The Effect of the Fineness of Cement Grinding and Additives on the Frost Resistance of the Cement Mix. SOV/97/58/2/8/16

explained by S.V. Shestoperov's theory on the effect of aluminate minerals on frost resistance of concrete, and the necessity to regulate the quantity of gypsum in relation to the degree of grinding of cement and the amount of calcium aluminate it contains. The results of investigations of P.F. Shubenkin are published in an article entitled "Strength of Concrete in Bending and Compression after investigation on Frost Resistance" in VIA imeni Kuybyshev, 1952, Nr 65. The author states that to investigate strength under bending the test using the repeated freezing and defreezing method is more reliable than the one carried out by compression There is one table.

Card 2/2 1. Concrete--Temperature factors 2. Freezing point depressants--Test results 3. Cement--Preparation 4. Cement--Physical properties 5. Concrete--Mechanical properties

SEREGIN, I.N., ANUFRIYEV, V.I., IVANOV, F.M.

Technology of one-stage injection into channels with prestressed reinforcements. Avt. dor. 21 no. 7:18-19 Jl '58. (MIRA 11:8)
(Prestressed concrete)

IVANOV, F.M.; KELLER, I.M.

Sorption transducers used in continuous measurements of the moisture of soils and other materials under stationary conditions. Inzh.-fiz.zhur. no.7:36-40 Jl '58. (MIRA 11:8)

1. Vsesoyuznyy dorozhnyy nauchno-issledovatel'skiy institut, Moskva.
(Hygrometry)

VOLKOV, M.I., prof.; IVANOV, F.M.kand.tekhn.nauk; KLIMASHEV, F.S.,inzh.; KOROLEV, I.V., inzh.; KURDENKOV, B.I., inzh.; MYSHKOVSKAYA, S.A., kand.tekhn.nauk; NEKRASOV, V.K., kand.tekhn.nauk; SPERANTOV, N.A., kand.tekhn.nauk; YAKUNIN, O.A., inzh.; MOTYLEV, Yu.L., red.; LAKHMAN, F.Ye., tekhn.red.

[Metallurgical slags in road construction] Metallurgicheskie shlaki v dorozhnom stroitel'stve. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1959. 182 p. (MIRA 12:4)

(Road materials) (Slag)

IVANOV, F.M., kand.tekhn.nauk; KELLER, I.M., kand.tekhn.nauk

Determining the content of non-freezing water in concretes.
Trudy NIIZHB no.12:88-94 '59. (MIRA 13:8)
(Concrete) (Moisture--Measurement)

SEREGIN, Ivan Nazarovich; ANUFRIYEV, Viktor Ivanovich; IVANOV, Fedor Mikhaylovich. Prinimali uchastiye: VASYUTA, L.G.; VALYUS, V.M.; VOROB'YEVA, K.G.; ZHAROVA, Ye.P.; NEFEDOVA, Ye.F.; IVANTEYEVA, N.I.; ZUBKOVA, M.S., red.; DONSKAYA, G.D., tekhn.red.

[Injection into channels with stressed reinforcements] In"ektirovanie kanalov s napriazhennoi armaturoi. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog, 1960. 23 p. (MIRA 13:4)

1. Gosudarstvennyy Vsesoyuznyy dorozhnyy nauchno-issledovatel'skiy institut (SOYUZDORNII) (for Vasyuta, Valyus, Vorob'yeva, Zharova, Nefedova, Ivanteyeva).
(Bridges, Concrete)

BEZRUK, Vasiliy Makarovich, doktor geol.-miner.nauk; ZASHCHEPIN, Aleksey Nikitich, kand.tekhn.nauk; IVANOV, Fedor Mikhaylovich, kand.tekhn. nauk; MIKHAYLOV, Valentin Vasil'yevich, kand.tekhn.nauk; NEKRASOV, Vladimir Konstantinovich, kand.tekhn.nauk; KURDENKOV, Boris Ivanovich, inzh.; ZASHCHUK, Igor' Vsevolodovich, kand.tekhn.nauk; GORELYSHEV, N.V., kand.tekhn.nauk, red.; YEGOZOV, V.P., red.; GALAKTIONOVA, Ye.N., tekhn.red.; DONSKAYA, G.D., tekhn.red.

[Handbook on laboratory testing of road materials and soils] Spravochnoe rukovodstvo po laboratornym ispytaniiam dorozhno-stroitel'nykh materialov i gruntov. Pod obshchei red. N.V.Gorelysheva. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1960. 381 p. (MIRA 13:11)
(Road materials--Testing)

IVANOV, F.M., kand.tekhn.nauk; GLADKOV, A.A., kand.tekhn.nauk; NOVIKOV, Ya.N., inzh.

Waterproofing culverts on railroad lines. Transp. stroi. 10 no.10: 53-54 O '60. (MIRA 13:10)

(Culverts)

GORELYSHEV, N.V., kand.tekhn.nauk; LYUBIMOVA, T.Yu., kand.khim.nauk; KOLBANOVSKAYA, A.S., kand.khim.nauk; IVANOV, F.M., kand.tekhn. nauk; KELLER, I.M., kand.tekhn.nauk; AGAPOVA, R.A., inzh.; TIMOFEYEVA, L.D., inzh.; YAKOVLEVA, A.I., red.; KOVRIZHNYKH, L.P., red.; GALAKTIONOVA, Ye.N., tekhn.red.

[Physicochemical methods of characterizing the properties and structure of road and building materials] Fiziko-khimicheskie metody kharakteristiki svoistv i struktury dorozhno-stroitel'nykh materialov. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1961. 91 p. (MIRA 14:12)

(Road materials--Testing)
(Building materials--Testing)

IVANOV, F.M., inzh.; KUTSENKO, V.N., inzh.; NOVIKOV, Ya.N., inzh.; SHKLOVSKIY, M.Ya., inzh.

Use of polyvinyl chloride plastics for the waterproofing of bridges. Transp.stroi. 11 no.3:23-24 Mr '61. (MIRA 14:3)
(Waterproofing) (Bridge construction) (Ethylene)

IVANOV, F.M.; NOVIKOV, Ya.N.

Gluing concrete and reinforced concrete articles with epoxy resins.
Avt. dor. 24 no.3:22-23 Mr '61. (MIRA 14:5)
(Concrete) (Epoxy resins)

IVANOV, F.M., kand.tekhn.nauk; ROYAK, G.S., kand.tekhn.nauk

Effect of the hardening temperature on the expansion of portland cement mortars with various additions of gypsum. Nauch. soob. NIITSementa no.12:30-35 '61. (MIRA 15:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva.

(Portland cement)
(Gypsum)

MOSKVIN, V.M., doktor tekhn. nauk, prof.; MEDVEDEV, V.M., kand. tekhn. nauk; KAPKIN, M.M., kand. tekhn. nauk. Prinimali uchastiye: IVANOV, F.M., kand. tekhn. nauk; TSVETKOV, S.N., kand. tekhn. nauk; PAVLOV, V.N., inzh.; KLIMOVA, G.D., red. izd-va; BOROVNEV, N.K., tekhn. red.

[Instructions for increasing the durability of concrete in elements of marine hydraulic structures] Instruktsiia po povysheniiu dolgovechnosti betona v konstruktsiiakh morskikh gidrotekhnicheskikh sooruzhenii. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1962. 58 p. (MIRA 15:5)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona, Perovo. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Moskvin). 3. TSentral'naya laboratoriya korrozii Nauchno-issledovatel'skogo instituta betona i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR (for Medvedev, Kapkin). 4. TSentral'nyy nauchno-issledovatel'skiy institut svyazi Ministerstva transportnogo stroitel'stva SSSR (for Ivanov).
(Hydraulic structures) (Concrete construction)

MOSHCHANSKIY, Nikolay Alekseyevich, doktor tekhn. nauk, prof.; IVANOV, F.M., kand. tekhn. nauk, nauchnyy red.; YUDINA, L.A., red. izd-va; GOL'BERG, T.M., tekhn. red.

[Increasing the stability of building materials and elements under the conditions of corrosive atmospheres]Povyshenie stoikosti stroitel'nykh materialov i konstruktsii, rabotaiushchikh v usloviiakh agressivnykh sred. Moskva, Gosstroiizdat, 1962. 234 p. (MIRA 16:1)
(Concrete--Corrosion) (Corrosion and anticorrosives)

IVANOV, F.M., kand.tekhn.nauk; MEDVEDEV, V.M., kand.tekhn.nauk

"Corrosion and protection of marine structures made of concrete and reinforced concrete" by M.K. "Tikhonov. Reviewed by F.M. Ivanov, V.M. Medvedev. Bet. i zhel.-bet. 8 no.11:527-528 N '62. (MIRA 15:11)
(Concrete--Corrosion) (Hydraulic structures)
(Tikhonov, M.K.)

