,237 - 5,090	256 - 306

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L 12888-66 EWP(e)/EWT(m)/EWP(b) WH

ACC NR: AT6000487 SOURCE CODE: UR/0000/65/000/000/0171/0174

45
44
B+1

AUTHOR: Kolomiyets, B. T.; Shilo, V. P.

ORG: None

TITLE: On the possibility of obtaining oxychalcogenide glasses

SOURCE: Vsesoyuznoye soveshchaniye po stekloobraznomu sostoyaniyu. 4th, Leningrad, 1964. Stekloobraznoye sostoyaniye (Vitreous state); trudy soveshchaniya. Leningrad, Izd-vo Nauka, 1965, 171-174

TOPIC TAGS: glass, glass property, arsenic compound, sulfur compound, selenium compound, germanium compound, mercury compound, copper compound, lead compound

ABSTRACT: In an attempt to obtain mixed oxychalcogenide glasses, the regions of glass formation were investigated in the following systems: As_2S_3-As_2Se_3-Sb_2O_3, As_2S_3-As_2Se_3-PbO, As_2S_3-As_2Se_3-HgO, $GeSe_2$-As_2Se_3-HgO, Sb_2S_3-Sb_2O_3-PbO, and As_2S_3-As_2Se_3-CuO. The corresponding triangular phase diagrams are given. The data indicate that oxychalcogenide glasses are indeed formed in these systems, and that they constitute a large new group of glasses whose properties should be studied. In a preliminary study, certain parameters of these glasses (σ, T_g, ΔH) were determined and found to be similar to those known for chalcogenide glasses. Particular attention is drawn to the As_2S_3-As_2Se_3-CuO system, which

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L 12888-66

ACC NR: AT6000487

has both a broad region of glass formation and a high electrical conductivity. Orig. art. has: 6 figures and 1 table.

SUB CODE: 07, 11/ SUBM DATE: 22May65/ ORIG REF: 007

Card 2/2

SHILO, V.V., arkhitektor

Regional planning of Moscow and the Moscow Province. Gor. khoz. Mosk. 35 no. 3:41-44 Mr '61. (MIRA 14:5)
(Moscow Province--Regional planning)

SHILO, Yu. M.

Shilo, Yu. M.- "The toxic reaction of the molds of the Aspergillus genus upon the fermenting activity of animal tissues," Sbornik trudov Khar'k. vet. in-ta, Vol. XIX, Issue 2, 1948, p. 1[illegible]-92

SO: U-[illegible], 20 Oct 53, (Letopis 'Zhurnal 'nykh Statey, No. 16, 19[illegible]9).

SHILO, Yu. M.

Shilo, Yu. M.- "The problem of the X-ray diagnosis of fodder affected by mold," Sbornik trudov Khar'k. vet. in-ta, Vol. XIX, Issue 2, 1948, p. 193-99

SO: U-4034, 29 Oct 53,(Letopis 'Zhurnal 'nykh Statey, No. 16, 1949).

SHILO, Yu M

Vitamin C content of mare milk. Yu. M. Shilo and G. N. Rakhimova. *Konevodstvo* 1953, No. [illegible]; *Referat. Zhur., Khim.* 1954, No. 10784.—Seven mares were studied the first year and 35 mares the second year for the entire lactation period. The av. ascorbic acid content in the milk was 91.04 mg. per l., varying from 62 to 120 mg./l. In foaling at the beginning of lactation the content of ascorbic acid is small, it increases in the middle of the lactation and then decreases toward the end. These variations are related to the varying amts. of ascorbic acid in the feed. Colostrum was poorer in ascorbic acid than the milk. The ascorbic acid content was alike in working and nonworking mares, and was independent of the breed and the period of foaling.

M. Hoseh

USSR / Farm Animals. Cattle. Q-2

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 64426

Author : Shilo, Yu. M.; Beletkov, M. P.; Sobolyeva, G. S.
Inst : Kurgan Agricultural Institute
Title : Materials for the Study of the Composition of the Milk of the Kurgan Breed of Cows.

Orig Pub : Sb. nauchn. rabot Kurgasnk. s.-kh. in-ta, 1956, vyp. 3, 211-217.

