ALEKSEYENKO, V. I.

U S S R . / Compatibility of nitrocellulose with other high polymers&/
V. I. Alekseenko, I. I. Mishustin, and S. S. Voyutskiy
Colloid J. (U.S.S.R.) 17, 1-5(1955)(Engl. translation).—
See C.A. 49, 7889c.   H. L. H.

H_ _ K _ R _ Y E N K r, _ l -

U S S R

Compatibility of nitrocellulose with other high-polymers. V. I. Alekseenko, I. U. Mishustin, and S. S. ____ _____ Kolloid. Zhur. 17, 3-9(1955); cf. C. A. 48, 1827 __ ___ A soln. of cellulose nitrate (I) (contg. 12% N) was mixed with a soln. of another high polymer, and films 0.2-0.2 mm. thick were cast on glass. The tensile strength, P_t of these films, calcd. for the initial cross section, was smaller the more butadiene-acrylonitrile copolymer (II) added to I and the smaller the nitrile content x of II, e.g., when the amts. of I and II in the film were equal, P_t was 1.50, 1.67, 2.17, and 2.34 kg./sq. mm. for x = 12, 20, 28, and 37%, resp., while P_t of I was 6.4. The tensile strength calcd. for the actual cross section at rupture had min. at about 1.66; II 40% when x was 28 or 37%; apparently, large values of II help in redistributing stress only if II contains enough plast. ingredients; otherwise II does not truly mix with I. The total elongation L was greater the greater the amt. of II and the greater x. Addn. of dibutyl phthalate to I increased L as much as an equal amt. of II with x = 37%, but lowered P_t to, e.g., 0.1 kg./sq. mm. Also butadiene styrene copolymer greatly lowered P_t of I. Only polar polymers can act as plasticizers in other polar polymers.   J. J. R.

ALEKSEYENKO, V.I.

The production of artificial leather used for shoe uppers. Leg.
prom. 16 no.5:25-27 My '56.   (MLRA 9:8)
                    (Leather, Artificial)

ALEKSEYENKO, V.I.

ALEKSEYENKO, V.I., kand.tekhn.nauk

Compatibility of hydrophobic and hydrophilic high molecular
substances. Leg.prom. 16 no.10:26-31 O '56. (MIRA 10:12)
(Plastics) (Colloids)

USSR/Chemistry of High-Molecular Substances, F

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1122

Author: Alekseyenko, V. I., and Mishustin, I. U.

Institution: None

Title: On the Compatibility of Polyvinylchloride and Polyvinylacetate with Other High Polymers

Original
Periodical: Kolloid. zh., 1956, Vol 18, No 3, 257-261 (English summary)

Abstract: The possibility of combining divinylchlorovinylidene rubber (I) with rigid polymers, e.g., polyvinylchloride (II) and polyvinylacetate, as a plasticizer is established. The dependence of the yield strength and the breaking elongation on the rubber content in the plasticized polymers is given. It is shown that when sheets of II containing I are heated, an increase in the strength is noted; this increase is explained by the interaction between the polar groups. The authors hold that the nature of the polar groups is not particularly important for compatibility.

Card 1/1

ALEKSEENKA, V. I.

KALININA, L.Ye.; ALEKSEYENKO, V.I.; BOYUTSKIY, S.S.

The separation of solutions of high polymers [with English summary in insert]. Koll.zhur.18 no.6:691-696 N-D '56.   (MLRA 10:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut zameniteley koshi, Moskva.
        (High molecular weight compounds)   (Solution (Chemistry))

rubber and the two becoming equal in polarity. Vulcanisation improves the mechanical properties of the mixed rubbers. With compatible rubbers the curve tensile strength

ALEKSEYENKO, V.I.; BUGOSLAVSKAYA, L.A.; MISHUSTIN, I.U.

Compatibility as a basic factor in adhesion of high molecular substances.
Kauch. i rez. 16 no.8:10-15 Ag '57.   (MIRA 10:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut zameniteley kozhi
i obuvnaya fabrika "Skorokhod."
            (Adhesion)   (Macromolecular compounds)

ALEKSEYENKO, V.I.

