"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, V.S., inzh.

Sandblast forming line with sliding equipment. Mashinostroenie (MIR) no.1:55-57 Ja-F '64.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 56457-65 EWT(m)/EWP(t)/EWP(b) JD

ACCESSION NR: AP5018406 UR/0304/64/000/005/0015/0016

15

12

B

AUTHOR: Tarasenko, V. S. (Engineer); Yukhimets, A. A. (Engineer)

TITLE: Putting new precision casting methods into use at enterprises of the Kiyevskiy Sovnarkhoz

SOURCE: Mashinostroyeniye, no. 5, 1964, 15-16

TOPIC TAGS: metallurgic industry, metal casting

Abstract: Chill-mold casting, die casting, and precision investment casting have gone into extensive use at enterprises of the Kiyevskiy Sovnarkhoz.

In 1963, more than 12% of the total output of castings were produced by chill-mold casting. Chill-mold casting of nonferrous alloys accounted to 34% of the total nonferrous casting output. Particular success in chill-mold casting of iron was attained at the Berdichev "Progress" Plant, the Malin Foundry and Machine Plant, and the Priluki Iron Foundry Plant.

At the "Progress" Plant, complex working surfaces of chill molds are obtained by casting them with shell-lined cores without any subsequent machining.

At the Apportioning Automatics Plant imeni Dzerzhinskiy, aluminum chill molds for casting aluminum alloys have been put into use by the foundry laboratory of PKTI /Planning, Design and Technological Institute/.

Card 1/4

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ACCESSION NR: AP5018806

2

The increased precision of a casting blank produced by the new method employing a shell core provides for a weight reduction of 3-3.5 kg of the blank, which reduces machining tolerances by one half. As a result of the employment of the new method at the Plant imeni Lepse, the output of scrap chips will be reduced and the annual savings will be more than 400,000 rubles.

At enterprises of the Kievskiy Sovnarkhoz, in 1963, one percent of the total output of finished castings was produced in shell molds with the use of shell cores.

Experience in mastering the industrial process of producing large shell cores at the Krasnyy Oktyabr' Plant has demonstrated the exceptional effectiveness of this method. Machining tolerances were cut in half. Labor outlay for preparing and tamping cores has been cut to a tenth of its former magnitude.

Currently, the PKTI is conducting experimental work on developing an industrial method of producing shell cores for casting tractor engine blocks at the Kiev Plant imeni Lepse. Integral shell molds have already been obtained on experimental equipment. Simultaneously, the institute is designing an automated installation for the production of shell cores.

The industrial process of casting in ceramic split molds, the so-called ShOU process, is very promising. This process makes it possible to obtain formed surfaces of complex casting and forging accessories of high precision without post-machining.

Card 2/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

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ACCESSION NR: AP5018806

In 1963, the production of nonferrous castings on die casting machines accounted for 23% of the total output of nonferrous castings at the enterprises of the Kiyevskiy Sovnarkhoz.

This situation is explained by the small-scale scattered nature of their production facilities.

Universal prefabricated investment patterns are used for the purpose of propagating the use of modern investment casting for specific production.

The universal prefabricated investment patterns are assembled by joining simple elements with adhesives or by soldering. These elements are produced by means of a small set of special accessories making it unnecessary to produce expensive molds which take time to design and produce in each individual case.

At the Krasnyy Ekskavator Plant, stearin, which was one of the components of the pattern compound, has been substituted by the sheaper and more readily available peat or lignite wax, which, in addition to cutting the cost of the patterns (30 rubles per ton of finished castings in savings), raises their quality.

The Washing Machine Plant has put into use the baking of ceramic blocks without fillers. At a number of enterprises, sand fills have been replaced with units for covering the blocks in a pseudo-fluidized bed layers. Industrial alcohol is used for the hydrolysis of ethyl silicate in place of the formerly used grain alcohol.

Card 3/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 58457-65

ACCESSION NR: AP5018806

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 JPRS

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, V.S., inzh.; YUKHIMETS, A.A., inzh.

Adaption of modern methods of precision casting in enterprises of the Kiev Economic Council. Mashinostroenie no.5:15-16 S-O '64 (MIRA 18:2)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, V.T. (Irkutsk); FUKS, N.L. (Irkutsk)

Increasing the reliability of electric power supply systems. Zhel. dor. transp. 45 no.6:76-79 Je '63. (MIRA 16:7)

1. Nachal'nik sluzhby elektrifikatsii i energeticheskogo khozyaystva Vostochno-Sibirskoy dorogi (for Tarasenko).
2. Glavnyy inzh. sluzhby elektrifikatsii i energeticheskogo khozyaystva Vostochno-Sibirskoy dorogi (for Fuks).
(Electric railroads--Substations)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 12180-66 EWT(1)/EWT(m)/EWP(e)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/GG

ACC NR: AP5024717 SOURCE CODE: UR/0056/65/049/003/0944/0952

AUTHORS: Bar'yakhtar, V. G.; Savchenko, M. A.; Tarasenko, V. V.

ORG: None

TITLE: Coupled magnetoelastic waves in antiferromagnets in strong magnetic fields

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965, 944-952

TOPIC TAGS: antiferromagnetic material, uniaxial crystal, magnetic structure, magnetoacoustic effect

ABSTRACT: The authors consider coupled magnetoelastic waves in a uniaxial antiferromagnet, the ground state of which is determined (in the absence of an external magnetic field) by two compensated sublattices. The angle between the magnetic moment of the sublattices is assumed to differ appreciably from 180°. The antiferromagnet is assumed to have magnetic anisotropy of the easy-axis type. The spectrum of the coupled magnetoelastic wave is determined by the standard procedure of diagonalizing the Hamiltonian. The results show that the strongest coupling is produced between nonactivated spin and longitudinal sound waves, with the latter being excited in the antiferromagnet only if the

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 12180-66

ACC NR: AP5024717

alternating magnetic field is polarized along the direction of the resultant magnetization. The relative corrections to the frequencies (phase velocities) of the sound and magnetic waves during magnetoacoustic resonance are determined, and the amplitude of the longitudinal sound oscillations induced by an alternating magnetic field is calculated. It is shown that excitation of longitudinal sound waves occurs only if the alternating magnetic field is parallel to the constant magnetization axis. The corrections to the velocities of the sound (elastic) and spin (magnetic) waves are found to amount to several per cent even outside the region of magnetoacoustic resonance. Orig. art. has: 32 formulas

SUB CODE: 20/ SUBM DATE: 19Apr65/ NR REF SOV: 006/ OTH REF: 002

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 15364-66 EWT(1)/EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/WW/GG
ACC NR: AP6000224 SOURCE CODE: UR/0056/65/049/005/1631/1636

AUTHORS: Bar'yakhtar, V. G.; Savchenko, M. A.; Tarasenko, V. V. 55 56 B

ORG: Physicotechnical Institute, Academy of Sciences UkrSSR (Fiziko-tekhnicheskiy institut Akademii nauk UkrSSR)

TITLE: Inhomogeneous resonance in antiferromagnets 21,44,55 21,44,55

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 5, 1965, 1631-1636

TOPIC TAGS: antiferromagnetic material, magnetic moment, magnetic anisotropy, magnetic resonance, external magnetic field

ABSTRACT: The article deals with the characteristic frequencies of an antiferromagnetic plate for the case when the field and the deviations of the magnetic moments from their equilibrium values are inhomogeneous, and the magnetic moments of the sublattices lie in the plane of the plate. The calculations are made in the magnetostatic approximation for antiferromagnets with two types of anisotropy, an axis and a plane of easy magnetization. It is shown that the charac-

Card 1/2

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ACC NR: AP6000224

teristic frequencies lie within a strictly defined interval the width of which is of the order of 1/δ (δ is the constant of homogeneous exchange interaction between the sublattices). The dependence of the limiting frequencies of the inhomogeneous resonance on the external magnetic field is determined over a wide range of magnetic fields so that the frequency interval within which the frequencies of inhomogeneous resonance lie is evaluated as a function of the variation of the external magnetic field. Authors thank A. S. Borovik-Romanov who called their attention to this problem. Orig. art. has: 4 figures and 20 formulas.

SUB CODE: 20/ SUBM DATE: 19Jun65/ ORIG REF: 004/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 05812-67 EWT(1) IJP(c) GG

ACC NR: AP6031440 SOURCE CODE: UR/0056/66/051/002/0482/0489

56
54
B

AUTHOR: Savchenko, M. A.; Tarasenko, V. V.

ORG: Physicotechnical Institute, Academy of Sciences Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

TITLE: Theory of nonlinear phenomena in ferromagnetics

SOURCE: Zh eksper i teor fiz, v. 51, no. 2, 1966, 482-489

TOPIC TAGS: ferromagnetic material, spin wave, magnetic field, emission threshold, saturation magnetization, magnetic anisotropy

ABSTRACT: Nonlinear phenomena in ferromagnetic materials have been investigated and conditions of nonparametric excitation of the quasi-particles are formulated by the nonstationary density matrix $\rho(t)$. The stationary state of excited waves are determined. The relations derived are used for investigating the parametric phenomena in ferromagnetics. It is shown that for the parametric excitation of spin waves by spin waves, it is necessary for the magnetic field intensity H_0 to satisfy the conditions $0 \leqslant H_0 \leqslant (4\pi/3-\beta)M_0$, where M_0 is the saturation magnetization and the value of the anisotropy constant is $\beta < 4\pi/3$. The

Card 1/2

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ACC NR: AP6031440

excitation threshold is minimum when the wave vector f of the pumped waves is perpendicular to the axis of easiest magnetization. Similar calculations are carried out for a system of spin waves and photons. The author thank V. G. Bar'yakhtar and S. V. Peletminskiy for valuable discussions and attention to the work. Orig. art. has: 36 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 02Feb66/ ORIG REF: 003/ OTH REF: 009/

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

19047-67 EWT(m)/EWP(t)/ETI IJP(c) JD

CC NR: AP6032481 SOURCE CODE: UR/0056/66/05

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Tarasenko, V. V.