Abstract : The milk composition of cows of the Kurgan breed was studied on 10 cows of three calvings, older than those in the herd of the Institute. The production of cows was 3,600 kg., and the fat content of the milk, 3.9%. The average composition of milk during a lactatation was (in %): dry substances 12.05, fat 3.84, protein 3.33, sugar 4.21-5.1, ash 0.664, calcium 1.184, carotene 1.879-2.247. Density of the milk was 29.84 A. Fat and dry matter content gradually increased toward

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USSR / Farm Animals. Cattle. Q-2

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 64426

the end of the lactation (fat from 3.54 to 4.5% and dry substances from 11.34 to 12.42%). Protein content was rather high in the first month of lactation (3.3%), and in the subsequent months its amount somewhat decreased; in the 2nd half of lactation, the protein content gradually increased again, and in the 9th month attained 3.409%. Fat content in April (stall period) was 3.76% and in June (pasture period), 3.44%).

Card 2/2

SHILOKADZE, T.A., inzh.

Effectiveness of installing mirrors on mountain roads. Avt.dor. 26 no.4:20 Ap '63. (MIRA 16:4)
(Mountain roads—Safety measures) (Mirrors)

SHILOKHVOST, V. I.

AID P - 5431

Subject : USSR/Aeronautics - training

Card 1/1 Pub. 135 - 8/31

Author : Shilokhvost, V. I., Eng.-Lt. Col.

Title : How we improve the routine habits of students in exploitation of aviation materiel.

Periodical : Vest. vozd. flota, 1, 40-43, Ja 1957

Abstract : A detailed description is given in this article how the student-pilots in a unit are systematically trained in exploitation of aviation materiel. The article merits attention.

Institution : None

Submitted : No date

SHILOMOVICH, M.Kh.

Equipment for testing instruments for the influence of external magnetic fields. Izm. tekh. no.6:35-39 Je '60. (MIRA 14:2)
(Electric instruments--Testing)

SHILONOSOV, M. A.

Elektricheskie Kontrolno-Iemeritelnye Pribory (Electrical Check-Control Measuring Instruments), 295 p., Moscow and Sverdlovsk, 1951.

SHILONOSOV, M.A.,; RUDNYY, N.M., kandidat tekhnicheskikh nauk, retsenzent; BEZUKLADNIKOV, D.A., dotsent, redaktor; STUDNITSYN, B.P., redaktor; DUGINA, N.A., tekhnicheskiy redaktor

[Electric control and measuring instruments; repair and testing] Elektricheskie kontrol'no-izmeritel'nye pribory; remont i ispytaniia. Izd.2-e, isprav. i dop.Moskva,Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1955. 404 p. (MLRA 8:10)
(Electric measurements) (Electric controllers)

PHASE I BOOK EXPLOITATION SOV/4532

Shilonosov, Mikhail Alekseyevich

Elektricheskiye kontrol'no-izmeritel'nyye pribory; oborudovaniye elektrotekhnicheskikh laboratoriy, remont i ispytaniye apparatury (Electric Checking and Measuring Instruments; Equipment of Electrical Engineering Laboratories; Repair and Testing of Equipment) 3d ed., rev. and enl. Moscow, Mashgiz, 1959. 448 p. 30,000 copies printed.

Eds: D.A. Bezukladnikov, Docent, and P.G. Nikitin, Candidate of Technical Sciences; Managing Ed. (Ural-Siberian Department, Mashgiz): L.A. Kon'shina, Engineer; Tech. Ed.: N.A. Dugina.

PURPOSE: The book is intended as a handbook for the personnel of electrical engineering plant laboratories. It may also serve as a textbook for courses aiming to improve the qualification of industrial workers concerned with the operation or repair of electric measuring instruments.

COVERAGE: The book presents the fundamentals on the organization of electrical engineering plant laboratories and on the repair, adjustment, and checking of

Card 1/12

SHILOV, A.

Popular films on problems of landscaping. Zhil.-kom. khoz. 5 no.4:27 '55. (MLRA 8:9)

1. Glavnyy inzhener Upravleniya blagoustroystva i kommunal'-nykh predpriyatiy g. Gor'kogo
(Landscape gardening)

L 03773-67 EWT(1)/EWP(m) GW

ACC NR: AP6028334 SOURCE CODE: UR/0293/66/004/004/0552/0557

AUTHOR: Shilov, A. A.; Zhelnin, Yu. N.