IVANOV, F.M., kand.tekhn.nauk; VLASOV, S.N., inzh.

Protecting reinforced concrete blocks for tunnel lining from corrosion. Transp. stroi. 12 no.11:41-43 N '62. (MIRA 15:12)
(Tunnel lining) (Concrete—Corrosion)

NOVIKOV, Ya.N.; GAYVAN, V.V.; IVANOV, F.M.

Improved waterproofing of overpasses. Avt.dor. 25 no.8:20-21 Ag '62. (MIRA 16:2)

(Viaducts)

IVANOV, F.M., kand.tekhn.nauk; SMOL'YANINOV, A.A., kand.tekh.nauk; SOLN-TSEVA, V.L., kand.tekhn.nauk

Waterproofing the foundation of poles of contact networks. Transp. stroi. 13 no.9:51-54 S '63. (MIRA 16:12)

IVANOV, Fedor Mikhaylovich; VINOGRADOVA, Ol'ga Aleksandrovna; MANANOV, Niyazbek Gabdianovich; YEGOZOV, V.P., red.

[Manual for the research worker in road materials] Spravochnik laboranta-dorozhnika. Moskva, Transport, 1964. 198 p. (MIRA 17:8)

BAKLANOV, A.S., inzh.; GLADKOV, V.S., kand. tekhn. nauk; IVANOV, F.M., kand. tekhn. nauk

Heat insulation as a means of improving the durability of concrete structures. Transp. stroi. 15 no.7:42-44 Jl '65. (MIRA 18:7)

GERSHBERG, Osip Abramovich, prof., doktor tekhn. nauk, laureat Gosudarstvennoy premii; VOLZHENSKIY, A.V., prof., retsenzent; SIZOV, V.N., prof., doktor tekhn. nauk, retsenzent; IVANOV, F.M., kand. tekhn. nauk, nauchn. red.

[Technology of concrete and reinforced concrete products] Tekhnologiia betonnykh i zhelezobetonnykh izdelii. Moskva, Stroiizdat, 1965. 336 p. (MIRA 18:8)

1. Rukovoditel' kafedry "Tekhnologiya vyazhushchikh veshchestv i betonov" Moskovskogo inzhenerno-stroitel'nogo instituta im. V.V.Kuybysheva (for Volzhenskiy). 2. Rukovoditel' kafedry "Stroitel'nyye materialy i izdeliya" Vsesoyuznogo zaochnogo politekhnicheskogo instituta (for Sizov).

GORCHAKOV, Grigoriy Ivanovich; KAPKIN, Mikhail Matveyevich; SKRAMTAYEV, Boris Grigor'yevich; IVANOV, F.M., kand. tekhn. nauk, retsenzent;

[Improving the frost resistance of concrete in elements employed in industrial and hydraulic structures] Povyshenie morozostoikosti betona v konstruktsiiakh promyshlennykh i gidrotekhnicheskikh sooruzhenii. Moskva, Stroiizdat, 1965. 193 p. (MIRA 18:12)

IVANOV, F.M.; AKIMOVA, K.M.

Method for measuring through pores in capillary-porous substances. Zav. lab. 31 no.11:1360-1361 '65. (MIRA 19:1)

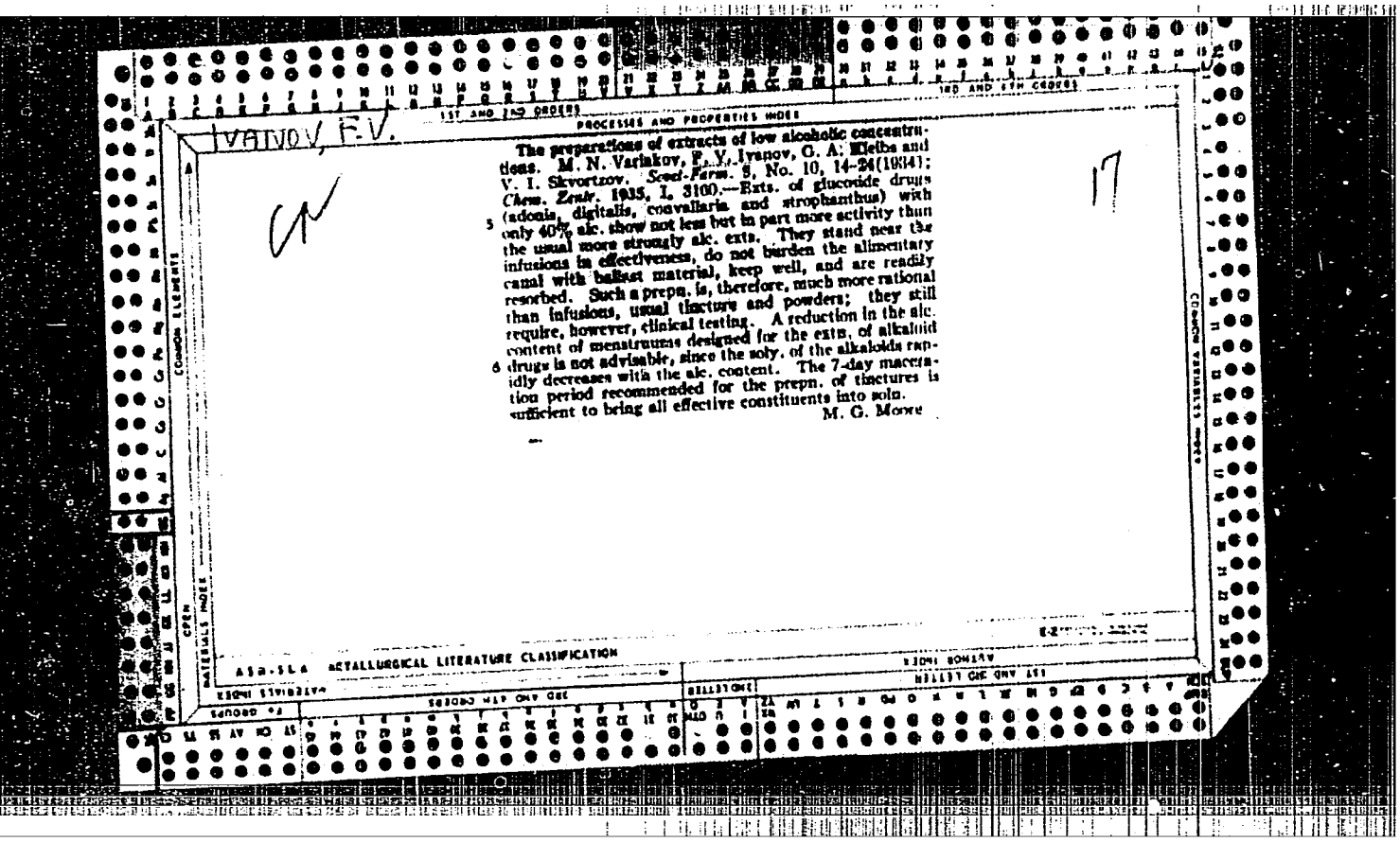
1. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva.

IVANOV, F.P.

Making reinforcement frames for concrete pipe units. Rats. i izobr. predl. v stroi. no.126:3-4 '55. (MLRA 9:7)
(Pipe, Concrete)

SHUSHKIN, V.F.; IVANOV, F.S.

Ultrasonic detection of defects in ceramic products. Stek. i ker. 19 no.8:21-23 Ag '62. (MIRA 15:9)
(Ultrasonic waves—Industrial applications)
(Ceramics—Testing)



VARNOV, F.V.