ORG: Physicotechnical Institute, Academy of Sciences Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

TITLE: Relaxation and thermal conduction in magnetic substances with dislocations

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 3, 1966, 936-948

TOPIC TAGS: thermal conduction, spin wave, phonon scattering, activation energy, heat equation, wave equation, magnetic substance, ferromagnetic substance, antiferromagnetic substance

ABSTRACT: A spin wave and phonon scattering have been investigated for dislocations in ferromagnetic and antiferromagnetic substances. It is shown that the mea lifetime of a spin wave in a ferromagnet is proportional to $\xi^{-1/2}T^{-3/2}$, and in a antiferromagnet it is proportional to the $\xi^{-1/2}T^{-3}$ (for $T \gg \varepsilon_0$), where ξ the temperature, ξ is the dislocation concentration, and ε_0 is the activation

Card 1/2

...ring is ... are given for ... antiferromag- ...uthors thank E. M. ...rmulas. [Based on

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

-67 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6032481 SOURCE CODE: UR/0056/66/051/003/0936/0948

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Tarasenko, V. V.

ORG: Physicotechnical Institute, Academy of Sciences Ukrainian SSR (Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR)

TITLE: Relaxation and thermal conduction in magnetic substances with dislocations

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 3, 1966, 936-948

TOPIC TAGS: thermal conduction, spin wave, phonon scattering, activation energy, heat equation, wave equation, magnetic substance, ferromagnetic substance, antiferromagnetic substance

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

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ACC NR: AP6032481

energy of spin waves. The contribution of spin-wave and phonon scattering is estimated for dislocations in the thermal conduction. The equations are given for the spin thermal-conduction coefficient, $\varkappa_s$ for ferromagnets and antiferromagnets, and for the phonon thermal-conduction coefficient. The authors thank E. M. Pikalov for his assistance in the work. Orig. art. has: 82 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 21Apr66/ ORIG REF: 008/ OTH REF: 002/

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, V.Ya.

Electrodermatome of new construction. Trudy NIIEKHAI no.5:233-235 '61. (MIRA 15:8)

1. Iz gospital'noy khirurgicheskoy kliniki im. V.M.Bogoslavskogo na baze oblastnoy tsentral'noy klinicheskoy bol'nitsy Stalinskogo meditsinskogo instituta.
(SURGICAL INSTRUMENTS AND APPARATUS)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

DEMICHEV, A.D.; KISELEV, V.F., starshiy dorozhnyy master (stantsiya Ira-Iol' Pechorskoy dorogi); KOZLOVSKIY, A.D.; KOMANDIN, A.A., starshiy dorozhnyy master (stantsiya Polotsk Belorusskoy dorogi); KURS, V.G., brigadir puti (stantsiya Cheremkhovo Vostochno-Sibirskoy dorogi); PAVLOV, V.N., brigadir puti (stantsiya Cheremkhovo Vostochno-Sibirskoy dorogi); SHAKHBALAYEV, A.M., dorozhnyy master (stantsiya Zenzeli Ordzhonikidzevskoy dorogi); TARASENKO, V.Ye., dorozhnyy master (stantsiya Irkutsk II)

Letters to the editor. Put' i put.khoz. no.11:43-45 N '58. (MIRA 11:12)

1. Nachal'nik normativnoy stantsii tresta "Rekput'." (for Demichev).
2. Zamestitel' nachal'nika distantsii, stantsiya Kizel Sverdlovskoy dorogi (for Kozlovskiy).
(Railroad engineering)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

IGNAT'YEV, Aleksandr Ivanovich; TARASENKO, Valentin Yevgen'yevich; FEYGIN, L.M., otv. red.; ABARBARCHUK, F.I., red.izd-va; LOMILINA, L.N., tekhn. red.

[BSH-2 drilling rig] Burovoi stanok. BSh-2. Moskva, Gosgortekhizdat, 1963. 44 p. (MIRA 16:6)
(Coal mining machinery)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

KOROVIN, V.T.; DUNERMAN, N.G.; TARASENKO, V.Ye.

Modernizing the stop unit of the automatic four-spindle machine manufactured by Hasse Wrede Company. Stan.i instr. 34 no.4: 34-35 Ap '63. (MIRA 16:3)

(Machine tools)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

KHAYLOVICH, Yu.A. [Khailovych, IU.A.], kand. tekhn. nauk; TARASENKO, V.Ye. [Tarasenko, V.IE.]

Purification of waste waters from the production of para-nitroaniline and beta-aminoanthraquinone. Khim.prom.[Ukr.] no.1:23-25 Ja-Mr '65. (MIRA 18:4)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, V.Z.; [illegible], A.I.; [illegible], A.N.

Vanadium distribution in the treatment of hydrargillite bauxites for alumina by the Bayer - sintering method. Trudy Inst. neor. i obog. AN Kazakh. SSR 12:16-[illegible] 1965.

(MIRA 18:10)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

RUBAN, N.N.; PONOMAREV, V.D.; VINOGRADOVA, K.A., Prinimal uchastiye:
TARASENKO, V.Z., inzhener
Solubility of aluminum chloride in titanium tetrachloride. Izv.AN Kazakh.SSR.Ser.met., obog.i ogneup no.1:33-40 '61. (MIRA 14:6)
(Aluminum chloride) (Titanium chloride)
(Solubility)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, Ye.I.

Work of an office of technical information. Opyt.rab. po tekhn. inform. i prop. no.4:17-18 '63. (MIRA 17:1)

1. Starshiy inzh. Byuro tekhnicheskoy informatsii Pyatigorskogo mashinostroitel'nogo zavoda.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, Ye.N.
AMR

28

2925. Yagn, Yu. I., and Tarasenko, E. N., Applied theory of plastic deformation of shafts (in Russian), *Doklady Akad. Nauk SSSR (N.S.)*, 73, 3, 471-474, July 1950

Authors assume strain distribution given essentially by Eqs. (18) of Love's "Elasticity," 4th ed., p. 392, with $\zeta = r(\alpha)\phi(\alpha, \theta)$, ϕ = torsion function. They adopt "deformation" theory of plasticity [cf. Prager, AMR 1, Rev. 1122], with zero volume change; thus, stresses are related to strains by use of secant shear modulus, which is function of octahedral shear strain. By inserting stress-strain relations in formulas for longitudinal force and bending and twisting couples exerted across section, they relate these quantities to elongation, curvatures, and twist. Nontorsional terms in ϵ_{α} and ϵ_{β} are retained in some formulas, neglected in others, and ultimately eliminated by use of an auxiliary equilibrium equation involving "binoments" of applied forces and of tractions. Final equations for general case are intractable; two special cases are considered which, for symmetric sections and for parabolic stress-strain law, lead to sets of equations capable of numerical or graphical treatment. It is not clear to reviewer what quantities are supposed given and what quantities are to be found, which of several omitted equations (such as ordinary equilibrium relations among forces and couples) are to be used, and which ignored; or what approximations are involved in the auxiliary equilibrium equation.

William Fuller Brown, Jr., USA

July '51

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

SOV/124-57-8-9408

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 8, p 121 (USSR)

AUTHORS: Tarasenko, I. I., Tarasenko, Ye. N.

TITLE: Concerning Plasticity and Strength Criteria for Metals (K voprosu o kriteriyakh plastichnosti i prochnosti metallov)

PERIODICAL: Zap. Leningr. gorn. in-ta, 1956, Vol 33, Nr 3, pp 109-116

ABSTRACT: The authors examine two plasticity criteria: 1) The maximum tangential stress is a function of the mean hydrostatic stress, and 2) the octahedral stress is a linear function of the mean hydrostatic stress. To find the linear function in either case, one needs only to know the yield point of the material in tension and compression; one is then able to calculate the yield point in torsion. It emerges that adoption of the first-named criterion yields results that agree with the experimental findings of the present authors and with those of other investigators, whereas adoption of the second leads to an overrating of the yield point of the material in torsion.

V. A. Lomakin

Card 1/1

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, I.I.; TARASENKO, Ye.N.

Brittle strength of isotropic materials. Zap. LGI 36 no.3:146-155 '58. (MIRA 16:5)

(Strength of materials)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKO, Ye.N.

Methods for determining the creep strength in bending. Zap. LGI 36 no.3:184-187 '58. (MIRA 16:5)
(Creep of materials)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

ZIMINA, Ye.A.; TARASENKO, Ye.N.

Study by the photoelastic method of the stressed state of rocks around sublevel entries in thick steeply pitching seams. Zap. LGI 48 no.1:3-11 '63. (MIRA 17:8)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

1C

L 11[illegible]-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c) GS/BC
ACCESSION NR: AT5003621 S/0000/64/000/000/0188/0201

AUTHOR: Zhandarov, M. Ye.; Korotkov, S. V.; Myasnikov, V. A.; Pivovarov, V. T.; Stabnikova, G. V.; Tarasenko, Ye. V.

TITLE: Experimental outfit for studying combined digital servos with a harmonic input signal

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod (Automated electric drive). Leningrad, Izd-vo Nauka, 1964, 188-201

TOPIC TAGS: servo, servo system, digital servo system

ABSTRACT: The outfit consists of a special computer and an executive system. The computer comprises two semiconductor integrators with a parallel carry of integrand and a high-speed carry of overflow units. Each integrator (described elsewhere) includes a reversible counter and a storage unit. The integrators are connected for yielding the increments $\Delta \sin \omega t$ and $\Delta \cos \omega t$, i.e., the increments

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L 34114-65

ACCESSION NR: AT5003621

of coordinates of a point that travels along a circle. The sine function is generated with an accuracy up to the 20th binary digit. Also, the means for computing a time-derivative of angle are provided. A principal circuit diagram of the outfit is explained in some detail. The combined digital servo system consists of a coordinate servo and a rate (or speed) servo. Information about coordinate $\sin\omega t$ and its rate of change $\cos\omega t$ comes from the computer and is fed into the corresponding servos. The coordinate information appears periodically; the rate, continuously. The outfit permits investigating two-motor "angle-angle" servos as well as two- and single-motor "angle-rate" servos. Orig. art. has: 8 figures, 12 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 08Jul64 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 009 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 04431-67

ACC NR: AP6014222 SOURCE CODE: UR/0115/66/000/003/0005/0008

44
B

AUTHOR: Kalantayev, F. P.; Babichev, A. P.; Myasnikov, V. A.; Sabinin, Yu. A.; Tarasenko, Ye. V.