56
B

ORG: none

TITLE: Minimization of the ultimate deceleration of a vehicle in an atmosphere

17

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 552-557

TOPIC TAGS: atmospheric entry, ~~lifting force optimal~~ control, spacecraft deceleration, ~~maximum principle~~ structure, aerodynamic lift

ABSTRACT: The problem of selecting the vertical component of the aerodynamic lifting force which minimizes the allowable deceleration of the space vehicle during atmospheric planetary entry is analyzed. The equations of motion of the vehicle in the atmosphere are written to include the condition that the drag coefficient C_x = const and an expression is established for the axial deceleration component n_x as a function of the aerodynamic lifting parameter $\bar{K}(x)$. For given flight parameters at the initial and terminal points, the function $\bar{K}(x)$, with constraints of the form

$$\bar{K}_{min} \leqslant \bar{K}(x) \leqslant \bar{K}_{max}, \qquad (1)$$

Card 1/2 UDC: 62-592:629.13(203)

L 03778-67

ACC NR: AP6028334 O

is sought which minimizes the value of n_x at the terminal point. The Pontryagin maximum principle is applied to the solution of this optimum control problem. The minimization problem of the allowable deceleration is reduced to the minimization of a certain auxiliary function. A general qualitative analysis of optimal control structure is presented. A more detailed analysis of the optimal control structure is carried out for certain particular boundary conditions. Orig. art. has: 3 figures and 20 formulas. [LK]

SUB CODE: 01/ SUBM DATE: 12May65/ ORIG REF: 005/ OTH REF: 001
ATD PRESS: 5064

Card 2/2 HH

L 14806-65 EWT(d)/FBD/FSS-2/EWT(1)/EEC(a)/EWP(m)/FS(v)-3/EEC(j)/EEC(k)-2/EEC(r)/EWG(v)/EWA(d)/EEC(c)-2/FS(b) Pn-4/Po-4/Pe-5/Pq-4/Pac-4/Pg-4/Pae-2/Ph-4/Pk-4/P1-4 IJP(c)/AFMDC/AFWD(c)/AFETR/ESD(dn)/ESD(gs)/ESD(t)/
ACCESSION NR: AP4049569 ESD(si) ASD/GW/BC S/0258/64/004/004/0619/0625

AUTHOR: Shilov, A. A., (Moscow) B

TITLE: Peculiarities of the one-impulse transfer of a space vehicle into a new orbit

SOURCE: Inzhenerny*y zhurnal, v. 4, no. 4, 1964, 619-625

TOPIC TAGS: one impulse transfer, space vehicle orbit, satellite orbit, optimum transfer, orbital transfer

ABSTRACT: The problem of the one-impulse transfer of a space vehicle of high kinetic energy into a satellite orbit is considered. If a vehicle escapes from the boundary of the Earth's atmosphere after passing through it, the height of the orbit perigee cannot exceed the height of the atmospheric boundary. Consequently, it is necessary to apply a certain thrust impulse to the vehicle for transfer into a long-lasting satellite orbit to enable the height of the new orbit perigee to exceed the boundary of the atmosphere. Certain peculiarities of one-impuse transfer are investigated in relation to optimal solu-

Card 1/3

L 14806-65
ACCESSION NR: AP4049569

tions with respect to power requirements or transfer accuracy (see Fig. 1 of the Enclosure). The expressions for the perigee and apogee radii are derived from the energy and momentum equations, and the magnitude of the impulse is determined. The dependence of orbit parameters after the impulse on optimal values of ϕ and υ is analyzed, and extremal points are determined under certain conditions. The possibilities of the optimum transfer accuracy are discussed, and transfers at apogee and perigee are compared. Orig. art. has: 4 figures and 18 formulas.