Exhibition of rubber, plastics, and equipment used for their
processing. Leg. prom. 17 no.5:54-56 My '57.   (MLRA 10:6)
   (Paris--Exhibitions)   (Rubber industry)   (Plastics)

ALEKSEYENKO, V.I.; BLAGOVESTOV, B.K.; BUGOSLAVSKAYA, L.A.; ZHUVIKINA, A.I.; ZAKHARCHENKO, P.I.; MISHUSTIN, I.U.; NISNEVICH, Ye.A.

Use of synthetic gutta-percha in the shoe industry. Leg.prom. 17
no.6:18-20 Je '57.   (MLRA 10:8)
              (Shoe industry) (Gutta-percha)

Alekseyenko, V. I.

ALEKSEYENKO, V.I.

Artificial leather industry. Leg.prom. 17 no.11:62-66 N '57.
(MIRA 10:12)

1.Direktor TSentral'nogo nauchno-issledovatel'skogo instituta
zameniteley kozhi.
(Leather, Artificial)

MATVEYEV, V.V.; PISARENKO, A.P.; ALEKSEYENKO, V.I.

"MPS" and "MPA" semiautomatic presses for vulcanization of
rubber goods. Kauch. i rez. 17 no.12:17-20 D '58.
(MIRA 12:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennoy
kozhi.
        (Hydraulic presses)   (Vulcanization)

ALEKSEYENKO, V.I.; BUGOSLAVSKAYA, L.A.; ZAKHARCHENKO, P.I.; KARAPETYAN, N.G.;
MISHUSTIN, I.U.

Glue made from latexlike NT "nairite." Leg. prom. 18 no.1:23-25
Ja '58.   (MIRA 11:2)

(Glue)

ALEKSEYENKO, V.I.; SHTARKH, B.V.

Characteristics of intermolecular bonds in combined systems. Leg.
prom. 18 no.3:18-21 Mr '58.   (MIRA 11:4)
            (Polymers)   (Molecular association)

ALEKSEYENKO, V.I.; MISHUSTIN, I.U.

Plasticizing polyvinyl chloride, polyvinyl acetate, and nitro-
cellulose with carboxyl-containing polymers. Leg.prom. 18 no.6:
18-20 Je '58.   (MIRA 12:10)
        (Leather, Artificial) (Plasticizers)

ALEKSEYENKO, V.I.

      Make use of advances in chemistry in developing the artificial leather
production. Leg. prom. 18 no.7:1-4 Jl '58.   (MIRA 11:9)

      1.Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta
iskusstvennoy kozhi.
                (Leather, Artificial)

HLEKSEYENKO, V. I.

AUTHORS: Voyutskiy, S.S., Alekseyenko, V.I., Kalinina, L.Ye.

TITLE: The Compatibility of Nitrocellulose and Butadiene Copolymers
(Sovmestimost' nitrotsellyulozy s butadiennitril'nymi sopo-
limerami). 4. Relaxation Properties of Binary Mixtures (4.
Relaksatsionnyye svoystva binarnykh smesey)

ABSTRACT: The deformation of high polymers leads to a complex re-
grouping of the elastic chain molecules. This regrouping is
connected with the surmounting of the forces of interaction
between the molecules and with the disturbance of their equi-
librium positions. Relaxation is the establishing of a new
equilibrium condition in a deformed body taking place under
the influence of a thermal movement and leading to a reduc-
tion of interior stress. In the article, relaxation of
stress is investigated in films made from mixtures of nitro-
cellulose and butadiene nitrile copolymers of different po-
larity, with the aim of explaining the mechanism of plastifi-
cation by high-molecular softening agents. The films used
Card 1/4   in the investigation contained different quantities of acryl-

The Compatibility of Nitrocellulose and Butadiene Copolymers. 4. Relaxation Properties of Binary Mixtures

groups, whereas the reverse is true at higher copolymer content. The limiting relaxation time τ*, which is the time interval between two elementary acts of molecular regrouping, is independent of the degree of deformation only for nitrocellulose-copolymer mixtures containing 28.6% or over-acrylonitrile groups, i.e. for sufficiently homogeneous mixtures. For the relaxation of pure butadiene nitrile copolymers, the energy of activation amounts to 10,7 kcal/mole. This is caused by the fact that in all copolymers the local bonds have the same character. For mixtures of nitrocellulose with copolymers, the energy of activation is lower and varies between 5.3-7.8 kcal/mole. It is possible that the lower energy in the last case is caused by purely steric conditions opposing the close approach of popular molecule groups of both polymers in the mixture.