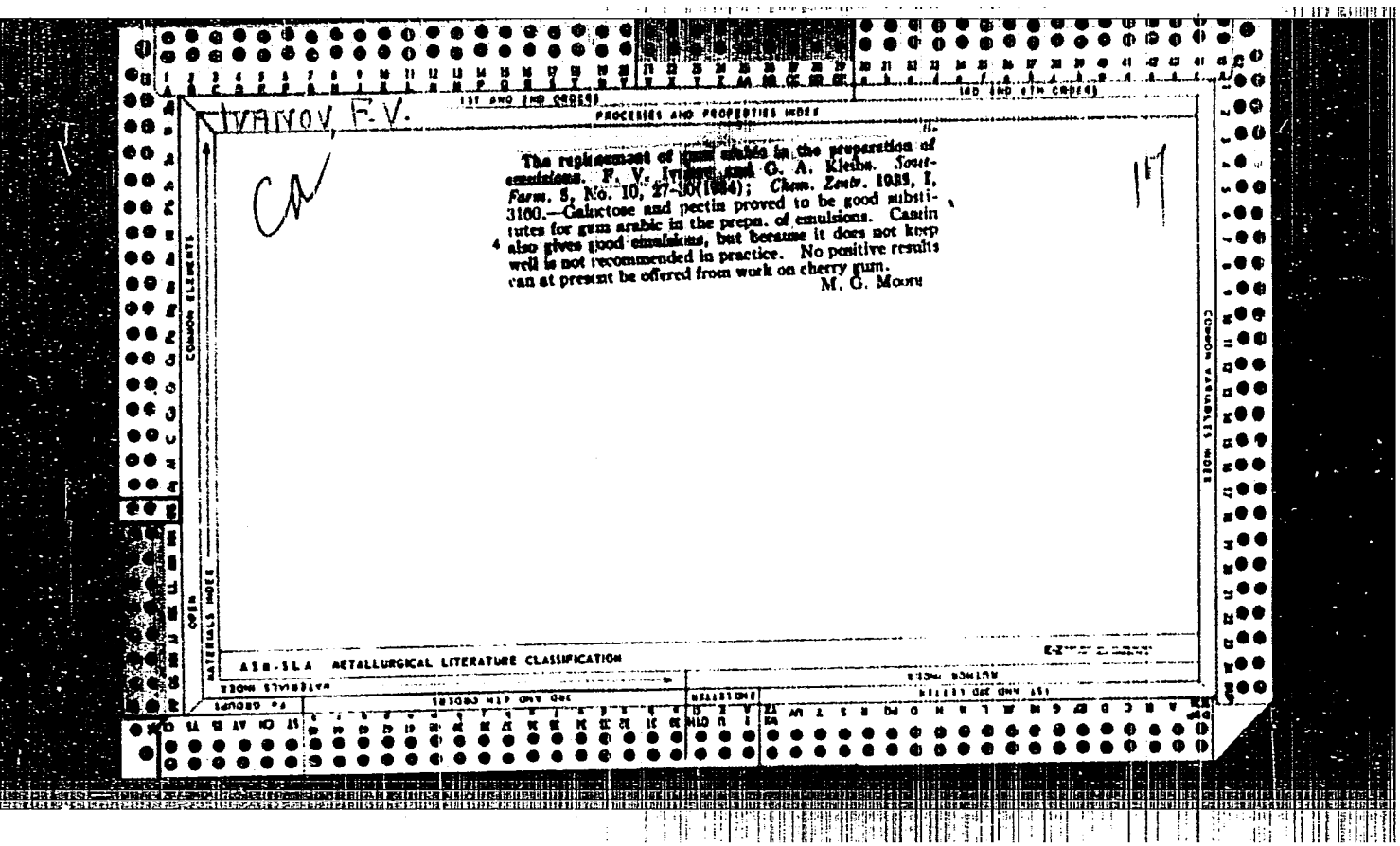
17

PROCESSES AND PROPERTIES INDEX

The preparations of extracts of low alcoholic concentrations. M. N. Varlakov, F. V. Ivanov, G. A. Mielba and V. I. Skvortzov. *Sovet. Farm.* 8, No. 10, 14-24(1934); *Chem. Zentr.* 1935, I, 3100.—Exts. of glucoside drugs (adonis, digitalis, convallaria and strophanthus) with only 40% alc. show not less but in part more activity than the usual more strongly alc. exts. They stand near the infusions in effectiveness, do not burden the alimentary canal with ballast material, keep well, and are readily resorbed. Such a prepn. is, therefore, much more rational than infusions, usual tincture and powders; they still require, however, clinical testing. A reduction in the alc. content of menstruums designed for the exts. of alkaloid drugs is not advisable, since the soly. of the alkaloids rapidly decreases with the alc. content. The 7-day maceration period recommended for the prepn. of tinctures is sufficient to bring all effective constituents into soln.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



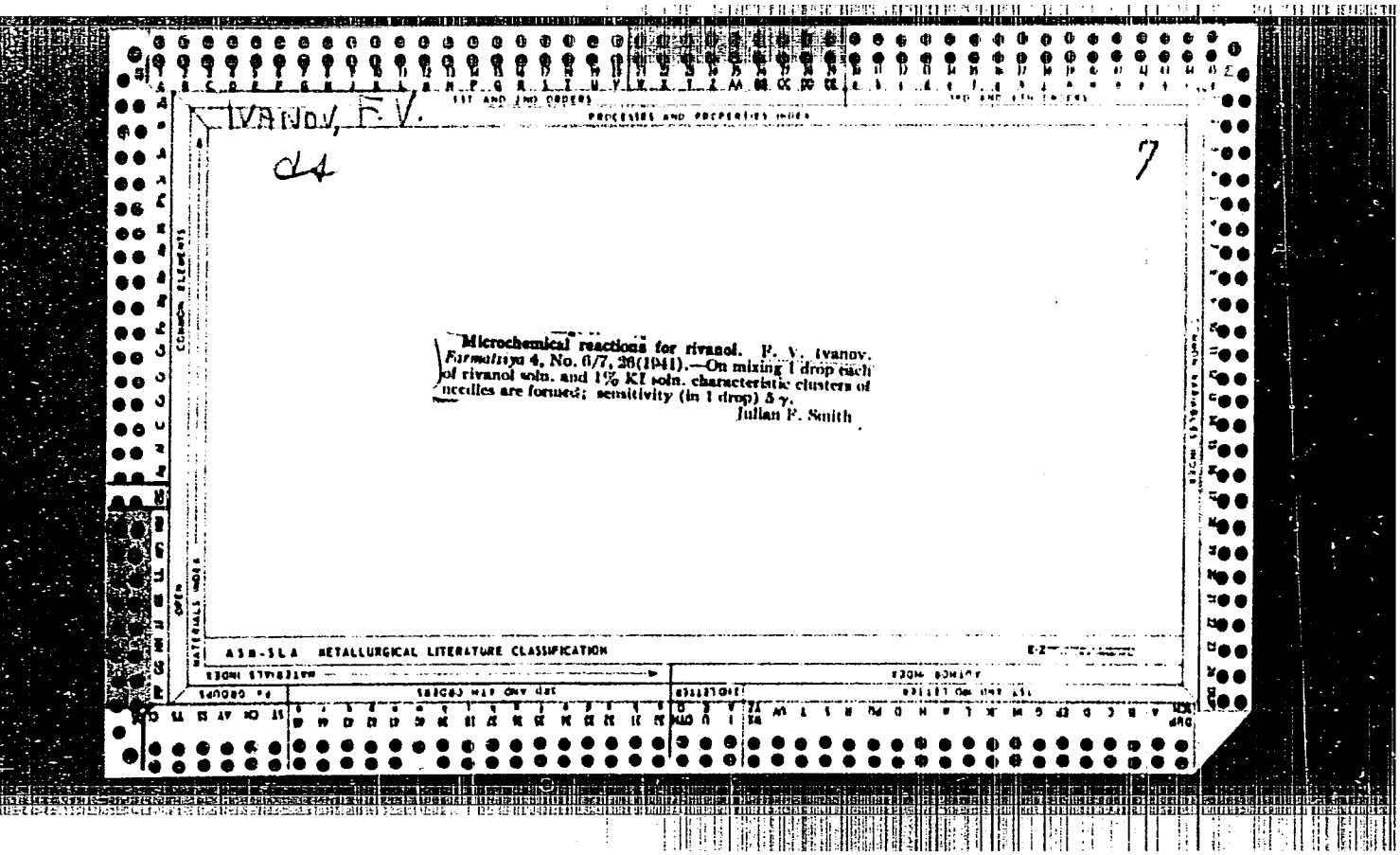
IVANOV, F.V.

CA

17

The replacement of gum arabic in the preparation of emulsions. F. V. Ivanov and O. A. Klenbo. *Sovet-Farm.* 5, No. 10, 27-30(1934); *Chem. Zentr.* 1935, I, 3160.—Galactose and pectin proved to be good substitutes for gum arabic in the prepn. of emulsions. Casein also gives good emulsions, but because it does not keep well is not recommended in practice. No positive results can at present be offered from work on cherry gum.
M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION


IVANOV, F. V.

CL

7

Microchemical reactions for rivanol. F. V. Ivanov. *Farmatsiya* 4, No. 6/7, 26(1941).—On mixing 1 drop each of rivanol soln. and 1% KI soln. characteristic clusters of needles are formed; sensitivity (in 1 drop) 5 γ.

Julian F. Smith

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PA 1T71

IVANOV, F. V.