ASSOCIATION: none

SUBMITTED: 27Apr63 ENCL: 01 SUB CODE: SV

NO REF SOV: 001 OTHER: 001 ATD PRESS: 3140

Card 2/3

L 14806-65
ACCESSION NR: AP4049569 ENCLOSURE: 01

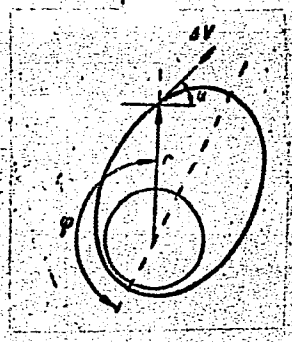

Fig. 1. One-impulse transfer

Card 3/3

S/258/62/002/003/006/008
I006/I206

AUTHOR: Shilov, A.A. (Moscow)

TITLE: On elimination of singularities from the general equations of motion of a flying machine

PERIODICAL: Inzhenernyy zhurnal. v.2, no.3, 1962, 158-160

TEXT: The representation of motion of a flying object by the heading, pitching and banking angles, $\varphi, \vartheta, \gamma$ is encumbered by singularity of representation for $\vartheta = \pm\pi/2$, where one position of the object may be described by many φ, γ values. It is shown that by the use of the nine cosine angles defining body coordinates with respect to earth coordinates this difficulty can be avoided. There are 2 figures.

SUBMITTED: January 23, 1962

Card 1/1

SHILOV, A.A.; AKIMOV, R.A.

Economic effectiveness of the power and chemical installation at the "Vakhtan" Plant. Gidroliz. i lesokhim. prom. 9 no.4:28-29 '56. (MLRA 9:11)

1. Kanifol'no-ekstraktsionnyy zavod "Vakhtan" (for Shilov)
2. Lesotekhnicheskaya akademiya (for Akimova).
(Wood--Chemistry) (Boilers)

SHILOV, A.A. (Mytishchi)

Nomogram for calculating the emission of heat by heated surfaces.
Vod. i san. tekh. no.12:27-29 D '58. (MIRA 11:12)
(Heat--Radiation and absorption) (Nomography (Mathematics))

AFANAS'YEV, A.P.; ANUCHIN, V.G.; VINOGRADOV, K.V.; GARANINA, M.M.; GILEROVICH, M.M.; DUBROVSKIY, Ye.P.; YEVSTIGNEYEV, A.A.; IOKHVIN, M.R.; KALMYKOV, P.M.; KRENGEL', I.TS.; LOSEV, I.G.; MAYEVSKIY, F.M.; MAZEL', S.I.; MIZHERITSKIY, G.S.; NOVIKOV, M.I.; NAZAR'YEV, O.V.; PCHELKINA, I.A.; RAZUMOV, V.S.; ROZENBLYUM, I.M.; SEROV, B.P.; SKRYPNIK, T.I.; SAL'VIN, Ye.S.; SMOTRINA, V.F.; TELEPNEVA, N.S.; FIL'CHAKOV, N.I.; KHRAPUNOVA, Ye.L.; UNDREVICH, G.S.; UR'T'YEV, P.P.; SHILOV, A.A.; SHLYKOV, A.P.; KIRILLOV, L.M., red.; MARKOCH, M.G., tekhn.red.

[Regulations on the construction of minicipal telephone network lines] Pravila po stroitel'stvu lineinykh sooruzhenii gorodskikh telefonnykh setei. 2.izd. Moskva, Sviaz'izdat, 1962. 511 p. (MIRA 15:5)

1. Russia (1923- U.S.S.R.) Ministerstvo svyazi. Glavnoye upravleniye kapital'nogo stroitel'stva.
(Telephone lines)

SHILOV, A. A.

"Pulmonary gas-metabolism and the heat production in highly productive cows."

SO: Hygiene of Agricultural Animals, Proceedings of the 29th Plenum of the Veterinary Section of the Academy, p. 87, Moscow 1950, Trans. #191, by L. Lulich, Unclassified.

Vologod Milk Institute

[illegible], V. I.

Rabbits-Molotov Province

Leading rabbit breeders of the Molotov Province. Sots. zhiv. 14, no. 6, 1952.

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

USSR/Diseases of Farm Animals. Diseases of Unknown Etiology. R-3

Abs Jour : Ref Zhur-Biol., No 20, 1958, 92755

Author : Shilov, A. A.
Inst : Kirovsk Agricultural Institute.
Title : Prevention of Hepatitis in Young Pigs.