ORG: none

TITLE: Using Hall generators in computing devices intended for automatic systems

SOURCE: Izmeritel'naya tekhnika, no. 3, 1966, 5-8

TOPIC TAGS: Hall generator, analog computer

ABSTRACT: The fundamental shortcomings of widely used sine-cosine rotary transformers are: slip rings and brushes, high cost, complexity, inapplicability of dc and rf. Hence, an idea is suggested which would involve two Hall generators placed at right angles to each other in a magnetic field produced by the poles of an

Card 1/2 UDC: 681.142.64

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 04431-67

ACC NR: AP6014222

(electro)magnet. Three Hall generators shifted in space by 120° might serve as a synchro. By using a movable permanent magnet, a windingless and contactless design would be possible. Theoretical considerations re such a design, including formulas, pole-piece shapes, and error evaluation are set forth. A device based on these theoretical considerations "is being created at the present time." Orig. art. has: 4 figures and 11 formulas.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 5179-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1) IJP(c) GS/BC

ACCESSION NR: AT5021844 UR/0000/65/000/000/0160/0167

AUTHOR: Korotkov, S. V.; Pivovarov, V. T.; Tarasenko, Ye. V.; Shumskaya, M. K.

48
B+1

TITLE: A study of mixed systems of automatic control by means of digital integrators

SOURCE: AN SSSR. Institut elektromekhaniki. Avtomatizirovannyy elektroprivod; sledyashchiye sistemy, upravleniye i preobrazovatel'nyye ustroystva (Automated electric drive; tracking systems, control and converter devices). Moscow, Izd-vo Nauka, 1965, 160-167

TOPIC TAGS: Automatic control system, digital integrator, digital system, automatic control design, servosystem

ABSTRACT: Mixed slave systems are now used for the realization of high Q-factor in automatic control systems. The present authors investigate such a mixed system consisting of a power and a correcting section. The power section controls the rate of change of coordinates whereas the correcting section consists of a coordinate digital slave system. Detailed theoretical and experimental investigations show that 1) the digital integrator can generate the $\sin\omega t$ and $\cos\omega t$ functions with widely varying amplitudes and frequencies; 2) mixed systems with double motors have lower demands imposed on their components; 3) under certain circumstances the two parts of the combined systems may be viewed as independent and the total error of the power section may be used as the equivalent control

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 5222-66

ACC NR: AP5025451

reduce the number of necessary machines and personnel, will extend the life of machines by providing properly constructed interchangeable parts, and will lower the cost of jobs to which it is applied. Orig. art. has: 1 photograph.

SUB CODE: IE/ SUBM DATE: none

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

FIALKOV, Yu.Ya.; TARASENKO, Yu.A.

Exchange of iodine in the system I_2 - I_2O_5. Zhur.neorg.khim. 7 no.5:1132-1136 My '62. (MIRA 15:7)

1. Kiyevskiy politekhnicheskiy institut, laboratoriya radiokhimii.
(Iodine) (Iodine oxide)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

[illegible], Ya.Ya.; [illegible], Ya.I.; [illegible], [illegible].

Systems formed by [illegible] [illegible]. [illegible]. Kolm. [illegible]. [illegible]

1. [illegible]

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

KUDRA, O.K.; FIALKOV, Yu.Ya.; TARASENKO, Yu.A.

Physicochemical analysis of the systems trifluoroacetic acid - indifferent solvent. Ukr. khim. zhur. 30 no.4: 347-353 '64. (MIRA 17:6)

1. Kiyevskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

FIALKOV, Yu.Ya.; TARASENKO, Yu.A.; KUDRA, G.A.

Physicochemical analysis of binary systems formed with formic acid and esters. Zhur. ob. khim. 34 no.12:3862-3866 D '64 (MIRA 18:1)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

FIALKOV, Yu.Ya.; TARASENKO, Yu.A.

Effect of viscosity on electroconductivity in binary liquid systems. Teoret. i eksper. khim. 1 no.4:473-478 '65. (MIRA 18:10)

1. Kiyevskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

FIALKOV, Yu.Ya.; TARASENKO, Yu.A., [illegible]

Binary systems formed by the acyl complexes of stannic chloride with inert solvents. Zhur. neorg. khim. 10 no.1 [illegible] Ja '65. (MIRA 18:11)

1. Kiyevskiy politekhnicheskiy institut. Submitted Dec. 23, 1963.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

SHCHUKAREV, S.A.; BALICHEVA, T.G.; PARASENKO, Yu.A.; [illegible], Ye.Ye.

Infrared spectra of binary systems formed by [illegible] with acetic and chloroacetic acids. Zhur.neorg.khim. 10 no.12:2723-2727 D '65. (MIRA 19:1)

1. Leningradskiy gosudarstvennyy universitet i Kiyevskiy politekhnicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 04981-67 EWT(m)/EWP(j)/T LJP(c) RM

ACC NR: AP6031518 SOURCE CODE: UR/0073/66/032/009/0979/0982

29
B

AUTHOR: Tarasenko, Yu. G.; Bondarenko, S. V.; Gordiyenko, S. A.; Uskov, I. A.; Solomko, V. P.; Vdovenko, N. V.; Ovcharenko, F. D.

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet); Institute of General and Inorganic Chemistry, AN UkrSSR (Institut obshchey i neorganicheskoy khimii AN UkrSSR)

TITLE: Hydrophobic fillers in amorphous polymers

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 32, no. 9, 1966, 979-982

TOPIC TAGS: kaolinite, filler, modified kaolinite, polymethylmethacrylate, kaolin, amorphous polymer

ABSTRACT: Nonmodified kaolinite is an active filler for poly(methyl methacrylate) [PMMA]. A study has been made of the effect of modified kaolinite on the properties of PMMA. Treatment of kaolinite with hydrolyzed polyacrylamide [HPAA] did not change the size of kaolinite particles and had no effect on their aggregation, but considerably affected the surface properties of the modified product. It was shown that introduction of small amounts of HPAA in the surface layer of the filler lowers its capacity to form hydrogen bonds with PMMA macromolecules, while large amounts of HPAA screen the OH surface groups of

Card 1/2 UDC: 678.046+541.183

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 04981-67

ACC NR: AP6031518

the filler and render it incompatible with PMMA. Thus, imparting water repellency (even with simultaneous "organophylization") to a filler does not necessarily increase its activity with respect to polymers containing polar groups. Orig. art. has: 4 figures. [BO]

SUB CODE: 11,07/SUBM DATE: 25Dec64/ ORIG REF: 010/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

ZOLOTAREV, T.L., prof., doktor tekhn.nauk; LIFSHITS, L.S., kand.tekhn. nauk; TARASENKO, Yu.M., inzh.; RUDNEV, A.K., inzh.

Dynamic characteristics of a hydraulic unit and their simulation. Izv.vys.ucheb.zav.; energ. 3 no.5:144-151 My '60. (MIRA 13:6)

1. Moskovskiy ordena Lenina energeticheskiy institut. Predstavlena kafedroy gidroenergetiki.
(Hydroelectric power stations)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

88725

S/190/61/003/001/005/020
B119/B216

15.8340

AUTHORS: Uskov, I. A., Tarasenko, Yu. G., Kusnitsyna, T. A.

TITLE: Filled polymers. IV. Combination of dissolved polymethyl methacrylate with fillers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 1, 1961, 37-40

TEXT: In previous publications (Refs. 1,2) the authors were able to show that grinding has no influence on the addition mechanism of the polymer to the filler during the polymerization of methyl methacrylate in presence of organophilic fillers, carried out in a vibrating mill to attain homogeneous distribution. Assuming the reinforcing effect of active fillers to be attainable also by combining the latter with the ready-made polymer in an appropriate manner, the authors studied the possibility of homogeneous combination of the two components in solution. Polymethyl methacrylate (PMM) was used as polymeric component. Chalk (inert), octadecylammonium bentonite prepared according to Ref. 2 and methyl-methacrylate treated sodium bentonite which had adsorbed up to 20%

Card 1/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

88725

Filled polymers. IV. Combination of... S/190/61/003/001/005/020
B119/B216

of methyl methacrylate, respectively, were used as fillers. Suspensions of the respective filler in benzene were added to benzene solutions of the polymer, mixed, and the mixture precipitated with methanol. In all cases, the powdery filled polymer obtained was completely homogeneous. The polymer properties were tested by differential thermal analysis, hardness determinations and tests of deformation under heat. Differential thermal analysis showed the filled polymer to possess higher heat stability than the unfilled polymer (octadecylammonium-bentonite filled polymer decomposes at 400°C, unfilled polymer at 380°C and polymer containing filler with organic surface at 285°C). This proves the occurrence of interaction between the components. The hardness of the polymer filled with active filler is greater than that of the unfilled polymer (in the vitreous state) i.e. 24.3 kg/mm^2 for unfilled polymer; 26.9 kg/mm^2 in the case of 20% octadecylammonium-bentonite filled polymer and 28.5 kg/mm^2 for polymer filled with bentonite containing 10% adsorbed methyl methacrylate. 10% chalk as inactive filler reduces the hardness to 23.5 kg/mm. The thermomechanical curves were taken in accordance with the method by V. A. Kargin and T. I. Sogolova (Ref. 9). The vitrification

Card 2/3

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S/190/61/003/001/005/020
B119/B216

Filled polymers. IV. Combination of...

temperature of polymethyl methacrylate filled with active filler is increased insignificantly as compared to unfilled polymer, whereas the flow temperature is raised by about 50°C (230°C for unfilled, 280°C and 270°C, respectively, for actively filled and 205°C for chalk-filled polymer). The publication by P. A. Rebinder and collaborators (Ref. 8) is mentioned. There are 2 figures and 9 references: 8 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiyev State University imeni T. G. Shevchenko)

SUBMITTED: May 26, 1960

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 26104-65 EPF(c)/EPR//EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4 RPL RM/WW

37
28
B

ACCESSION NR: AP4047199 S/0190/64/006/010/1768/1772

AUTHOR: Uskov, I. A.; Tarasenko, Yu. G.; Solomko, V. P.