Feb 1947

USSR/Pharmacy
Education

"Concerning the Question of Higher Pharmaceutical Education," F V Ivanov and I A Muravyev, 3 pp

"Farmatsiya" No 2

Plans for a program to train specialists in fields such as pharmaceutical chemistry, botanical toxicology etc. Improved drug production ultimate goal.

1T71

IVANOV, F. V., Docent

Pharmacy - Moscow

In the Moscow Section. Apt. delo 2 No. 1, 1953.

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

IVANOV, F.V.

[illegible] Council of Ministers USSR, in the field of science and invention announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for State prizes for [illegible] and [illegible]. (Sovetskaya kultura, Moscow, No. [illegible], 3 Apr. 1954)

Name	Title of work	Submitted by
Ogolevets, G.S. Vil'yams, V.V. Razdorskaya, L.A. Ivanov, F.V. L'vov, N.A. Voroshilov, V.N.	"Encyclopedic Dictionary of Therapeutic, Essential Oil-Bearing, and Toxic Plants"	Moscow Agricultural Academy imeni K.A. Timiryazev

[illegible]

Ivanov, F.V.

USSR

The rutin content of polyploid buckwheats and some (CA)
varieties of sorrel. F. V. Ivanov (Moscow Pharm. Inst.
Ministry of Health, U.S.S.R.). *Aptechnoe Dela*, 4, No. 2,
31–6(1955).—The grass and flowers of the sowing polyploid
buckwheat are a raw material for obtaining rutin. Other
varieties of the genus buckwheat, especially representatives
of the genera Polygonum and Rumex, also contain rutin.
Among the latter are to be mentioned horse sorrel and the
water dock. The grass and flowers of the polyploid buck-
wheat are richer in rutin than those of the diploid variety.
The largest amt. is found 24–32 days after sowing or 70–90
days after germination. When the raw material is dried
rapidly at 100–105° the amt. of rutin remains practically un-
changed. When kept in a dry place protected from light
and well aerated rutin remains unchanged for not less than
6 months. To det. rutin, shake 2 g. of pound buckwheat
grass or flowers with 100 cc. Et_2O for 15 min. Remove the
ethereal layer and repeat the extn. 4 times. Reflux the de-
fatted powder freed from chlorophyll with 200 cc. of 70%
EtOH for 20 min. Decant the ale., add fresh ale. and re-
peat the process thrice more. Distil the combined ale.
extn. off until rutin crystal appear. Refrigerate (4–5°).
Filter the crystd. rutin by suction, dry at 80°, wash 3 times
with Et_2O, and evap. the latter. Dissolve the residue in
boiling water (1:200), filter the hot soln., and filter a few
times with hot water. Cool the combined washings and the
filtrate to 4°. The crystd. rutin is suction filtered, washed
twice with H_2O, and dried at 70–80° to const. wt.

A. S. Micklin

IVANOV, I V

CATEGORY : USSR
CATEGORY : Cultivated Plants. Medicinal, Essential Oil Bearing. Toxins.
ABS. JOUR. : Ref Zhur-Biologiya, No.1, 1959, No. 1876
AUTHOR : Ivanov, I.V.
INST. : Moscow Pharmaceutic Institute
TITLE : Phytochemical Investigation of Woodrosed Oxalis

SRC. PUB. : Sb. nauchn. rabot. Mosk. farmatsevt. in-t, 1957, 1, 155-157

ABSTRACT : The [illegible] oxalis (Oxalis acetosella L.) is widespread throughout the USSR. A detail botanical description is given of this plan of the macro- and microscopic leaf structure, and its habitats are indicated. Chemical investigations of I according to methods described in the work have shown the occurrence in the raw matter of rutin, vitamin C, oxalic and three acids: malic, succinic and oxalic which thus makes it possible to use I as a

CARD: 1/2

IVANOV, F.V.; PRIKLONSKIY, S.G.

Little bustard in the U.S.S.R. and measures for its protection in winter. Ornitologii no.7:130-133 '65. (MIRA 18:10)

IVINOV, F.V.

Materials on the biology and hunting of the water wildfowl in Ryazan Province. Ornitologiia no.7:229-243 '65. (MIRA 18:10)

IVANOV, G.

Bunin, K. P., Danil'chenko, K. K., and Ivanov, G. - "Crystallization of high-speed steel in small quantities," Nauch. Trudy (Dnepropetr. metallurg. in-t im. Stalina), Issue XV, Letopisnoye proizvodstvo, Metallovedeniye, 1948, p. 97-117.

SO: U-3853, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).

IVANOV, G.

Building for chemical and metallurgical industries in the Luganskeconomic Region. Stroitel' no.2:7 F '59.
(MIRA 12:5)

1. Nachal'nik upravleniya Metallurgkhimmashstroy Luganskogo sovnarkhoza.
(Luganskprovince--Industrial buildings) (Precast concrete construction)

BABALYAN, B.; IVANOV, G.; GRUZDEV, A.; SERGEYEV, L.; IVANOV, I.

For a model main air route. Grazhd. av. 21 no.6:20-21 Je '64.
(MIRA 17:8)

IVANOV, G.

More Efficient Improvements in Prospecting for Coal Deposits. Minno Delo. (Mining), #1:26:Jan 55

IVANOV, G., inzh.

Electricity should be a part of everyday life. NTO 3 no. 5:51-55 My '61. (MIRA 14:5)

1. "Soyuzglavelektro" pri Gosplane SSSR.
(Household appliances, Electric)

IVANOV, G.

Mechanization and automation of work processes. Okhr. truda i sots. strakh. 4 no.9:7 S '61. (MIRA 14:10)
(Udmurt A.S.S.R.--Technological innovations)
(Automation)

GOMMORIN, YU.; IVANOV, G.

Technical Education

Industrial training school under the "Masmandra" combine. Vin. SSSR, 12, No. 7, 1952.

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

Ivanov, G.

IVANOV, G., rukovoditel' fenologicheskogo krushka.

What we observed in October. IUn.nat.no.12:29 D '57. (MIRA 10:12)

1. Detskiy Dom No.52, Moskva.

(Phenology)

I

Structure of derivatives obtained by Raney nickel hydrogenation of dypnopinacols. I. Hydrogenation of dypnopinacol and lutodypnopinacolone. D. Ivanov, Chr. Ivanov, Tzv. Boutchev, and St. Ivanov. *Compt. rend. acad. bulgare sci.* 6, No 3, 35-8(1953)(Pub. 1954) (in French); cf. *C.A.* 48, 32986.—Dypnopinacol (I) hydrogenated in C_6H_6 gives 2 products, one (II), m. 185–7°, in poor yield, and a 2nd, considered to be the hydropinacol (III), m. 211–12°, in good yield. Dehydrogenation of III with S yields 2,4,6-$Ph_3C_6H_2Bz$ (IV), proving the maintenance of the I configuration and the inactivity of the C:O group. Analysis and the H equiv. of III indicate the 1-methyl-1,3,5-triphenyl-2-benzoyl-3-hydroxycyclohexane (V) structure. No reaction occurred on heating III with AcOH, but with 1:1 AcOH-HCO_2H was obtained a dehydration product (VI), m. 159–61°, isomeric with hydroluteodypnopinacol-ones (VII). Dehydrogenation of VI yields IV, whose mixed m.p. with VII also confirms its structure as 1-methyl-1,3,5-triphenyl-2-benzoyl-2-cyclohexene. Heating V with alc. KOH gives a mixt. of $C_{31}H_{24}$, isomers m. 150°, for which a mechanism is considered. 2-Methyl-2,4,6-triphenyl-2,3-dihydrobenzophenone (VIII), hydrogenated in C_6H_6 or iso-$C_5H_{11}OH$ gives 2 products; (IX), m. 119–21°, and (X), m. 185–7°. IX seems to be completely hydrogenated and the structure 1-methyl-1,3,5-triphenyl-2-benzoylcyclohexane is proposed. X seems to be identical with II and the structure 1-methyl-1,3,5-triphenyl-2-benzoyl-3-cyclohexene is proposed. Hydrogenation of VIII with Zn and AcOH gives a product identical with VI. Attempts to debenzoylate II, VI, and IX with alc. KOH yielded an isomerization product, m. 173–5°, whose double bond is suggested as being at the 4- or 5-position. II. Hydrogenation of alkodypnopinatolone. *Ibid.* 37–40.—Alkodypnopinacolone (I) hydrogenated in C_6H_6 with Raney Ni yielded dihydrodypnopinacolone (II), m. 148–5° (from EtOH). Hydrogenation of I in iso-$C_5H_{11}OH$ with a Ni-satd. catalyst gave a resinous product, m. 143–5° after 2 recrysts. from EtOH. On dehydrogenation with S II gave 2,4,6-$Ph_3C_6H_2Bz$, m. 167–8° (from EtOH). With alc. KOH II yielded a hydrocarbon, $C_{31}H_{24}$, m. 165–8° (from EtOH).