There are 6 figures, 3 tables, and 12 references, 9 of

Card 3/4   which are Soviet, 2 English, and 1 Swiss.

L 34848-65   EPA(s)-2/EWT(m)/EPF(c)/EWG(v)/EPR/EPA(w)-2/EWP(j)   Pc-4/Pab-10/Pe-5/Pr-4/
ACCESSION NR   AP5008546   S/0286/65/000/006/0061/0061

Kazakova, L.I.; Tryapkina, I.A.; Ishmayeva,

TITLE: A method for producing insulating plastics,   Class 39, No. 169246

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 6, 1965, 61

TOPIC TAGS: plastic insulator, polar polymer, nonpolar polymer

ASSOCIATION: none

SUBMITTED: 31Mar61   ENCL: 00   SUB CODE: MT,GC

NO REF SOV: 000   OTHER:

Card 1/1

BILENKIN, Dmitriy Aleksandrovich; ALEKSEYENKO, V.I., kand.tekhn.nauk,
    nauchnyy red.; GOLUBKOVA, V.A., red.; MEDVEDEVA. R.A., tekhn.red.

[Artificial leather] Iskusstvennaia kozha. Moskva, Izd-vo
"Sovetskaia Rossiia," 1959. 8 p.   (MIRA 13:7)
            (Leather, Artificial)

NARINSKAYA, A.R.; PISARENKO, A.P.; ALEKSEYENKO, V.I.

Improving the properties of polyamides used as finishing
coatings. Kozh.-obuv.prom. no.2:17-20 F '59. (MIRA 12:6)
     (Resins, Synthetic) (Leather, Artificial)

15(9)

AUTHOR: Alekseyenko, V. I.   SOV/64-59-2-10/23

TITLE: On the Compatibility of Polymers (O sovmestimosti polimerov)

PERIODICAL: Khimicheskaya promyshlennost', 1959, Nr 2, pp 139-144 (USSR)

ABSTRACT: In this paper problems arising in connection with the properties of
               finished products obtained by mixing various polymers are discussed,
               as well as methods of determining the compatibility of polymers.
               V. A. Kargin, G. L. Slonimskiy, P. P. Kobeko et al, found in their
               investigations that many linear polymers have the structure of a
               liquid phase, i.e. they belong to the class of amorphous polymers.
               The relation between the polar and apolar part of the molecule and
               their interaction play an important part in the reciprocal solubility
               of polymers. In polar low molecular substances the oriented (dipole)
               effect and in the apolar substances the dispersion effect (Table 1)
               predominates. Plastifiers for polar plastics (polyvinylchloride etc)
               should have a polar and an apolar part of molecule, with polarity
               being neither too weak nor too strong. The relation between
               plastifying properties and molecular structure (table 2 according to
               reference 8), as well as a diagram of their effect in PVC (Ref 8) are
Card 1/3   shown in a table (Fig 1). In the papers (Refs 9-11) the authors pointed