TITLE: Effect of the degree of dipersion of clay fillers on the properties of amorphous polymers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 10, 1964, 1768-1772

TOPIC TAGS: filler particle size, clay filler, amorphous polymer, filled amorphous polymer, polymer strength, glass temperature, yield point, polymethylmethacrylate, polystyrene

ABSTRACT: The effect of active and inert clay fillers (kaolin & bentonite) of varying particle size on the glass temperature and mechanical properties of amorphous polymers (polymethylmethacrylate & polystyrene) was investigated. The results illustrated in Fig. 1 of the Enclosure show that a decrease in the particle size of active fillers increases the hardness and glass temperature, and also decreases somewhat the impact toughness and static bending strength of the polymer. An increase in size of inert fillers produces a considerable decrease in durability and thermal characteristics of the polymers. To obtain strong, filled, amorphous polymers, a strong interaction between the surface of

Card 1/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 26104-65

ACCESSION NR: AP4047199

2

the fillers and the polymeric medium and a high degree of dispersion must be obtained. "S. O. Mol'nikova took part in the experimental work." Orig. art. has: 2 graphs and 5 photomicrographs.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiev State University)

SUBMITTED: 22Nov63 ENCL: 02 SUB CODE: MT, GC

NO REF SOV: 007 OTHER: 003

Card 2/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 26104-65
ACCESSION NR: AP 4047199

ENCL 01

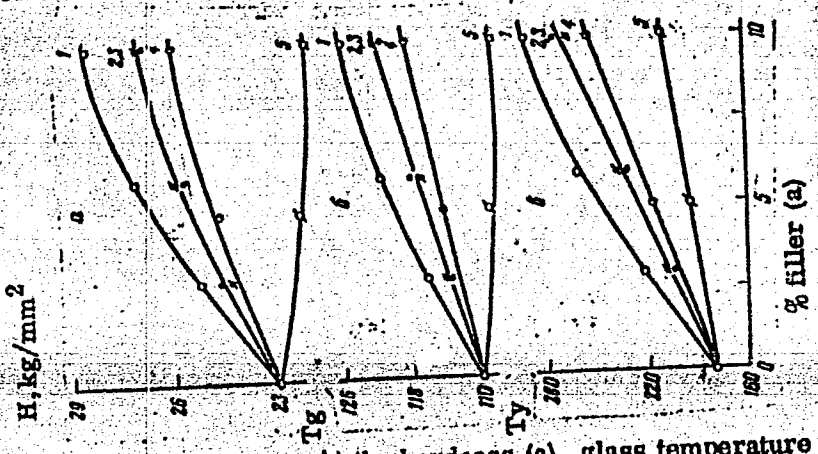

Fig. 1 - Effect of filler content on: A) the hardness (a), glass temperature (b) and yield point (c) of polymethylmethacrylate; B) the impact toughness (a) and static bending strength (b) of polymethylmethacrylate (solid lines) and polystyrene (dotted lines). 1-kaolin, 8 μ; 2-kaolin, 35 μ; 3- Na bentonite, 35 μ; 4- bentonite aminated to 440 μeq/g, 7.5 μ; 5- bentonite aminated to 800 μeq/g, 30 μ.

Card 3/4

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

L 26104-65
ACCESSION NR: AP4047199

ENCL: 02

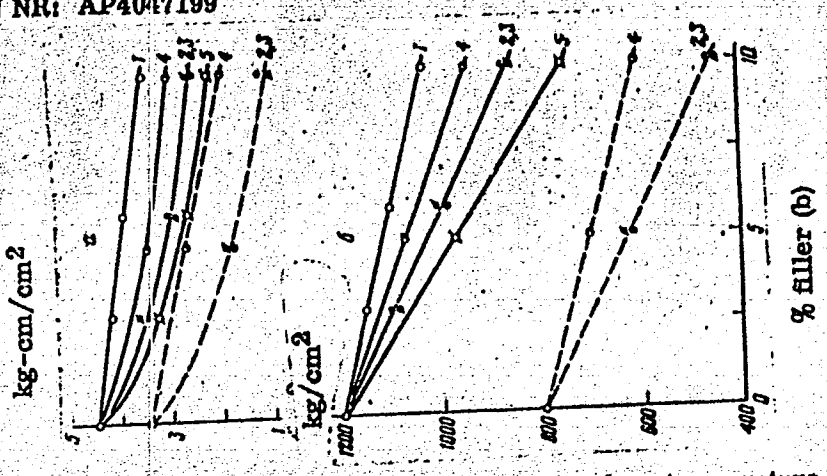

Fig. 1 – Effect of filler content on: A) the hardness (a), glass temperature (b) and yield point (c) of polymethylmethacrylate; B) the impact toughness (a) and static bending strength (b) of polymethylmethacrylate (solid lines) and polystyrene (dotted lines). 1-kaolin, 8 μ; 2-kaolin, 35 μ; 3- Na bentonite, 35 μ; 4- bentonite aminated to 440 μeq/g, 7.5 μ; 5-bentonite aminated to 200 μeq/g, 30 μ.

Card 4/4

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

ACCESSION NR: AP4011977 S/0073/64/030/001/0086/0090

AUTHORS: Tarasenko, Yu. G.; Uskov, I.A.; Solomko, V.P.

TITLE: Effect of kaolin on the properties of polymethylmethacrylate and polystyrene

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 1, 1964, 86-90

TOPIC TAGS: polymer, filled polymer, kaolin, polystyrene, polymethylmethacrylate, hardness, glass point, fluidity colloidal kaolin

ABSTRACT: The introduction of kaolin to polymethylmethacrylate increases its hardness, glass point, fluidity and destruction. However, addition of up to 10-15% kaolin to polystyrene causes practically no change in its properties in comparison with the pure polymer. The activity of the filler in polymethylmethacrylate is explained as due to the formation of strong hydrogen bonds which do not develop in the case of polystyrene. With greater loading with

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

ACCESSION NR: AP4011977

filler the polymeric materials lose their fluidity due to the formation of colloidal structures. Orig. art. has: 4 figures.

ASSOCIATION: Kievskiy gosudarstvenny*y universitet im. T.G. Shevchenko (Kiev State University)

SUBMITTED: 07Dec62 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: MA, PH NO REF SOV: 011 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

ZOLOTAREV, T.L.; LIFSHITS, L.S.; RUDNEV, A.K.; TARASENKO, Yu.M.

Increasing the dynamic stability of electric power systems. Inzh.-fiz. zhur. no. 6:77-84 Je '58. (MIRA 11:7)

1. Energeticheskiy institut, Moskva.
(Electric power plants)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

ZOLOTAREV, T.L.; LIFSHITS, L.S.; RUDNEV, A.K.; TARASENKO, Yu.M.

Possibilities of emergency regulation of the power of the hydraulic turbines. Nauch.dokl.vys.shkoly; energ. no.2: 115-124 '59. (MIRA 13:1)

(Hydraulic turbines)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

VOLOD'KO, M., geroy Sotsialisticheskogo Truda; TARASENKO, Z.

Fifth year at the All-Union Agricultrual Exhibition. Nauka i pered. op. v sel'khoz. 8 no.5:16-19 My '58. (MIRA 11:5)

1. Predsedatel' kolkhoza imeni Gastello, Minskogo rayona, Belorussiya (for Volod'ko). 2. Starshiy agronom kolkhoza imeni Gastello, Minskogo rayona, Belorussiya (for Tarasenko).
(White Russia--Stock and stockbreeding)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

GRISHCHENKO, A.Z.; BONDARENKO, G.L.; TARASENKO-ZELENAYA, L.N.; KORCHAK, A.N.

Automatic control of the concentration of alkali hydroxide solutions. Khim.volok. no.2:49-52 '62. (MIRA 15:4)

1. Kiyevskiy institut avtomatiki Gosplana USSR.
(Alkalies) (Automatic control)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKOV, A.

AID P - 742

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 9/21

Author : Tarasenkov, A., Eng.-Maj., Kand. of Tech. Sci.

Title : The turn on a jet aircraft

Periodical : Vest. vozd. flota, 10, 45-52, O 1954

Abstract : The author gives the exact definition of the turn and then analyzes the forces acting on the aircraft and the relation of load to the bank for various speeds and radii of the turn. Diagrams, graphs, formulae.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKOV, A.

AID - P-128

Subject : USSR/Aeronautics

Card : 1/1

Author : Tarasenkov, A., Major, Eng., Kand. of Tech. Sci.

Title : Horizontal Flight of a Jet Aircraft

Periodical : Air Force Herald, 4, 51 - 66, Ap 1954

Abstract : The definition of horizontal flight is given. Then the author discusses: The conditions of horizontal flight, the necessary thrust of a horizontal flight for various velocities, the range of velocities, horizontal flight with acceleration and retardation. Formulae, diagrams, graphs.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARA[illegible], [illegible]

Mbr., Special Sector, Polyclinic, Moscow Oblast Sect. [illegible] Health, [illegible]
Cand. Medical Sci., "Exanthema Subitum (Six Cases) "Pediatriya, No. 5, [illegible] "[illegible]
Physician RSFSR,

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKOV, A. M.

86-8-10/22

AUTHOR: Tarasenkov, A.M., Eng Lt Col, Docent, Candidate of Technical Sciences.