Joseph Colucci

(3)

STAROGORODSKIY, Nikolay Nikolayevich; KARPOV, Yevgeniy Vasil'yevich; IVANOV, G., red.; DANILINA, A., tekhn.red.

[Volga giant] Volzhskii gigant. Moskva, Gos.izd-vo polit. lit-ry, 1959. 78 p. (MIRA 12:12)
(Stalingrad Hydroelectric Power Station)

IVANOV, G.

Improve production techniques. NTO no.6:40 Je '59.
(MIRA 12:9)

1.Zamestitel' predsedatelya TSentral'nogo pravleniya nauchno-tekhnicheskogo obshchestva pishchevoy promyshlennosti.
(Factory management)

CHUYKOV, Fedor Minayevich; IVANOV, G., red.; POPOVA, T., tekhn.red.

[Everything for the individual] Vse dlia cheloveka. Moskva, Gos.izd-vo polit.lit-ry, 1959. 78 p. (MIRA 14:4)
(Russia--Economic conditions)

DIKAMBAYEV, Kazy Dikambayevich; IVANOV, G., red.; POPOVA, T., tekhn.red.

[Kirghizistan in the seven-year plan] Kirgiziia v semiletke. Moskva, Gos.izd-vo polit.lit-ry, 1960. 77 p. (MIRA 13:6)

1. Predsedatel' Soveta ministrov Kirgizskoy SSR (for Dikambayev).
(Kirghizistan--Economic policy)

IVANOV, G.

"Water-supply tower with 9,000 cu. m. capacity in Orebro, Sweden."

STROITELSTVO., Sofiia, Bulgaria., Vol. 6, No. 1, 1959

Monthly list of EAST EUROPEAN ACCESSIONS (EEAI), LC, Vol. 8, No. 7, July 1959, Unclas

IVANOV, G., inzh.

Automatic electric line guard. Tekh.mol. 28 no.1:12 '60.
(MIRA 13:5)
(Electric fuses)

IVANOV, G.

Scientific and technical societies and the specialized press. Mias. ind.SSSR 31 no.1:5 '60. (MIRA 13:5)

1. Nauchno-tekhnicheskoye obshchestvo pishchevoy promyshlennosti.
(Meat industry—Periodicals)

POZHARISKAYA, L., kand.biol.nauk; LIBERMAN, S., kand.tekhn.nauk; GORBATOV, V., inzh.; IVANOV, G.

Coagulation of blood of slaughter animals in a continuous apparatus. Mias.ind.SSSR 31:50-51 '60. (MIRA 13:9)
(Blood--Coagulation)

IVANOV, G.

Scientific Technological Society in the drive for technical progress. Mias.ind.SSSR 31 no.5:1-4 '60. (MIRA 13:9)

1. TSentral'noye provleniye nauchno-tekhnicheskogo obshchestva pishchevoy promyshlennosti.
(Heat industry—Congresses)

IVANOV, G.

Congress of Scientific and Technical Societies. Mias. ind.SSSR 33 no.2:54-55 '62. (MIRA 15:5)

1. TSentral'nogo pravleniye Nauchno-tekhnicheskogo obshchestva pishchevoy promyshlennosti.
(Meat industry--Societies, etc.) (Research)

IVANOV, G.

Calculating the increase of labor productivity in the tire industry where assembly lines are in operation. Biul.nauch. inform.: trud i zar.plata 3 no.9:15-17 '60. (MIRA 13:9)
(Tires, Rubber--Labor productivity)

POTAMOSHNEV, S.; IVANOV, G.; ZHELEZOV, V.

Planning labor productivity on the basis of labor involved in the rubber industry. Biul.nauch.inform.: trud i zar.plata 4 no.6: 8-13 '61. (MIRA 14:6)

(Rubber industry—Labor productivity)

IVANOV, Geno, inzh. (g.Sofiya)

Research on railroad transportation in the Bulgarian People's Republic. Zhel.dor.transp. 42 no.9:33-36 S '60. (MIRA 13:9)

1. Direktor Nauchno-issledovatel'skogo instituta transporta Narodnoy Respubliki Bolgarii.
(Bulgaria--Railroad research)

IVANOV, G.

Fastening a cable. Radio no.4:42 Ap '51. (MLRA 7:7)
(Electric lines)

IVANOV, G., inzh.

Mechanized reconstruction of railroad lines. Tekhnika Bulg 2 no.10:7-11 O '53.

IVANOV, G. (Moskva); CHUDAKOV, A. (Moskva)

Index of cost reduction. Sots.trud 7 no.7:66-67 Jl '62.
(MIRA 15:8)

(Costs, Industrial) (Bonus system)

IVANOV, G.

Electric household appliances today and tomorrow. Sov. torg. 35 no.3:26-29 Mr '62. (MIRA 15:3)

(Household appliances, Electric)

IVANOV, G.

Three heroes. Grazhd. av. 21 no.5:22 My '64. (MIRA 18:4)

IVANOV, G.

The An-2M in the air. Grazhd. av. 22 no.5:19 My '65. (MIRA 18:7)

IVANOV, G.

How to give better training to chemical workers. Prof.-tekh. obr. 22 no.6:13 Je '65. (MIRA 18:7)

1. Starshiy inzh. otdela khimii Nauchno-issledovatel'skogo instituta professional'no-tekhnicheskogo obrazovaniya.

IVANOV, G.; RYAZANOV, V.

How we prepare a technical conference. Prof.-tekh. obr. 22 no.6: 23-24 Je '65. (MIRA 18:7)

IVANOV, G.

Search for new organizational forms of management. Mor. flot. 24 no.11:13-14 N '64. (MIRA 18:8)

1. Nachal'nik otdela gruzovoy i kommercheskoy raboty Murmanskogo morskogo porta.

IVANOV, G.A.

High-speed milling of grooves. Stan.i instr. 24 no.7:36 Jl '53. (MLRA 6:8)
(Milling machines)

IVANOV, G.A.; VERESHCHAGIN, L.I.; KOTLYAREVSKIY, I.L.

Continuous method of halowax production. Izv. Sib. otd. AN SSSR no.8:98-102 '58. (MIRA 11:10)

1.Vostochno-Sibirskiy filial AN SSSR.
(Naphthalene)

IVANOV, G.A.

Efficiency promoters exchange experience. Izobr. v SSSR 2 no.4:42 Ap '57. (MIRA 10:6)
(Factory management)

IVANOV, G.A., inzh.

New Rules for Inventions and Efficiency Promoting. Put' i put. khoz. no.8:43 Ag '59. (MIRA 13:3)
(Railroads--Technological innovations)

2172 Ivanov, G. A.

Iz Opyta Organizatsii Novogo Zernosovkhoza. (Russko-Polyan. Zernosovkhoz Omskoi Obl.) M., Izd-Vo M-Va Sovkhozov SSSR, 1954. 8s.s Ill. 20sm. (M-Vo Sovkhozov SSSR. Glav. Upr. S.-Kh. Propagandy. Osvoyeniye Tselinnykh I Zalezhnykh Zemel' - Vsenarodnoye Delo). 15.000 EKZ. Bespl. (54-56455) p 338.1 Sov:633.1+631.61)(57.14)

IVANOV, G.A.

Combined wood and metal-tube furniture for public and office buildings. Bum.i der.prom. no.4:44-49 O-D '62. (MIRA 15:12)

1. Gosstroy UkrSSR.

(Furniture)

MITEL'MAN, M., brigadir; GLEBOV, B., inzh., istorik; UL'YANSKIY, A.; IVANOV, G.A., red.; KALAUSHINA, K.Ye., red.; PROTOPOPOV, M.I., red.; ROZANOV, M.D., red.; BACHILO, I., red.; VINOGRADOV, V., mladshiy red.; MOSKVINA, R., tekhn. red.

[History of the Kirov (formerly Putilov)Metallurgical and Machinery Plant in Leningrad] Istoriia Kirovskogo (byv. Putilovskogo) metallurgicheskogo i mashinostroitel'nogo zavoda v Leningrade. Moskva, Izd-vo sotsial'no-ekon. lit-ry. Vol.1. [History of the Putilov Plant 1801-1917] Istoriia Putilovskogo zavoda, 1801-1917. Izd.3. 1961. 719 p. (MIRA 15:2)

1. Leningrad. Institut istorii partii.
(Leningrad--Machinery industry)

BEREZOVICH, Lev Aronovich; KUROCHKIN, Konstantin Mikhaylovich; IVANOV, German Afanas'yevich; NEUSYPIN, A.M., inzh., ved. red. SOROKINA, T.M., tekhn. red.