to the influence exercised by the polarity of the molecules on the
compatibility of polymers, as may be seen also from diagrams on the
function of tensile strength of nitrocellulose films of a content
of weakly polar butadiene-styrene-copolymers or highly polar
butadiene-nitryl-copolymers (Figs 1, 2 and Table 3). Investigations
described in other papers (Refs 11, 12) on the plastification of
PVC with butadiene vinylidene chloride-(DVKhB-70), carboxyl-
containing and acrylonitryl-rubber types (SKN-26) led to similar
observations. Rubber types with a polar and an apolar part of the
molecule (butadiene styrene SKS-30, SKS-50, butadiene methyl
styrene SKMS-30, SKMS-50) and types with only an apolar part
(butadiene SKB) have no plastifying effect on PVC (Table 4). It
may be assumed that a polar polymer may be mixed with another
polar polymer. In this connection the nature of the polar groups
is not important, only polarity must be sufficiently similar. On
the other hand, also apolar polymers may be mixed. The polymers
are mixed if the mixing process is exothermal with the exception
of SKS 30 + polystyrene and SKS 30 + SKB, which the author considers
to be anomalous. In investigating mixed polymers in the infrared
spectrum no changes could be observed in mixing apolar sodium
Card 2/3   butadiene rubber with polar nitryl rubber and polar nitrocellulose

On the Compatibility of Polymers   SOV/64-59-2-10/23

in the infrared absorption spectrum (Fig 4). Further, it was
found that the spectra are summed up. By mixing nitryl rubber
with nitrocellulose the absorption band of the OH-group shifts
(Fig 5). The additional energy of intermolecular interaction in
this mixing may be approximately computed according to an
equation (Ref 19). The problem of the incompatibility of
polymers of similar polarity - polychloroprene + PVC, PVC +
nitrocellulose - remains still to be solved. There are 5 figures,
4 tables, and 20 references, 17 of which are Soviet.

Card 3/3

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 14, p. 620, # 59669
Kand. tekhn. nauk

AUTHORS: Alekseyenko,.V.I., Kalinina, L.Ye.

TITLE: Studies Into the Compatibility of Acetyl Cellulose With Rubber

PERIODICAL: Kozhevenno-obuvn. prom-st', 1959, No. 11, pp. 29-33

TEXT: ·   An amount of 20-50% cellulose ester (acel) with 42% acetyl groups
and 4.2 dielectric constant at 60-70°C was added to the following rubber,
masticated on rollers: CKH -18 (SKN-18), CKH-26 (SKN-26), CKC -30 (SKS-30)
and polychloroprene rubber with dielectric constants of 6.4, 10.3, 2.9 and 8.2
respectively. Plates of 1.5 mm thickness were removed from the rollers and
subjected to heat treatment in a press for 10 min at 120°C; extension diagrams
were taken on a Polani dynamometer. The modification of acel properties is
possible by combining it with SKN-18 and SKS-30 to obtain highly elastic film
materials. The correlation of the polarity of components is a determining
factor in the combination of cellulose esters with rubber, independent of the
chemical nature of the polar groups; : the introduction of a vulcanizing group

Card 1/2

SOV/76-33-4-2/32

AUTHORS: 5(4), 15(9)   Alekseyenko, V. I., Mishustin, I. U.

TITLE: Investigation of the Compatibility of Three-component Polymer
Mixtures (Izucheniye sovmestimosti trekhkomponentnykh smesey
polimerov)

ABSTRACT: On the basis of the data hitherto published in publications
it may be assumed that thermodynamic factors are a determinant
factor in the compatibility of polar polymers (P) and that
the mechanism of the exchange process is based on the electro-
static interaction of the polar molecule groups of (P). In
the present paper it is demonstrated that polar (P) may be
mixed with weakly polar (P) in the presence of a third strong-
ly polar (P). Two systems were investigated: 1) polyvinyl-
chloride (PVC) +"nairite"NT (a chloroprene rubber, specific
weight = 1.264) + polar rubber (divinyl acryl nitryl rubber
SKN-26 with 28% acrylonitryl groups or rubber DVKhB-70 with
70% chlorovinylidene groups produced by latex coagulation).
The compatibility of the (P) was determined according to the
tensile strength of (P)-films which are obtained after a
_____ _____ _____ _____ _____ mechan-
_____ _____ _____ _____ __servation
____ _____ _r different polari-
_____ _____ __constants are compatible and
_____ __compatibility may be attained in the
_r and polar (P) by adding a third strongly
_nt. There are 4 figures, 2 tables, and 14 ref-
_s, 12 of which are Soviet.