TITLE: Gain in Altitude during an Interception Mission (Nabor vysoty pri perekhvate)

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, vol.40 Nr 8, pp.49-57 (USSR)

ABSTRACT: In order to remove the line of interception (rubezh perekhvata) from the objective to be defended, the fighter-interceptors must gain the given altitude by using the most suitable rate of climb. Such a rate of climb can be determined by plotting a graph which represents the dependence of the vertical speed V_y on the speed along the flight path V at the given altitude. The flight path of fighter-interceptors includes the inclined and horizontal sectors. The mutual position of two fighter-interceptors which gain the given altitude of 10,000 m with the same n = 11,560 r.p.m. is shown in Figure 1. The first fighter climbed at a speed of 700 km/hr, the second - at a speed of 1,000 km/hour. As soon as the given altitude was reached, the second fighter, which climbed at a speed of 1,000 km/hour, appeared ahead of the

Card 1/6

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

first fighter at a distance of 30 km. The line of interception is displaced when the rate of climb is changed, particularly when it is necessary to overtake the target. In such a case, the gain in route (vyigrysh v puti) ΔL km leads to the displacement of the line of interception at the magnitude

$$\Delta L_{line} = \frac{L}{\frac{V_F}{V_T} - 1} \text{ km},$$

where V_F and V_T are the speeds of fighter-interceptor and target, respectively. Figure 2 shows the gain in the line of interception (vyigrysh v rubezhe perekhvata) ΔL_{line} when the fighter-interceptor climbs at a speed of 1,000 km/hour instead of 700 km/hour, in order to intercept an aerial target flying at an altitude of 10,000 m. The dotted curve shows the displacement of the line of interception when the ratio of speeds of fighter-interceptor and target is $\frac{V_F}{V_T} = 1.2$, while the solid curve

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86-8-10/22

Gain in Altitude during an Interception Mission (Cont.)

- when the ratio of speeds is $\frac{V_F}{V_T} = 1.1$.

Figure 3 shows three areas (A, Б, B) of the target position in relation to the takeoff point of fighter-interceptors. If at the moment of the fighter-interceptor's takeoff the target appears over an area A, the fighter-interceptor must climb at increased speed in order to intercept the target at a greater distance from the objective to be defended. If at the moment of the fighter-interceptor's takeoff the target appears over an area Б (between points 1 and 3) (see Fig. 3), the given altitude should be gained at the maximum rate of climb along the curvilinear flight path. If at the moment of the fighter-interceptor's takeoff the target appears over an area B (at right from point 4) (see Fig. 3), the rate of climb depends on the distance from the fighter-interceptor to the target. Three auxiliary graphs shown in Figure 4 are intended for preliminary calculations of navigation data (predvaritel'nykh shturmanskikh raschetov), namely, the course and flight speed of fighter-interceptors

Card 3/6

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needed to guide them to the given line of interception. The method and an example of how to determine the course and speed for the guidance of fighter-interceptors to an aerial target flying toward the air base of fighter-interceptors, are given. If the supposed flight route of the target deflects considerably from the air base of fighter-interceptors, then, besides the rate of climb, it is necessary to determine the flight course of fighter-interceptors to the aerial target. In such a case, the speed and the flight course should be determined jointly. The method and an example of how to solve such an interception task is given (see Fig.6). In order to simplify the method of determination of the relation between the speed and the true course of fighter-interceptors, i.e., to solve the triangle of interception (treugol'nik perekhvata), a simple computer (prisposobleniye) shown in Figure 7 can be used. Such a computer consists of four link sections ABCA, the vertex A of which can be plotted in the given position on the plotting board (planshet navedeniya). The scale of target speed is plotted on the section AC, or AB and the scale of fighter speed - along the section A (see Fig. 7). The method and an

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86-8-10/22

Gain in Altitude during an Interception Mission (Cont.)

example of how to use this computer for the solution of triangle of interception is given. Further, the author states that the temperature of ambient air affects the climbing speed of jet planes. Therefore, the preliminary computations of navigation data for the given interception mission should be carried out by taking into consideration the temperature of ambient air. The determination of speed and flight course of the fighter-interceptors should be made during the time interval from the moment the data about the target is received (position, altitude, course, and speed) up to the moment of takeoff, i.e., during the passive time interval (passivnoye vremya). This time interval is very short, therefore, accurate determination of speed and course of fighter-interceptors is very difficult. In order to facilitate this work, it is necessary to prepare the navigation data and graphs beforehand for the guidance of fighter-interceptors to an aerial target flying at the highest possible flight speeds and altitudes. One of such graphs is shown in Figure 8. The method and an example of how to use such a graph for

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the determination of course and speed of fighter-interceptors are given. The article contains the following eight Figures: Fig.1. Schematic diagram showing the climbing paths of two fighter-interceptors. Fig.2. Diagram showing the displacement of the line of interception when the average flight speed is increased. Fig.3. Schematic diagram showing the areas of a target position in relation to the takeoff point of fighter-interceptors. Fig.4. Three auxiliary graphs intended for the preliminary calculation of navigation data. Fig.5. Schematic diagram for the determination of the rate of climb. Fig.6. Schematic diagram for the determination of the course and speed for an interception mission. Fig.7. Schematic drawing of a simple computer (chetyrekhzvennik) used for the determination of the course and speed for an interception mission. Fig.8. Graph for the determination of the course and speed for an interception mission.

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86-58-5-23/38

AUTHOR: Tarasenkov, A. M., Engr Lt Col, Docent, Candidate of Technical Sciences

TITLE: Some Problems Dealing With the Theory of Flight at Maximum Speeds and Altitudes (Nekotoryye voprosy teorii poleta na maksimal'nykh skorostyakh i vysotakh)

PERIODICAL: Vestnik vozdushnogo flota, 1958, Nr 15, pp 50-56 (USSR)

ABSTRACT: The article deals with some problems of the theory of flight at maximum speeds and altitudes. The author states that many extremely difficult problems had to be solved before flights at supersonic speeds became possible. Then the author discusses the problems of required and available thrusts of engines at various speeds, altitudes, and maneuvers of flight, and the peculiarities of flight of supersonic aircraft at high altitudes and in particular, at aircraft ceilings. There are 7 graphs.

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Card 1/1

1. High altitude flight - Theory 2. Supersonic flight - Theory

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TARASENKOV, A.M., inzhener-podpolkovnik, dotsent, kandidat tekhn.nauk

Maneuver during interception. Vest.Vozd.Fl. no.2: 43-47 F '60. (MIRA 13:7)
(Air warfare)

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TARASENKOV, A.M., kand.tekhn.nauk, inzhener-podpolkovnik

Optimal flight methods on pursuit missions. Vest. protivavozd. obor. no.5:45-50 My '61. (MIRA 14:7)
(Air warfare)

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L 35414-65

ACCESSION NR: AP5008100 S/0256/64/000/005/0045/0048

15
B

AUTHOR: Tarasenkov, A. M. (Engineer, Colonel)

TITLE: Physical reasons for operational constraints

SOURCE: Vestnik protivovozdushnoy oborony, no. 5, 1964, 45-48

TOPIC TAGS: supersonic aircraft, thrust, flight speed, angle of attack, stagnation temperature, Mach number, altitude control

ABSTRACT: Operational constraints on supersonic airplane flight speed, altitude, angle of attack, and flight range and duration were studied analytically. The maximum speed of the aircraft is obtained by equating the thrust P to the drag force C_x, this gives $V_{max} = \sqrt{\frac{2P}{\rho S C_x}}$. It is shown that C_x decreases with the Mach number, whereas P increases to a maximum value at M = 2. The velocity, or the airplane speed, is also limited by the material which will withstand high stagnation temperatures generated at high Mach numbers. Above 10 km the limiting speed becomes 1700 km/sec. Limitations on the angle of attack are dictated by the overload capacity and the lifting force C_y. These are related to each other by $n_y = \frac{C_y \rho V^2 S}{2G}$.

Card 1/2

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It is shown that for a given altitude the limitations on speed and angle of attack are interrelated. Altitude is controlled by safety considerations as well as the controllability of the aircraft. Flight duration considerations indicate that the minimum fuel rate consumption per hour is achieved at optimum speeds. On the other hand, maximum range is obtained at speeds 1.3 to 1.5 times the speeds necessary for optimum flight duration. Orig. art. has: 6 formulas, 3 figures, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: 1

NO REF SOV: 000 OTHER: 000

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

KAGARMANOV, A.Kh.; TARASENKOV, A.M.

Stratigraphic position of volcanic formations in the Paleozoic cross section of the Kalba Range. Zap. LGI 47 no.2:25-34 '64. (MIRA 18:3)

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

TARASENKOV, D.A.

130-9-1/21

AUTHORS: Inozemtsev, N.P., Sokol, Ya.I., Rysev, I.F., Tarasenkov, D.A. and Zamyatin, S.I.

TITLE: Organisation of Production Quality Control (Ob organizatsii kontrolya kachestva produktsii)

PERIODICAL: Metallurg, 1957, Nr 9, vol. 2 pp.1-2 (USSR)

ABSTRACT: This is a contribution to discussions on the present shortcomings and desirable changes in quality control organisation in the Soviet iron and steel industry. The present organisation according to which a special department is responsible for seeing that instructions have been correctly carried out at each stage of the production process is considered harmful since it encourages an irresponsible attitude on the part of the operators and requires a very large control organisation. As an example the number of reports of various types of incorrect procedure at the "Serp i Molot" works are given. A further criticism is that the present organisation is on a shop basis, thus sometimes operating contrary to the interests of the enterprise as a whole. A two-stage reorganisation is recommended: review of the activity of each control worker and preparation for his work to be undertaken by a production worker, the few remaining control workers to be assembled

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130-9-1/21

Organisation of Production Quality Control.

into a group for inspection of the quality of the final product; this group to be removed from the control of the director of the enterprise. Pay-system revision to encourage better quality is also recommended. Some measures to improve quality-control work at the "Serp i Molot" works are enumerated.