Orig Pub : Tr. Kirovskogo s.-kh. in-ta, 1957, 12, No 24, 135-140

Abstract : Penicillin and norsufazol [sulfathiazole] were successfully used in combination with disinfection of buildings and improvement in zoohygienic conditions for the prevention of the disease on several farms in the Kirovskaya Oblast'. 0.3-0.05 g of norsulfazol were administered to the young pigs per-

Card : 1/2

43

SHILOV, A. A., (Assistant Professor of the Kirov Agricultural Institute)

An instrument for injection

Veterinariya vol. 38, no. 10, October 1961, pp 63

SHILOV, A.A., dotsent

Device for injections. Veterinariia 38 no.10:62-63 O '61.
(MIRA 16:2)

1. Kirovskiy sel'skokhozyaystvennyy institut.
(Veterinary instruments and apparatus)

SHILOV, A.A.

Scaup Nyroca fuligula L. on the lakes of the Baraba Steppe. Ornitologiia no.4:297-302 '62. (MIRA 16:4)

(Baraba Steppe--Ducks)

Shilov, A. S.

AUTHOR: Shilov, A. S., 89-1-15/29

TITLE: Elimination of the Influence Exercised by γ -Scattering Radiation When Calibrating Radiometers (Iskly'ucheniye vliyaniya rasseyannogo γ-izlucheniya pri etalonirovanii radiometrov)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 1, pp. 84-87 (USSR)

ABSTRACT: It was determined experimentally how much scattered radiation is measured in a closed room by different counting tubes at various distances of the counting tubes from the walls and at various distances of the standard preparation from the counting tube. The respective curves are shown.
On the basis of these experimental data three possibilities are mentioned how to eliminate the disturbing γ-scattering radiation when calibrating radiometers in closed rooms. There are 5 figures and 5 Slavic references.

SUBMITTED: August 28, 1957

AVAILABLE: Library of Congress

Card 1/1

SHILOV, A.S.

Determining the regularities of the change of temperature in mercury valves. Trudy OMIIT 41:97-103 '63.
(MIRA 18:7)

SHILOV, A.S., inzh. (Tomsk)

Methods of preventing backfires in rectifiers. Elek. i tepl. tiaga 3 no.4:22-23 Ap '59. (MIRA 12:7)
(Mercury-arc rectifiers--Maintenance and repair)

YEREMIN, N.Ye.; SHILOV, A.S. (Tomsk)

Method for measuring the voltage drop in the arc of a mercury-arc rectifier. Elek.i tepl.tiaga 14 no.3:28-29 Mr '60. (MIRA 13:7)

(Electric current rectifiers)

ANTONOV, M.F.; SHILOV, A.S., red.; OSOVSKIY, A.T., tekhn. red.

[Selecting the best economic variants] K voprosu vybora ekonomicheski nailuchshikh variantov. Tomsk, Izd-vo Tomskogo univ., 1959. 43 p. (MIRA 14:10)
(Electric power distribution)

PAKHOMOV, V.Ya., inzh.; PENZIN, L.I.; ARKHIPOV, L.P.; SHILOV, A.S., starshiy prepodavatel'

The mercury-arc rectifier has been installed outside the traction substation. Elek. i tepl. tiaga 6 no.11:12-13 N '62. (MIRA 16:1)

1. Zamestitel' nachal'nika Barabinskogo uchastka energosnabzheniya (for Penzin). 2. Nachal'nik tyagovoy podstantsii Kozhurla (for Arkhipov). 3. Omskiy institut inzhenerov transporta (for Shilov). (Mercury-arc rectifiers) (Electric railroads--Substations)

SHILOV, A.V.

Hostaphane, a transparent plastic material, its use in cartography. Geod.i kart. no.4:64-69 Ap '62. (MIRA 15:12)
(Cartography--Equipment and supplies)
(Plastics)

L 15395-66 EWT(1) GW

ACC NR: AP6001009 (A) SOURCE CODE: UR/0286/65/000/022/0082/0082

AUTHORS: Kopylova, A. D.; Shilov, A. V.