[Chief operator's switchboard. Modernization of the electric drive of the PD45-2 perforator]Direktorskii kommutator. Modernizatsiia elektroprovoda perforatora PD45-2. [By]G.A.Ivanov. Moskva, Filial Vses.in-ta nauchn. i tekhn.informatsii, 1957. 19 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 43. No.O-57-7/2) (MIRA 16:2)
(Telephone switchboards) (Punched card systems)

IVANOV, G.A.

"Effectiveness of the specialization and cooperation in the machinery industry" by M.V.Gazaliev, A.T.Zasukhin. Reviewed by G.A.Ivanov. Vest.mash. 41 no.9:83-84 S '61. (MIRA 14:9)
(Machinery industry) (Industrial management)
(Gazaliev, M.V.) (Zasukhin, A. T.)

IVANOV, G. A.

Using "tyrsolit" in the production of furniture. Der. prom. 12 no.2:21-22 F '63. (MIRA 16:4)

(Wood finishing)

IVANOV, G.A., inzh.

Specialization is the main factor for the technological development of the manufacture of machinery. Vest.mash. 41 no.8:73-78 Ag '61. (MIRA 14:8)

(Machinery industry--Management)

ISAGULYANTS, V.I.; IVANOV, G.A., inzh.

Alkylation of phenol with diisobutyl in the presence of cation-exchanging tar as a catalyst. Nauch.zap.Ukrniiproekta no.4:113-120 '61. (MIRA 15:1)

1. Deystvitel'nyy chlen AN Armyanskoy SSR (for Isagulyants).
(Phenols) (Alkylation)

L 20328-63 EPF(c)/EWT(m)/BDS AFFTC/ASD/APGC Pr-4 BW/RM/WW/
RAY/DJ

ACCESSION NR: AT3001980 S/2564/61/000/000/0133/0139

AUTHORS: Isagulyants, V.I.; Ivanov, G.A.

TITLE: Additive-production technology. Alkylation of phenol by di-isobutylene in the presence of domestic cation-exchange resin as a catalyzer.

SOURCE: Prisadki k maslam i toplivam; trudy nauchno-tekhnicheskogo soveshchaniya. Moscow, Gostoptekhizdat, 1961, 133-139.

TOPIC TAGS: catalysis, catalyzer, cation, exchange, cationite, resin, alkyl, phenol, alkylation, di-isobutylene, phenolic, waste, water.

ABSTRACT: The paper surveys briefly existing technical literature on the alkylation of phenols by olefines and the use of such catalysts as H_2SO_4, alumina, phosphoric acid, chlorous Al, benzosulfoacid, and others. Reference is made then to works by the author Isagulyants and others in 1952 on the possibility of alkylation of phenol by olefines with the use of the cationite catalyst KU-2, which is a sulfonated product of copolymerization of styrene and divinylbenzol. The present paper describes an investigation for the development of an optimal regime for the preparation of the cationite for the stated purpose. To develop a dependable, easy, and rapid method for the preparation of the cationite KU-2, the effect of various factors

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ACCESSION NR: AT3001980

on the catalytic activity of KU-2 and the rate of its preparation process in the transformation of the cationite into the H form was studied, namely: (a) The concentration of the acids (H_2SO_4 and HCl); (b) the temperature (T) of the acids; (c) the rate of input of the acids; (d) the height of the cationite layer during its preparation; (e) the T of the washing water; (f) the rate of input of the washing water; etc. The investigation established the following: (1) The cationite can be used in the alkylation reaction both in the waterless and in the moist form; (2) 8-10 operations of alkylphenol synthesis can be performed with the same catalyst; (3) the cationite is readily regenerated, whereupon it can be used for 10-12 additional synthesis operations; up to 150 g of dry alkylphenol can be obtained per g of air-dried cationite; (4) the optimal amount of catalyst in the periodic alkylation process is 4 to 6.5 weight-% in the initial mixture of reagents. The paper describes the continuous method of alkylation of phenol by di-isobutylene in the presence of the cationite KU-2. The change in the quality of the alkylphenol, depending on its method of preparation and the catalyst employed, the quality indices of the alkylphenol obtained by various methods, and the dependence of the output of dry alkylphenol on the composition of the initial mixture are tabulated. The schematic arrangement of the experimental setup for the alkylation of phenol by the continuous method is graphically illustrated and described. The new scheme for the preparation of alkylphenol ensures a total transformation of phenol and obviates the elimination of any

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ACCESSION NR: AT3001980

poisonous phenolic waste waters or the need for acid-proof equipment in the process. The alkylphenol obtained in the new method is a monoalkylphenol (mpem-octyl-phenol) which is completely suitable for the production of alkylphenol additives and detergent substances of the type OP-7 and OP-10. The wetting properties of the detergents based on alkylphenol obtained by the new method exceed those of detergents obtained in the industry with the use of the BSK catalyst. This is explained by the absence, in the alkylphenol, of polyalkylated compounds, inasmuch as the catalyst KU-2 employed in the new method acts selectively and eliminates the possible formation of polyalkylated compounds. Orig. art. has 2 figures and 4 tables.

ASSOCIATION: MINKh i GP. Moscow Inst. Neftekhim. i Gazov. promysh.

SUBMITTED:	00	DATE ACQ:	23Jan63	ENCL:	00
SUB CODE:	FL, CH, PH.	NO REF SOV:	006	OTHER:	000

Card 3/3

S/120/62/000/001/023/061
E140/E463

AUTHORS: Demidov, B.A., Ivanov, G.A., Fanchenko, S.D.

TITLE: Fanchenko multi-stage electron-optical image-converter pulse control circuits

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 102-107

TEXT: Two operating modes are available for a multi-stage electron-optical image converter - with leading synchronization and with lagging. These instruments are used for studies of luminescent chambers, arcs, arc counters, plasma physics, etc. For leading synchronization a linear time base 0.1 to 15 μs and symmetrical pulse generator for compensation of the electrostatic shutter (0.2 μs exposure time) are available. For lagging synchronization two types of synchronization pulse selection are available, with artificial insensitive time (0.1 to 10 sec). Output is to a photographic apparatus shifting the film forward one frame for each operation of the image converter shutter. The time resolution of the system is of the order of 10^{-10} sec. The artificial insensitive time is useful in examination of randomly occurring events. Vacuum tube circuits are used throughout.

Card 1/2

S/120/62/000/001/023/061
E140/E463

Fanchenko multi-stage ...

There are 6 figures.

SUBMITTED: May 17, 1961

Card 2/2

ACCESSION NR: AR4042174 S/0272/64/000/005/0104/0104

SOURCE: Ref. zh. Metrologiya i izmerit. tekhn. Otd. vy*p., Abs. 5.32.622

AUTHOR: Yagodkin, I. A.; Ivanov, G. A.

TITLE: Automatic pressure gauge

CITED SOURCE: Sb. tr. Leningr. mekhan. in-ta, no. 29, 1963, 100-104

TOPIC TAGS: automatic control equipment, pressure gauge/IDA-2000 pressure gauge

TRANSLATION: An automatic pressure gauge IDA-2000, which makes it possible, on the one hand, to increase accuracy of registration of the level of the meniscus of mercury , and on the other, to automate the process of measurement is described. The requirement of high accuracy of registration of the level of the menscius explains certain design features of the instrument, in particular the increased rigidity of load carrying components, and also the application of

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ACCESSION NR: AR4042174

of a set of end gauges. The instrument makes it possible to give the required pressure and to produce registration of the level of the meniscus of mercury with an accuracy of not less than 0.05 mm. Four illustrations.