ASSOCIATION: "Serp i Molot" Works. (Zavod "Serp i Molot")

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CA

Freezing points of benzene-toluene, benzene-ethyl alcohol and benzene-gasoline mixtures. D. Tarasenkov. *Zhur. Prikladnoi Khim.* 3, 153–5(1930).—Chemically pure C_6H_6 and $C_6H_5CH_3$ from Kahlbaum (for mol. wt. detn.), Grozny aviation gasoline of 0.7150 sp. gr. at 15° and abs. EtOH from the Russian Institute for Chemically Pure Reagents were used in the investigation. For C_6H_6-$C_6H_5CH_3$ mixts. the following figures give % C_6H_6 (by wt.) and f. p., resp.: 100, +5.5; 80.74, −2.1; 78.92, −0.3; 70.04, −15.3; 50.45, −24.1; 50.30, −32.6; 40.31, −42; 29.70, −53; 20.00, −68; 9.85, −81; 0, −94. For C_6H_6-EtOH mixts the values are 100, +5.5; 80.91, +2.5; 79.92, +1.1; 70.00, −0.4; 59.97, −2.6; 49.90, −6.1; 39.90, −11.1; 29.99, −21.0; 20.02, −39.5; 9.97, −66; 0, −114. For C_6H_6-gasoline mixts: 100, +5.5; 90, +0.1; 80, −4.5; 70, −9.0; 60, −14.2; 50, −22.2; 40, −26.5; 30, −37.2; 20, −43.5; 10, 61.5; 0, −100.

A. A. Boehtlingk

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PROCESSES AND PROPERTIES INDEX

Solubility of water in liquid hydrocarbons. D. N. TARASENKOV AND E. N. POLO-ZHINTSEVA. *Zhur. Obshchei Khim.*, Khim. Ser. 1, 71-9(1931).—The existing analytical methods for the detn. of the soly. of water in liquid hydrocarbons are either inaccurate or time-consuming. The "synthetic" method employed here is based on the procedure proposed by Alekseev (*Ann.* 20, 303(1886)) and modified by Rothmund (*Z. physik. Chem.* 26, 433(1898)) whereby definite amts. of the 2 liquids are mixed together to a homogeneous soln. on heating or cooling (in the case of liquids the soly. of which increases with lower temp.), followed by cooling, or heating, and detg. the temp. at which the turbidity or opal. begins. The soly. of water was detd. at various temps. in C_6H_6, $PhMe$, $C_6H_4Me_2$, cyclohexane, gasoline, kerosene and paraffin oil. *Conclusions.* The soly. of water at 20° in the following is by wt.: C_6H_6 0.053, $PhMe$ 0.055, $C_6H_4Me_2$ 0.021, cyclohexane 0.01, Grozny gasoline 0.008, kerosene 0.01 and paraffin oil 0.034%. The soly. of water in aromatic hydrocarbons decreases with increasing mol. wt. of the homologs. A quant. detn. of water in a hydrocarbon may be carried out by finding first by the synthetic method the curve for the soly. of water at various temps. in the given hydrocarbon; then with the help of this curve it is easy to det. the amt. of water dissolved in the hydrocarbon according to the temp. of the appearance of turbidity.

CHAS. BLASC

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Equilibriums in the systems: alcohol benzene water and alcohol toluene water.
D. N. TARASENKOV AND E. N. POLOZHINTSEVA. *J. Gen. Chem.* (U. S. S. R.) 2, 84-8 (1932). Miscibility data are shown in the form of equil. diagrams. B. C. A.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

2

CA

Vapor pressure of zinc chloride, lead chloride, cadmium chloride, cuprous chloride and silver chloride. D. N. Tsarenkov and P. A. Kozhmyakov. *J. Gen. Chem.* (U. S. S. R.) 5, 880-5(1935). The vapor pressure of $ZnCl_2$ in the interval 516-728° is 7-4 723 mm. It can be represented by the equation $\lg p = 8.7840 - (6052.6/T)$. The vapor pressure of $PbCl_2$ in the interval 650-942° is 4.1-602.1 mm. It can be represented by the equation $\lg p = 8.3421 - (7852.1/T)$. The vapor pressure of $CdCl_2$, $CuCl_2$ and AgCl was detd. in the intervals 618-952° (p = 3 to 722.3 mm.), 632-1070° (p = 3.1 to 215.7) and 802-1120° (p = 3.7 to 50.0 mm.), resp.

S. L. Madorsky

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Dissociation of nickel sulfide. D. N. Tarasenkov and A. V. Bogoslovskaya. *J. Gen. Chem.* (U. S. S. R.) 5, 836-8(1935).—NiS was prepd. by heating a mixt. of powd. Ni and S, in the ratio of 5:3, for 13 hrs. at 800-50°. The product was mixed with 10% by wt. of S and heated again for 6 hrs. The final product contained 64.12% Ni. Jellinek's method was used for detg. dissocn. of NiS at 700°, 850° and 900°. Ni sulfide is not a definite chem. compd. but rather a solid soln. The existence of NiS or higher sulfides as definite compds. could be detd. only by a melting diagram of Ni-S (where S > 40%, i. e., by an extension of Bornemann's diagram, *C. A.* 2, 1686).

S. L. Madorsky

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CA 2

Methods for measuring vapor pressure of metal salts.

D. N. [illegible], A. N. Grigorovich and A. V. [illegible]. *J. Gen. Chem.* (U.S.S.R.) [illegible].—Methods for detg. the vapor pressure of metal salts, developed by Volmer (*C. A.* [illegible]) and Jellinek and Rosner (*C. A.* [illegible]), were compared experimentally with the method of b.-p. detn. at reduced pressures, in the case of $PbCl_2$ at [illegible]°. Johnston's statistical method (*C. A.* [illegible]) was tested in the case of pressure of dissocn. of $CuCl_2$ at 420-550°. Volmer's method was

found difficult because of the corrosive effect of metal salts on the quartz container; it also gives inaccurate results. Jellinek and Rosner's method gave more accurate results. The method of b.-p. detn at reduced pressure is suitable for measuring higher vapor pressures of substances that do not decompose at high temps Johnston's statistical method gives accurate results for high vapor pressures and is suitable in case where the compd. dissociates giving off a gas.

S.L. Madorsky

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001754920003-0

The effect of a foreign solid phase on the freezing point of water and dilute aqueous solutions. I. System: quartz sand-water. A. V. Rakovskii, D. N. Tarasenkov and A. V. Komandin. *J. Gen. Chem.* (U. S. S. R.) 5, 1278-8(1935).—In a mixt. of H_2O and sand, the f. p. of H_2O, for any given ratio of the two components, is inversely proportional to the total surface of the sand. The same was found true in the case of sand and dil. soln. It is concluded, on the basis of these results, that mol. forces can act at a distance of 10,000 mol. diams.

S. L. Madorsky

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

16-1

Influence of an insert solid phase on the f.p. of water and dilute aqueous solutions. II. Starch-water. A. V. RAKOVSKI, D. N. TARASENKOV, and A. V. KOMANDIN (J. Gen. Chem. Russ., 1935, 5, 1441—1444; cf. this vol., 188).—H_2O adsorbed on starch (up to 33%) does not freeze at $-180°$; H_2O in excess of 33% freezes at 0° to $-3 \cdot 10°$ according to the ratio of starch surface to excess of H_2O. The presence of low concns. of solutes does not specifically affect the results. The action of surface forces is not apparent at a distance of > 10,000 mol. diameters of H_2O.

R. T.

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PROCESSES AND PROPERTIES INDEX

Vapor pressure of binary mixtures: $PbCl_2$ + AgCl. V. N. Tarasenkov and A. V. Bogoslovskaya. *J. Gen. Chem.* (U.S.S.R.) 5, 1687-9(1935); cf. *C. A.* 30, 9231[1].—Vapor pressure of the above mixts. in ratios 3:1, 1:1, 1:3 and 1:99 were detd. at 500°, 600°, 700° and partly at 800°. Results indicate the possibility of sepg. $PbCl_2$ from AgCl by vaporizing the former at 800°.

S. L. Madorsky

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PROCESSES AND PROPERTIES INDEX

BC

a-1

Vapour pressure of salts of metals. D. N. TARASENKOV. (Sci. Rep. Moscow State Univ., 1936, No. 6, 61—76).—The v.p. of $PbCl_2$ at 435—945°, of CuCl at 430—107°, of $ZnCl_2$ at 516—728°, of $CdCl_2$ at 618—952°, and of AgCl at 882—1120° have been determined. R. T.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Vapor pressures of the binary mixtures $PbCl_2$ + $CuCl_2$ and $ZnCl_2$ + $CuCl_2$ in an atmosphere of chlorine. D. N. Tarasenkov and L. L. Klyachko-Gurvich. *J. Gen. Chem.* (U. S. S. R.) **6**, 305-10(1936); cf. *C. A.* **30**, 2412[2]. The vapor pressure of $PbCl_2$, measured by the method of Jellinek and Rosner (*C. A.* **24**, 276) in an atm. of Cl in the interval 500-700° is 0.445-34.92 mm. and 0.405-25.2 mm. in a N atm. in the same temp. interval. $CuCl_2$, in an atm. of Cl at a total pressure of 700 mm., begins to dissoc. at 500°, the dissocn. increasing rapidly with temp. rise. The partial-pressure curves for $CuCl_2$ at 500° in the systems $PbCl_2$ + $CuCl_2$ and $ZnCl_2$ + $CuCl_2$ pass through a max., corresponding for both systems to a compn. of approx. 50:50. A satisfactory explanation for the phenomenon is not offered. **Vapor pressure of binary mixtures of $ZnCl_2$ + $PbCl_2$ in an atmosphere of chlorine.** D. N. Tarasenkov and A. V. Balaeva. *Ibid.* 311-14. The vapor pressure of pure anhyd. $ZnCl_2$ in an atm. of Cl, detd. by the method given above, is 40 mm. at 516°, 120 mm. at 604° and 380 mm. at 696°. By use of the same method the partial pressures in a Cl atm. of $PbCl_2$ (I) and $ZnCl_2$ (II) in mixts. of 17.5% I + 82.5% II, 40.5% I + 59.5% II, and 82.1% I + 17.9% II are detd. at 398°, 516° and 604°. In both cases the vapor pressure of $ZnCl_2$ is much higher than that of $PbCl_2$, varies markedly with the rate of Cl passage and has to be extrapolated to zero rate.