ORG: none

TITLE: A method for preparing physical-geographical maps with a continuous wash-off of the relief. Class 57, No. 176486 [announced by Central Scientific-Research Institute of Geodesy, Aerial Photography, and Cartography (Tsentral'nyy nauchno-issledovatel'skiy institut geodezii, aeros"yemki i kartografii)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 82

TOPIC TAGS: cartography, map, quality control

ABSTRACT: This Author Certificate presents a method of preparing physical-geographical maps with a continuous wash-off of the relief. The method includes the preparation (from the original of the continuous wash-off of the relief) of a map of the screen transparencies. These transparencies are used with the subsequent preparation of printed forms (based on the number of colors) of the hypsometric layers and of the printed form of the continuous wash-off of the relief. The method increases the quality of the map and eliminates manual retouching. Two tinted negatives are prepared from the original of the wash-off of the relief. One negative has a precise transference of the reproducible image of the original and is used for obtaining the screen transparency and the printed form of the wash-off of the relief.

Card 1/2 UDC: 776.7:528.927:655.3

L 15395-66

ACC NR: AP6001009

The other negative, with a softened reproducible image of the original, is used for obtaining the screen transparencies and printed forms of the hypsometric layers based on the number of colors. During the process of separating these transparencies into hypsometric layers, masks are used directly on the printed forms of these layers or on the transparent plastic.

SUB CODE: 08/ SUBM DATE: 27Aug64

Card 2/2

SHILOV, A. Ye.

USSR/Chemistry - Hydrogen Peroxide, Jul 53
Nitro Compounds

"New Work on the Kinetics of Oxidation of Nitrous Acid With Hydrogen Peroxide," Ye. A. Shilov, Inst of Org Chem, Acad Sci Uk SSR, Kiev.

Zhur Fiz Khim, Vol 27, No 7, pp 1103-1105

In their work on the kinetics of oxidation of HNO_2 with H_2O_2, E. Halfpenny and P. Robinson (J. Chem. S., p 928, 1952) arrived at results different from those obtained by the author Zhur Fiz Khim, Vol 24, p 820, 1950; Vol 25, p 1137, 1951). They apparently

271T17

had no knowledge of the USSR work. Their expl technique is deficient in some respects. H_2O_2 reacts with HNO_2 under formation of HOONO, which acts on aromatic compds with formation of nitro derivs.

SHILOV, A.E.

Nucleophilic addition of hydrogen halides to some acetylenic derivatives. E. A. Shilov and A. B. Shilov. *Doklady Akad. Nauk S.S.S.R.* 91, 873-6 (1953). The addn. of

HCl to $(:CCO_2Me)_2$ solns. of LiCl in AcOH form HCl adducts more rapidly than solns. of HCl alone under comparable conditions. The reaction yields di-Me chlorofumarate which does not add HCl under these conditions; thus the LiCl reaction also yields AcOLi. The addn. of LiCl in AcOH follows the equation: $-(dC/dt) = k_3AC$, where A is the concn. of the acetylenic ester and C that of LiCl; k_3 = 3.4 × 10^{-4} moles/l. min. at 30° and 26 × 10^{-4} at 50°. With free HCl the reaction is also of 2nd order but k_3 at 30° is 0.9 × 10^{-4}. When both HCl and LiCl are present they react independently of each other and a summational rate prevails. Strong acids, such as Cl_3CCO_2H, do not affect the rate of the LiCl reaction, but addn. of H_2O (up to 5%) accelerates the addn. of LiCl by some 50%. Undissocd. mols. of $(:CCO_2H)_2$ in aq. soln. also react almost equally rapidly with NaCl and HCl, thus showing that the rate of the over-all reaction is limited by the reaction of the Cl ion. Neither the neutral nor the acid salt of the acid reacts with aq. or AcOH solns. of the chlorides. Bromides and iodides are more active: LiBr in AcOH reacts with the ester 5 times as rapidly as LiCl; HI adds (from KI soln. in 80% AcOH) some 200 times as rapidly as HCl from LiCl soln. Thus the addn. of HCl from the salt soln. initiates with a nucleophilic attack of LiCl on the acetylenic link, followed by reaction of a mol. that contains active H, but the 2nd reaction is much slower. The nucleophilic nature is shown by the fact that replacement of Ac by H or Ph lowers the rate of reaction of the acetylene deriv.; HC:CCO$_2$Me is less reactive, while PhC:CCO$_2$Me is even less reactive. The kinetic data are given in tables. G. M. K.

SHILOV, A. E.