SUB CODE: IE ENCL: 00

2/2
Card

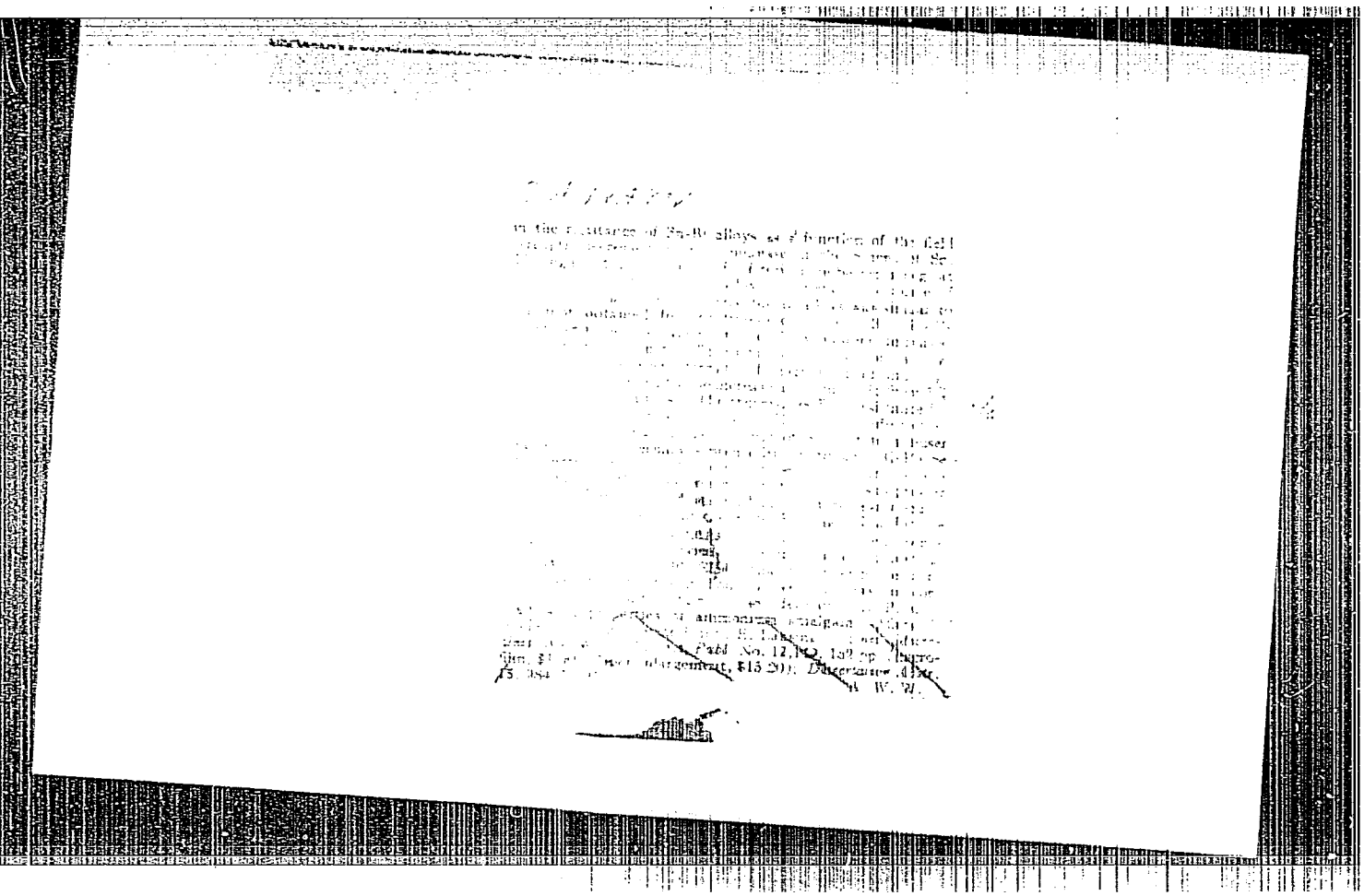
KUZNETSOV, S.T., kand. tekhn. nauk; BIBLIK, F.P., kand. tekhn. nauk;
IVANOV, G.A., inzh.

Results of determining stresses in pillars by the unloading method at the POLYSAEVO-SEVERNAYA Mine. [Trudy] VNIMI no.47:41-46 '62
(MIRA 17:7)

IVANOV, G.A.

Electric properties of bismuth alloys. I. Solubility of admixtures and their effect on electric properties of bismuth. G. A. Ivanov and A. R. Regel. *Zhur. Tekh. Fiz.* 25, 30-48 (1955).—The Hall effect of Bi alloys with Zn, Cd, Hg, Ga, In, Tl, Sn, Pb, As, Sb, S, Se, Te, and I was measured in a magnetic field of 3600-23,000 oersteds at 20°. Samples of alloys were prepd. by careful growth of the single crystals of alloyed Bi that were then powd. and pressed (3500 kg./sq. cm.) into 30 × 8 × 0.7-mm. plates. The soly. of each element was: Zn < 1/10, Cd < 1/10, Hg < 1/10, Ga < 1/10, In < 1/10, Tl < 1/10, Sn < 2, Pb < 5, As < 1, Sb < 1, S < 1, Se < 1, Te < 1, and I < 1/10 atom-%. In the process of compressing, no detectable orientation of monocrystals took place, and samples remained sufficiently isotropic. With an increase of pressure from 1100 to 3500 kg./sq. cm. there was a decrease in the resistance in the samples outside the magnetic field; however, the change of resistance in the field was const. within 1% of the measurements. From all admixts. only Sn, Pb, As, Se, and Te had effect on the elec. properties of Bi. Jones' concept (*C.A.* 28, 2987°) was applicable quantitatively only to alloys with Sn, Pb, Se, and Te. 23 references. II. Effect of the concentration of admixtures on the electric properties of bismuth alloys. *Ibid.* 49-61.—Elec. properties of binary systems Bi-Sn, Bi-Te, Bi-Sb, and Bi-As and of ternary systems Bi-Pb-Se and Bi-Te-Sn were studied in detail. Max. solubilities of Sn, Te, and As in Bi were 1.5, 0.25, and 1.0 atom %, resp. In the Sn-Bi system Hall's const. was inversely proportional to the concn. of Sn with an increase in the strength of the magnetic field. In alloy with about 0.5 atom % of Sn the sign of Hall's const. R changed to pos. in the 23,200-oersted field. The rate of increase

(over)



USSR/Physics - Bismuth alloys

FD-2403

Card 1/1 Pub. 153-7/21

Author : Ivanov, G. A.; and Regel', A. R.

Title : Electrical properties of bismuth alloys. II. Dependence of the electrical properties of bismuth alloys on concentration of admixtures

Periodical : Zhur. tekh. fiz. 25, 49-65, Jan 1955

Abstract : The authors evaluate the solubility of Sn, Te, and As in bismuth in 1.5, 0.25, and not more than 1.0 atomic percent. They investigate the electrical properties of the alloys Bi-Sn, Bi-Te, Bi-Sb, Bi-As, Bi-Pb-Se, Bi-Te-Sn as functions of magnetic field strength and concentration of the admixtures. The analysis of the data indicates the deficiencies of the Jones model of bismuth, which takes into account only the valence of the admixtures, and points to the necessity for taking into account during an investigation of influence of admixtures upon the electrical properties of many semimetals and semiconductors the individual peculiarities in the action of various admixtures, which clearly appear among alloys of bismuth. The authors thank Academician A. F. Ioffe and Professor V.P. Zhuze. Twenty-four references: e.g. S. T. Konobeyevskiy, Uch. zap. MGU, 74, 17, 1944.

Institution: --

Submitted : June 17, 1954

Card 1/1

SOV/137-57-11-22165

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 213 (USSR)

AUTHORS: Ivanov, G.A., Mokiyevskiy, L.I.

TITLE: On the Thermoelectrical Properties of Bismuth (O termoelektricheskikh svoystvakh vismuta)

PERIODICAL: Uch. zap. Leningr. gos. ped. in-t, 1957, Vol 17, pp 88-92

ABSTRACT: Experiments are described and results are cited on a precise determination of the relationship of the coefficient of the thermo-emf of α Bi to the difference in temperature between the ends of the specimen Δt and the relationship of α to the overall temperature. The investigations were carried out on Bi of various degrees of purity: On commercial Bi (BiTi), on Bi with traces of Pb, Cu, Ag, and Ga (BiC) and on Bi obtained from BiC with the aid of zone refining. The measurements were conducted on cylindrical single crystals 2-20 cm in length and 3-4 mm in diam. The thermo-emf was measured in relation to Cu. It is established that with a Δt of 0.25-8°C the α is independent of Δt . To verify the relationship of α to Δt in the case of still smaller Δt , a special experiment was carried out in which 20 measuring probes were fixed onto

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On the Thermoelectrical Properties of Bismuth

a single crystal 12 cm long. A linear distribution of temperature along the length of the specimen was achieved by a slow heating of one of the ends (2^{o} during 10-12 hours). It is established that, at Δt from 0.007 to 0.5^{o}, also remains constant. With an increase of the temperature from 20 to 230^{o} α gradually decreases by 25%.

Ya.L.

Card 2/2

Ivanov, G.A.

57-8-9/36

AUTHORS Mokiyevskiy, L.I. Ivanov, G.A.

TITLE Electrical Properties of Bismuth Alloys. (Elektricheskiye svoystva splavov vismuta.)