John Livak

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Effect of a foreign solid phase on the freezing point of water and dilute aqueous solutions. III. Systems starch-water and sand-water. D. N. Tarasenkov and A. V. Kamenskii. *J. Gen. Chem.* (U. S. S. R.) 6, 1147-50 (1936); cf. *C. A.* 30, 2465[5].—Freezing of water in mixts. with sand is incomplete at 0°. Further temp. lowering results in gradual solidification of remaining water (5-31%) without abrupt changes. In mixts. of water and starch the water remains liquid when its quantity is 31% or less even at −183°. Addnl. 35% water solidifies gradually when the temp. is lowered below 0°.

V. A. Kalichevsky

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Vapor pressures of zinc chloride, lead chloride and cadmium chloride in atmospheres of chlorine and nitrogen. D. N. Tarasenkov and G. V. Skulkova. *J. Gen. Chem.* (U. S. S. R.) 7, 1721-8 (1937); cf. *C. A.* 30, 923[1], 7427[8].

In the following the 1st of each set of 2 numbers represents temp. and the 2nd number represents vapor pressure in mm. of Hg: For $ZnCl_2$ in Cl_2 atm.: 506, 0.73; 518, 1.30; 530, 1.63; 572, 3.80; 586, 5.00; 606, 7.53; 620, 10.00; 630, 11.80; 637, 12.90; 651, 15.20; 671, 21.53; 706, 35.10; 709, 41.70; 730, 60.00; 738, 61.00. For $ZnCl_2$ in N_2: 541, 1.20; 611, 8.00; 647, 13.50; 681, 25.20; 706, 34.30; 721, 41.00; 741, 50.00; 756, 56.00; 761, 60.00. For $PbCl_2$ in Cl_2: 693, 1.73; 770, 4.57; 780, 7.43; 826, 9.92; 858, 19.83; 870, 20.00; 878, 26.00; 880, 26.80; 898, 33.73; 915, 33.80; 928, 46.03; 933, 39.80; 941, 55.63; 953, 62.53; 965, 69.13; 966, 55.30; 976, 61.87. For $PbCl_2$ in N_2: 7.34, 3.40; 777, 8.20; 794, 9.10; 827, 16.75; 849, 21.20; 844, 22.95; 872, 26.80; 887, 31.20; 904, 39.80; 917, 43.80; 934, 53.60; 942, 54.50; 952, 60.90. For $CdCl_2$ in Cl_2: 713, 3.18; 781, 7.68; 793, 8.28; 819, 12.98; 848, 15.48; 872, 25.98; 877, 24.28; 883, 24.68; 884, 28.68; 897, 29.28; 899, 34.78; 911, 32.10; 915, 33.18; 923, 33.98; 930, 39.38; 943, 42.98; 947, 45.68. For $CdCl_2$ in N_2: 700, 2.25; 793, 8.40; 828, 13.70; 845, 16.00; 860, 19.75; 870, 26.90; 874, 27.95; 899, 35.00; 903, 35.80; 933, 49.30; 939, 51.30; 948, 58.9; 953, 59.10; 964, 62.00; 968, 63.8; 969, 65.7; 974, 68.4.

S. L. Madorsky

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CA

2

Equilibrium in the ternary systems: hexane-alcohol-water and cyclohexane-alcohol-water. D. N. Tarasenkov and I. A. Paul'sen. *J. Gen. Chem.* (U. S. S. R.) 7, 2143-8(1937).—The method of Washburn and co-workers (*C. A.* 27, 651; 28,1595[1]) was used in these investigations. In the following, the 1st of each set of 3 numbers represents concn. of the hydrocarbon, the 2nd EtOH and the 3rd H_2O in wt. %. For the system C_6H_{12}-EtOH-H_2O (I) at 25°, 64.80, 33.10, 2.10; 47.54, 48.18, 4.28; 39.45, 55.24, 5.31; 34.97, 59.11, 5.92; 26.14, 64.91, 8.95; 16.27, 69.20, 14.53; 8.85, 68.45, 22.65; 2.17, 60.07, 37.76. For the same system at 0°, 84.88, 14.49, 0.69; 73.02, 24.78, 2.20; 67.62, 30.62, 1.86; 46.99, 50.03, 2.98; 32.50, 62.14, 5.36; 14.60, 71.98, 13.42; 11.71, 71.84, 16.45; 4.65, 68.63, 26.72; 2.47, 64.47, 33.06; 1.22, 54.41, 44.37; 0.23, 34.02, 65.75. For C_6H_{12}-EtOH-H_2O (II) at 25°, 95.92, 3.10, 0.98; 79.99, 18.52, 1.51; 61.04, 36.28, 2.08; 59.70, 37.82, 2.48; 45.91, 51.94, 2.15; 28.11, 68.03, 3.86; 17.61, 73.84, 8.55; 12.93, 74.73, 12.34; 8.00, 73.52, 18.48; 3.61, 67.49, 28.90; 1.86, 53.81, 44.38; 1.21, 36.68, 62.11. For the same system at 0°, 92.70, 6.53, 0.77; 54.10, 44.30, 1.60; 45.39, 53.32, 1.29; 35.18, 63.34, 1.48; 21.67, 74.01, 4.32; 11.86, 79.22, 8.92; 7.90, 78.74, 13.30; 7.32, 79.08, 13.60; 4.00, 76.82, 19.18; 2.13, 69.85, 82.02; 1.57, 69.43, 29.00; 0.94, 60.04, 39.02; 0.42, 43.12, 56.46. All the above represent mixts. without layer formation. In the cases where layers are formed, for system I at 25°, compn. of the upper layer: 99.07, 0.61, 0.32; 98.09, 1.56, 0.35; 88.96, 9.89, 1.15; and of the lower layer: 1.19, 45.98, 52.83; 1.35, 54.98, 43.67; 22.19, 66.24, 11.57. For system II at 25°, in the upper layer: 99.31, 0.08, 0.61; 97.71, 1.75, 0.54; in the lower layer: 0.23, 37.67, 62.10; 2.91, 56.92, 40.17. S. I. M.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

A-1

Equilibria in the ternary system $MgSO_4$-EtOH-H_2O. D. N. TARASENKOV and K. KATZ (J. Gen. Chem. Russ., 1937, 7, 2243—2245).—The solubility of $MgSO_4$ has been determined in 0—71·6% aq. EtOH, at 25° and 50°. The solid phase in equilibrium with the saturated solutions is $MgSO_4,7H_2O$ at 25°, and $MgSO_4,6H_2O$ at 50°. Stratification of the systems takes place within the range 4·1—60·30% EtOH at 50°. R. T.

COMMON ELEMENTS

MATERIALS INDEX

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PROCESSES AND PROPERTIES INDEX

A-1

Vapour tensions of certain substances in the interval 0—50 atm. D. N. TARASENKOV and V. P. APINOGENOV (J. Phys. Chem. Russ., 1937, 9, 889—900).—The v.p. of the following substances are determined: H_2O (118—237°, 2—41·7 kg. per sq. cm.), C_6H_6 (91—288°, 1·53—48·2 kg.), EtBr (48—226°, 1·53—49·0 kg.); EtOH (96—220°, 2·13—46·1 kg.); Ph_2O (267—447°; 1·23—17·9 kg.); Ph_2 (260—402°, 1·23—11·4 kg.); $C_{10}H_8$ (233—434°, 1·48—27·1 kg.); $SbCl_3$ (235—480°, 1·53—41·0 kg.; and 72—231°, 1·2—756 mm.); $AlBr_3$ (271—482°, 1·53—19·7 kg.); and $BiCl_3$ (245—446°, 3—750 mm.). E. R

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

MATERIALS INDEX

OPEN

Crossing of nodes in triple-system diagrams. D. N. Tarasenkov and I. A. Paul'son. *J. Gen. Chem.* (U. S. S. R.) 8, 76-88 (in English 88) (1938).—On the basis of data on triple systems: C_6H_6-EtOH-H_2O at 20° and 25°, PhCH$_3$-EtOH-H_2O at 20°, cyclohexane-EtOH-H_2O at 25°, C_6H_6-AcOH-H_2O at 25°, $CHCl_3$-AcOH-H_2O at 25°, and $CHCl_3$-Me_2CO-H_2O at 25°, it is shown that all the nodes, when extended, intersect at one point. A method is developed for finding mathematically the triple point in each system. S. L. Madorsky

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MATERIALS INDEX

AUTHOR INDEX

1ST AND 2ND LETTER

3RD AND 4TH ORDERS

1ST AND 2ND LETTER

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1ST AND 2ND ORDER

PROCESSES AND PROPERTIES INDEX

2

CA

Interpolation of the tie-lines in diagrams of three-component systems. D. Tarasenkov and I. Paukov. *Acta Physicochim. U. R. S. S.* 11, 75-80(1939)(in English).—Ternary diagrams are given for the systems EtOH-benzene-H_2O, EtOH-toluene-H_2O, EtOH-cyclohexane-H_2O, AcOH-benzene-H_2O, AcOH-$CHCl_3$-H_2O, at 20 and 25°. All the extensions of the tie-lines of any given system intersect in a single point. The tie-lines are given by equations of the type, $X(Y_1 - Y_0) + X_1(Y_0 - Y) + X_0(Y - Y_1) = 0$, where X_1 and Y_1, X_0 and Y_0 are the coordinates of the conjugate soln.