Mechanism of rearrangements of aromatic amino- and hydroxysulfonic acid salts. E. A. Shilov, M. N. Bogdanov, and A. E. Shilov. *Doklady Akad. Nauk S.S.S.R.* 92, 93-6(1953). The mechanism of direct sulfonation of aromatic compds. by H_2N and HO sulfonic acids is discussed. In media with a high level of acidity, a mode of migration of the SO_3H may change to a hydrolytic one, which is connected with isotopic exchange. In the present work S^{35} labelling was employed: a mixt. of S^{35}-labeled Na_2SO_4 with ordinary naphthionate (or other salts) was allowed to react and the test result interpreted by the translocation of S^*. If the rearrangement takes place by hydrolysis, the resulting H_2SO_4 or its salt will yield radioactive sulfonate. If the rearrangement of the sulfonate is intramol., the product is inactive. Although the systems were heterogeneous, the reaction took place readily. The results are summarized below. Na naphthionate and $C_{10}H_8$ in 3.5 hrs at 100° gave 51% 1,2-salt, with 3% S exchange; with $1\text{-}C_{10}H_7NH_2$ in 2 hrs. at 180-200°, 60-90% $1,2\text{-}H_2NC_{10}H_6SO_3Na$ was obtained with 5-10% S exchange; with $1\text{-}C_{10}H_7NH_2$ in the presence of Na_2CO_3 no 1,2-salt formed and no S exchange took place; $1\text{-}C_{10}H_7OH$ in 4 hrs. at 100° formed 35% $1,2\text{-}HOC_{10}H_6SO_3Na$ with 4% S exchange. Naphthionic acid and $1\text{-}C_{10}H_7NH_2$ in 3 hrs. at 180° gave 45% 1,2-salt and 74% S exchange. $1\text{-}C_{10}H_7NHSO_3Na$ and $C_{10}H_8$ in 2 hrs. at 150° in the presence of $1\text{-}C_{10}H_7NH_2$ and H_2SO_4 gave 60% 1,2- and 7% 1,4-salt with much S exchange; if H_2SO_4 were omitted, 1.3 hrs. at 180° gave 67% 1,2-salt and 5% S exchange; $C_{10}H_8$ and $1\text{-}C_{10}H_7OH$ gave 73% $1,2\text{-}HOC_{10}H_6SO_3Na$ with 2% S exchange. Na sulfanilate and $1\text{-}C_{10}H_7NH_2$ in 3 hrs. at 193° gave 90% 1,2-salt and 6% S exchange; addn. of Na_2CO_3 gave 0% 1,2-salt and no S exchange. Sulfanilic acid and $1\text{-}C_{10}H_7NH_2$ in 3 hrs. at 100° gave 42% 1,2-salt with 38% S exchange. $2,1\text{-}H_2NC_{10}H_6SO_3Na$, the free acid, and $1,4\text{-}HOC_{10}H_6SO_3Na$ gave a similar distribution of products. It is readily seen that in many cases the SO_3H group migrates without hydrolysis or S exchange, or at most with a small extent of exchange. However, naphthionic acid and $2,1\text{-}H_2NC_{10}H_6SO_3H$ produce 45-90% S exchange. With 1,4-HO-

SHILOV, A.Ye.; SHILOV, Ye.A.

Research in the theory of nucleophile additions. Part 1. Kinetics of the addition of hydrogen chloride and analogous compounds to some acetylene derivatives. Ukr.khim.zhur. 20 no.1:39-52 '54.
(MLRA 7:3)

1. Institut organicheskoy khimii Akademii nauk USSR.
(Hydrogen chloride) (Acetylene derivatives)

SHILOV, Ye.A.; SHILOV, A.Ye.

Studies in the theory of nucleophilic additions. Part 2. Kinetics of the chlorination of the dimethyl ester of acetylenedicarboxylic acid. Ukr.khim.zhur. 20 no.3:279-281 '54. (MLRA 7:8)

1. Institut organicheskoy khimii Akademii nauk USSR.
(Chlorination) (Acetylenedicarboxylic acid) (Esters)

SHILOV, A. E.

USSR/ Chemistry - Decomposition

Card 1/1 : Pub. 22 - 24/49

Authors : Shilov, A. E.