PERIODICAL Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 8, pp. 1695-1706 (USSR)

ABSTRACT The investigations were carried out with Bismuth of high purity from two different deposits: "Kol'baum" and Bismuth the Sverdlovskplant for Chemical Reagents. The use of the theory applying the two-zonal model for the results obtained from the measurement of pressed Bi-samples and those of its alloys offers a reasonable classification of the magnitudes of movability of the concentration- and current-carreers in Bismuth and in ternary transformation alloys. It permits a classification of a change of these magnitudes caused by additions. The experiment as well as the calculation show that in the case of a small content of additions the influence of the Bi-lattice distortions can be neglected. The change of the electric properties is in this case determined by the character of the interaction among Bi-atoms and foreign atoms in the lattice. The investigation of ternary alloys showed that this fact can apparently be taken into account by the introduction of "coefficients of emission" of electrons by the atoms added. These coefficients show the

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57-8-9/36

Electrical Properties of Bismuth Alloys.

change of the electronic concentration in Bismuth caused by an added atom. The values of this coefficient are: for Te +0,7 for Se +0,175, for Sn -0,175, and for Pb -0,06. They probably change with the temperature. Great additions lead to lattice distortion. Thereby the characteristics connected with the zonal structure of Bismuth itself change which also leads to a change of electric properties; this, however, to a smaller extent than is the case with the change of the carrier concentration by foreign atoms. This is shown by means of a comparison of the properties of ternary "reverse" alloys (which make it possible to determine the change of the properties of the alloys connected with the zonal structure) with the characteristics of double alloys mentioned in the work in T, 1955, Vol. 25, Nr 1, p. 49.
(With 8 illustrations, 4 tables and 8 Slavic references.)

ASSOCIATION: Leningrad Pedagogic State Institute.
(Leningradskiy gosudarstvennyy pedagogicheskiy institut.)

SUBMITTED: February 18, 1957
AVAILABLE: Library of Congress.

CARD 2/2

MOKIYEVSKIY, L.I.; IVANOV, G.A.

Electric properties of ternary bismuth alloys. Part 1. Uch zap. Ped inst Gerts. 197:141-154 '58. (MIRA 16:9)
(Bismuth alloys--Electric properties)

66341

SOV/181-1-10-16/21

~~24(6)~~ 24,7700

AUTHOR: Ivanov, G. A.

TITLE: Electric Properties of Bismuth Alloys. IV. On the Calculation of the Electric Properties of Binary Bismuth Alloys

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 10, pp 1600 - 1608 (USSR)

ABSTRACT: The results of this article and all preceding publications may be summarized as follows: 1) The simple isotropic two-zone model, for which the $g(E) \sim E^{1/2}$ law holds, allows for an estimation of the nature of concentration and of the mobility of current carriers in polycrystalline samples of binary Bi-Te and Bi-Sn alloys. 2) Calculation of the concentration of Bi-Se and Bi-Pb alloys is justified if the composition is in accordance with table 1. 3) The level shift of the chemical potential by Se- and Pb additions proceeds more slowly than on the addition of Te and Sn. The high degree of solubility of these substances in Bi is likely to depend also hereupon. 4) The mechanism electron recoil effected by the atoms of the additions differs from that of semiconductors. This is due to the fact that overlapping zones are formed and the recoil coefficient η_{Te} does not greatly vary when the levels of the chemical potential are considerably shifted. 5) A great shift

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81779

S/181/60/002/02/23/033
B006/B067

9-3120

AUTHORS: Gomoyunova, M. V., Ivanov, G. A.

TITLE: The Role of Electrons Inelastically Reflected From Various Backings in the Secondary Electron Emission of Thin NaCl Films

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 2, pp. 319-330

TEXT: The authors intended to investigate experimentally the portion of reflected electrons in the secondary electron emission of NaCl, and to estimate this portion by means of experimental data and by investigating the influence of the coefficients of inelastic reflection η of the backings on the properties of secondary emission of films of variable thickness. The device used is schematically represented in Fig. 1 and described in detail. The measurements were made by the method of single pulses (pulse duration: 20-30 μsec). The primary electron current in the pulse was 10^{-8} - 10^{-7} a. The salt layer examined was produced by successive sputtering onto a backing at room temperature. $\sigma(U_p)$ and $\eta(U_p)$ were

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The Role of Electrons Inelastically Reflected From Various Backings in the Secondary Electron Emission of Thin NaCl Films

S/181/60/002/02/23/033
B006/B067

measured after each sputtering, and the resulting families of curves were entered in diagrams (Figs. 2-8). Fig. 2 shows $\sigma(U_p)$ for platinum, graphite, and the NaCl layers sputtered upon them whose thickness increased. Fig. 3 shows the same for $\eta(U_p)$; Figs. 4 and 5 show $\sigma(U_p)$ and $\eta(U_p)$, respectively, for platinum, copper, and the NaCl layers mentioned; Figs. 6 and 7 show these curves for aluminum, graphite, and the NaCl layers. Finally, Fig. 8 shows the dependence of the thickness of σ and η on NaCl sputtered upon platinum and graphite backings with U_p = 3500 ev. The results are discussed next. It was experimentally observed that the $\sigma(U_p)$-curves measured on thick NaCl films of NaCl layers simultaneously sputtered onto various backings at room temperature practically coincide and are close to those obtained for NaCl single crystals. The same holds for $\eta(U_p)$-curves at high U_p. The coefficients of secondary electron emission differ only for such pairs of backings as have different η. A maximum difference can be observed in such films of given thickness,

The Role of Electrons Inelastically Reflected From Various Backings in the Secondary Electron Emission of Thin NaCl Films

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whose backings show the largest difference in η. At high U_p, given pairs of backings do not differ in secondary electron emission as long as the η-values differ with varying thickness. Summing up: 1) As a result of the participation of reflected electrons in the excitation of slow secondary electrons, the η-value of the backing influences the secondary emission properties of thin films essentially. 2) The quantitative estimation of the portion of true secondary electrons excited by reflected ones in the total number of true secondary electrons (made for a special case: $d \simeq 100 \div 150$ A, $U_p = 3500$ ev) showed that this portion depends essentially on the presence of inelastically reflected electrons. In conclusion, the authors thank L. N. Dobretsov for having conducted the work; T. L. Matskevich, I. M. Bronshteyn, and R. B. Segal' are mentioned. There are 10 figures, 1 table, and 8 references: 5 Soviet, 2 German, and 1 American.

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Ivanov G.

82538

S/181/60/002/007/013/042
B006/B070

24.7600

AUTHORS: Gitsu, D. V., Ivanov, G. A.

TITLE: The Electric Properties of Single Crystals of Bismuth and Its Alloys. I. The Galvanomagnetic Properties of Pure Bismuth

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 7, pp. 1457-1463

TEXT: The authors have measured the Hall coefficient R and the magnetic resistance $\Delta\rho/\rho$ of very pure single crystals of bismuth in magnetic fields between 1300 and 18,000 oe ($\Delta\rho/\rho$ was measured also for the range 780 - 5600 oe) ($\vec{H}$ longitudinal). They report on the method of measurement and the results obtained. The bismuth was 99.97% pure, and was obtained from the Sverdlovskiy zavod khimicheskikh reaktivov (Sverdlovsk Works for Chemical Reagents). It had impurities of Pb and Sb and traces (1/1000 % and less) of Zn, Fe, Cd, B, Ag, and Cl. It was subjected to zone refining, and cylindrical single crystals were produced by Kapitsa's method. The samples were prepared with the undermentioned

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The Electric Properties of Single Crystals of Bismuth and Its Alloys. I. Galvanomagnetic Properties of Pure Bismuth

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orientations of the crystallographic axes relative to the axis of the sample: A) The trigonal axis parallel to the axis of the sample. B) One of the binary axes parallel to the axis of the sample. C) The trigonal and one of the binary axes perpendicular to the axis of the sample. All samples were subjected to a tempering at 200°C for 36 hours, and thereafter slowly cooled. All electrical measurements were made by a compensation method with a potentiometer of the type PMC-48 (PMS-48). The errors of measurement were no more than 3-5%. The results are shown diagrammatically. Fig. 1 shows rotation diagrams R(θ) and $\frac{\Delta\rho}{\rho}$ (θ) for crystals of the A-type; the curves show three symmetric maxima between 0 and 180°, at 30, 90, and 120°. Fig. 2 shows, for the same crystals, R(H) and $\frac{\Delta\rho}{\rho}$ (H) for the maxima (curve a) as well as for the minima (curve b) of the rotation diagram. Fig. 3 shows rotation diagrams of the B-type crystals, obtained by rotating the sample about one of the binary axes; here, the curves R(θ) and $\frac{\Delta\rho}{\rho}$ (θ) have no similarity. Fig. 4 again