F. H. Rathmann

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

The vapor pressure of tantalum and columbium pentachlorides and its mixtures with titanium tetrachloride. D. N. [illegible] and A. V. Komandin. *J. Gen. Chem.* (U. S. S. R.) 10, 1319-27(1940).—The vapor pressure of $TaCl_5$ measured at 20-208° by the static method (cf. Johnston, *C. A.* 3, 2088; Maier, *C. A.* 30, 2808) varied from 1 to 241 mm. of Hg, resp., and that measured at 221-[illegible]° by the b.-p. method (cf. Greenwood, *C. A.* 5, 2458; [illegible], *C. A.* 14, 2844) varied from [illegible] to 798 mm. The vapor pressure of $CbCl_5$ measured at 20-[illegible]° (static method) varied from 9 to [illegible] mm., and at [illegible]° (b.-p. method) varied from 547 to 766 mm. The [illegible] of $TaCl_5$ and $CbCl_5$ in $TiCl_4$ at 25° were 14.3 and [illegible] by wt., at 50° 27.1 and 0.58%, and 100° 38.9 and [illegible], resp. The partial pressure of $TaCl_5$ in mixt. with $TiCl_4$ was detd. at the b. p. of solns. with various concns. of the components. Thus, the partial pressure of $TaCl_5$ at a concn. in soln. of 6.20% by wt. was 1.63 mm. at 138.0° and of satd. $TaCl_5$ soln. (39.30%) it was 11.[illegible] mm. at 140.8°. Data are tabulated.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Physicochemical investigation of tungsten oxychlorides

A. V. Komandin and D. N. Tarasenkov. *J. Gen. Chem.* (U. S. S. R.) 10, 1433-42(1940). The various methods for prepn. of WO_2Cl_2 were compared. A max. yield of most pure WO_2Cl_2, prepd. by the chlorination of WO_3 with the Cl-N mixt. in ratio 2:3, was obtained at 500-50°. The vapor pressure of WO_2Cl_2 detd. in the Cl stream at 105-264° varied from 0.16 to 3.00 mm. of Hg. the dissociation of WO_2Cl_2, according to the equation $2WO_2Cl_2 \rightleftharpoons WOCl_4 + WO_3$, started at 250°. The total dissocn. pressure at 258-484° varied from 2.40 to 474.6 mm. and at the same temp. the partial pressure of $WOCl_4$ varied from 1.12 to 100.6 mm. The vapor pressure of the 50% WO_2Cl_2 + 50% $WOCl_4$ and 20% WO_2Cl_2 + 80% $WOCl_4$ mixts. at 164-265° and 165-178°, resp., varied from 45.0 to 67.9 mm. and from 18.0 to 46.8 mm. The solubilities of WO_2Cl_2 and $WOCl_4$ in $PbCl_4$ at 25° were 0.15% by wt. and at 114° was 0.22 and 0.45%, resp. The vapor phase of the satd. solns. of W oxychlorides in $PbCl_4$ at their b. p. contained no WO_2Cl_2 and only traces of $WOCl_4$. The chlorination of the W + WO_3 mixt. at 300-500° yielded 87-8% of $WOCl_4$, the vapor pressure of which, measured in the Cl stream, varied at 100-50° between 1.6 and 9.4 mm. and at 170-214.5° between 188 and 701 mm. of Hg.

A. A. Podgorny

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

The distribution of a mutually soluble liquid between two partially miscible liquids. D. N. Tarasenkov. J. Phys. Chem. (U. S. S. R.) 14, 589-97(1940).—Using 60° coördinates T. calcd. for 6 ternary systems, contg. a pair of partially miscible and 2 pairs of miscible liquids (EtOH-benzene-water, at 20°, and at 25°, EtOH-PhMe-water at 20°, EtOH-cyclohexane-water at 25°, AcOH-benzene-water at 25°, AcOH-$CHCl_3$-water at 25°, Me_2CO-$CHCl_3$-water at 25°), the abscissas for the intersection points of the cross-ties with the base of the Gibbs triangle; within expt. error, the cross-ties all intersect at one point on this base. Thus, for a group of the ties for each isotherm: $k = (a_0c_1 - a_1c_2)/(a_0 - a_1)$, where a_1, c_1 and a_0, c_0 = coördinates of the conjugated solns. (a_1 and a_0-concns. of the mutually sol. component in the upper and the lower layers, c_1 and c_0-concns. of one of the partially miscible components). k is a const. equal to length of the abscissa of the intersection point of the cross-ties. The occasional large deviations of k from a mean are due to large exptl. errors in analytical detn. of concn. of 2 org. liquids in mixts. with water. From the above equation: $a_1/a_0 = (c_1 - k)/(c_0 - k)$, which is the distribution of the sol. component between the phases. It is a simpler expression than that of Hand (C. A. 24, 5203). It is also possible to find the compn. of any pair of conjugated solns. if the isotherm equation and one of the cross-ties are known, if the isotherm equation is solved simultaneously with that of the cross-tie, or graphically if the isotherm curve is used as such. The tangent from the cross-tie intersection point to the isotherm curve shows the compn. of the crit. point. Graphic detn. of the intersection point of the cross-ties yields a criterion for accuracy of detn. of compn. of conjugated solns.

G. M. Kosolapoff

2

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Equilibrium in the ternary system ethyl alcohol-aniline water [illegible] and A. M. Averianov [illegible] Russian. [illegible]

cf. preceding abstr. The solns. were analyzed in the following way: a sample contg. 0.2-0.5 g. $PhNH_2$ was treated with 10 ml. of 4 *N* HCl and titrated with 0.1 *N* $KBrO_3$ with excess KBr until a stable Br color was established; after standing 5-10 min., 1 g. KI was added and I_2 titrated with $Na_2S_2O_3$; 1 ml. 0.1 *N* $KBrO_3$ = 0.00155 g. $PhNH_2$; the product is $C_6H_2Br_3NH_2.HCl$. EtOH was detd. by alcoholometry on 120-150-g. samples of the soln., weighed within 0.1 g., acidified with a small excess of H_2SO_4, dild. with 300 ml. H_2O and distd. (passing about ⅓ of the vol.); results are somewhat in error owing to oxidation of EtOH (and $PhNH_2$) by H_2SO_4. An alternative method based on the detn. of the d. and calcn. of the compn. from the binodal curve drawn beforehand suffers from the usual uncertainty of interpolation. While the detn. of $PhNH_2$ is very accurate, that of EtOH, by either method, lacks in accuracy. Increasingly difficult sepn. of the two layers prohibited detn. of the 50° isotherm. The 0° and 25° isotherms show that binodal curves and tie-lines nearly parallel to the basis of the triangle. Example of data (EtOH, $PhNH_2$, H_2O; upper layer/lower layer): at 0°: 3.1, 91.6, 5.3/6.4, 3.3, 90.3; 14.3, 74.5, 11.2/24.1, 5.8, 70.1; at 25°: 12.4, 75.3, 12.3/18.1, 7.1, 74.8; 10.6, 78.8, 10.6/16.0, 6.0, 78.0. The value of *k*, the abscissa of the point of intersection of the tie-lines with the basis of the triangle, fluctuates (from −73.2 to −87.5 at 0° and from −116.5 to −138.5 at 25°) owing to the uncertainty in the estn. of EtOH and the near horizontality of the tie-lines. The distribution of EtOH, calcd. after Tarasenkov, $(EtOH)_1/(EtOH)_2 = [(H_2O)_1 - k]/[(H_2O)_2 - k]$ (subscripts 1 and 2 referring to the upper and lower layer, resp.), was found 0.59-0.60 at 0°, 0.66-0.72 at 25°. 13 A table of the d. of the ternary solns. at 0° and 25° is given. N. Thon

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

2

Distribution of the common component between the two layers of a partially miscible ternary liquid system. D. N. Tarasenkov. *J. Gen. Chem.* (U.S.S.R.) 16, 1583-8(1946)(in Russian).—The equation for the abscissa of the point of intersection of the bundle of tie-lines with the prolonged basis of the representative triangle, $b = (a_2c_1 - a_1c_2)/(a_2 - a_1)$, where a = concn. of the component miscible with both the upper (subscript 2) and the lower layer (subscript 1), c = the concn. of one of the partially miscible components (C.A. 36, 4401[1]) leads to $a_1/a_2 = (c_1 - b)/(c_2 - b)$. This formula for the distribution of a is derived geometrically from the properties of the Gibbs or Roozeboom triangles, and checked against the data for the systems: EtOH-C_6H_6-H_2O (20 and 25°); EtOH-PhMe-H_2O (20°); EtOH-cyclohexane-H_2O (20°); AcOH-C_6H_6-H_2O (25°); AcOH-$CHCl_3$-H_2O (25°); CH_3COCH_3-$CHCl_3$-H_2O (25°). Agreement is satisfactory throughout. N. Thon

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

2

Equilibrium in the ternary system with two pairs of partially miscible components: benzene-formic acid-bromoform. A. M. Avenarius and D. N. Tarasenkov. *J. Gen. Chem.* (U.S.S.R.) 16, 1777-82(1946)(in Russian). —The compns. of the conjugate solns. were detd. at 25, 50, and 70° (where the binary systems HCOOH-C_6H_6 and HCOOH-$CHBr_3$ form 2 liquid phases) by analysis and synthesis and are given in tables and in triangular diagrams. HCOOH was titrated with 0.25 *N* alkali; $CHBr_3$ was saponified with boiling alc. KOH for 2 hrs., and Br detd. after Volhard; C_6H_6 was calcd. from the difference. The ternary system has one single heterogeneous region. In conformity with Tarasenkov's rule, all prolonged tie-lines intersect at the 100% HCOOH apex of the representative triangle, i.e., in Tarasenkov's equation (*C.A.* 36, 4401[1]; 41, 4600gi), the const. $k \approx 0$ within the limits of exptl. error; also, the ratio of the cosol. component in the 2 liquid layers remains const. The system shows the phenomenon of phase conversion; i.e., from a certain concn. up, the phase richer in the lightest component has a higher d. than the phase poorer in it. N. Thon

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