Title : Kinetics and mechanism of primary decomposition of allyl chloride

Periodical : Dok. AN SSSR 98/4, 601-604, Oct. 1, 1954

Abstract : The primary decomposition of allyl chloride in which the energy of the D_{C-Cl} bond is much higher than the D^{C-Br} energy bond in allyl bromide, was investigated in a jet-type vacuum installation at 594-709° C temperatures. The mechanisms (radical and molecular) of thermal decomposition of halogen derivatives are explained. The activation energy of radical decomposition was found to be equal to the energy of the broken bond and the activation energy of molecular reaction contains only a certain part of the bond energy. Five references: 4-USA and 1-USSR (1949-1952). Tables; graph.

Institution : ...

Presented by : Academician N. N. Semenov, May 21, 1954

SHILOV, V. N.

SHILOV, V. N.: "Experimental investigation of the mechanism of the elementary act of decomposition of certain organic halogen derivatives". Moscow, 1955. Acad Sci USSR. Inst of Chemical Physics. (Dissertation for the Degree of Candidate of CHEMICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

SHILOV, A. YE.

20-5-39/60

AUTHOR SHILOV, A. Ye., SABIROVA, P.D.

TITLE The Mechanism and Isotopic Effect of the Primary Act in the Thermal Decomposition of Chloroform
(Mekhanizm i izotopnyy effekt pervichnogo akta termicheskogo raspada khloroforma. Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 5, pp 1058 - 1061 (U.S.S.R.)

ABSTRACT In recent publications on the thermal decomposition of organic haloid derivatives there was usually assumed one of two mechanisms of the elementary act of molecule decomposition: either the radical mechanism (break-up of the C-Hal-bond; R - X → R. + X.) or the molecular mechanism of an immediate elimination of H-Hal by a four-membered transition complex. Basically one can also imagine still a third mechanism of molecule decomposition: separation of H-Hal from a carbon atom with a primary formation of a derived bivalent C. The authors want to call this latter mechanism a biradical one. (conventional, since the developing particle does not have to be a biradical in the strict acceptation of the word, e.g. CO). Although this mechanism was variously assumed for some compounds, it was in no individual instance sufficiently established. The present paper gives data on the decomposition of chloroform and deuterochloroform ($CDCl_3$). The decomposition of chloroform was stu-

Card 1/4

The Mechanism and Isotopic Effect of the Primary Act in the Thermal Decomposition of Chloroform

relation of the decomposition speed of light and heavy chloroform at 574 ° C is equivalent to 1,65. Fig. 1 shows (straight 2) the dependence on temperature of the decomposition speed of $CDCl_3$. The inclination of the straight gives, just as for $CHCl_3$, a value of 47 ± 2 Kkal for the activation energy. The experiment is not sufficiently accurate, however, to determine the volume of the isotopic effect separately in the value of the activation energy and of the pre-exponential multiplier. Tab. 3 gives data of several tests for the determination of the isotopic composition of hydrogen chloride in the reaction products of $CDCl_3$. In it are contained about 35 % DCl, in the case of an excess of toluol. The relative DCl-content neither depends on the relation of $CDCl_3$ and toluol, nor on temperature, nor on the period of contact. The considerable developing amounts of DCl and the first order of reaction indicate that the stage determining the velocity is the biradical decomposition: $CHCl_3 \rightarrow HCl + CCl_2$ (1). Molecular chlorine was added for checking. The resulting hydrogen chloride proved to be light. Considerable amounts of light HCl in the hydrogen chloride of the reaction products of CDCl in toluol indicate that about half of

AUTHORS: Shilov, A. Ye., Bubnov, N. N. 62-58-3-29/30

TITLE: Letters to the Editor (Pis'ma redaktoru)
Electron Paramagnetic Resonance in the System R_3Al-$TiCl_4$
(Elektronnyy paramagnitnyy rezonans v sisteme R_3Al-$TiCl_4$)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 381-381 (USSR)

ABSTRACT: Of late great interest has been shown in the above mentioned systems as they are used as initiators of the polymerization of certain olefines. It had to be assumed that the primary interaction of the molecules of compounds belonging to the initiator finds its expression in the bimolecular reaction with simultaneous formation of a free radical

$$R_3Al + TiCl_4 \rightarrow R + AlClR_2 + TiCl_3.$$

This reaction, as it is, can not be classified as a usual one as the polymerization in many a respect is different

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