Card 1/3

SOV/76-33-4-2/32

Investigation of the Compatibility of Three-component Polymer Mixtures

rolling (140-150°C) and pressing (10 min, 150-160°C) of the (P)-mixtures. The experimental results which are tabulated (Table 1) and represented in a triangular diagram (Fig 1) show that the combination SKN-26 or DVKhB-70 with "nairite" NT proves to be a better plastifier for PVC than dibutyl phthalate (or SKN-26 or a single DVKhB-70) and that mixtures with good properties are obtained (if the PVC-content is not higher than 50%). 2) The system polyvinyl acetate (PVA) + "nairite NT + polar rubber (as mentioned above) was investigated (after rolling at 50-60°C). The results (Table 2) show that in analogy to the above mentioned observations a combination of nairite NT and DVKhB-70 with PVA yields mixtures with high physico-mechanical properties. Theoretical investigations of the mechanism of formation of ternary mixtures led to the observation that the compatibility of three components of different polarity depends on the dipole interaction and thus substances with the same or similar dielectric constants are compatible and that on the other hand, a compatibility may be attained in the case of weakly polar and polar (P) by adding a third strongly polar component. There are 4 figures, 2 tables, and 14 references, 12 of which are Soviet.

Card 2/3

Investigation of the Compatibility of Three-component Polymer Mixtures

SOV/76-33-4-2/32

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy kozhi (All-Union Research Institute of Film Materials and Artificial Leather)

SUBMITTED: July 4, 1957

Card 3/3

88316

S/191/60/000/002/002/012
B027/B058

15.8101

AUTHORS: Alekseyenko, V. I., Mishustin, I. U.

TITLE: Combination of Polyethylene With Other Polymers

PERIODICAL: Plasticheskiye massy, 1960, No. 2, pp. 8-13

TEXT: The authors deal with the improvement of the plastic and elastic
properties of polyethylene. The thermal resistivity of pure polyethylene
is insufficient, and thus it is necessary to admix other polymers in
order to increase the tensile strength of polyethylene without reducing
or increasing its durability. Ye. Ye. Rylov and V. L. Karpov (Ref. 6)
proved on the basis of electronographic and roentgenographic studies of
polyethylene-polyisobutylene mixtures that these polymers yield macro-
homogeneous but not microhomogeneous mixtures. N. V. Mikhaylov, Z. V.
Ukhanova, V. S. Klimenkov, and Ye. A. Kuril'chikov (Ref. 7) point out
that when using polymers as two-, three- or multi-component mixtures for
the manufacture of synthetic fibers, the properties of the latter im-
prove. G. L. Slonimskiy and G. V. Struminskiy (Ref. 8) proved that heat
is separated when mixing rubber CKB (SKB) and CKC-30 (SKS-30) with

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88316

Combination of Polyethylene With   S/191/60/000/002/002/012
Other Polymers   B027/B058

polystyrene which indicates the miscibility of these products. A. A.
Tager and V. A. Kargin studied the heat of solution of polystyrene in
ethyl benzene and proved that the heat separation during solution is due
to a previous stratification of the chain molecules from CKC-30 (SKS-30)
and polystyrene because of the insufficient flexibility of these molecules.
A. A. Tager, A. Smirnova, and N. Sysuyeva pointed out the importance of
dense stratification of polymer molecules and the change of the volume of
the system during their solution. During the experiments it was found that
an admixture of up to 25% polyisobutylene and of the rubber types ДВХБ -70
(DVKhB-70) and CKC-30-1 (SKS-30-1) to polyethylene as well as vulcanizing
improves the physico-mechanical properties of the mixture. These mixtures,
vulcanized or unvulcanized, are therefore recommended for practical use.
When selecting polymers for the purpose of improving the polyethylene
properties, the dielectric permeability and density of molecule strati-
fication of these polymers must be taken into account. There are 9 fig-
ures, 4 tables, and 11 references: 9 Soviet and 2 US.

Card 2/2

ALEKSEYENKO, V.I.; KALASHNIKOV, V.P.; KOLOSOVA, G.I.; MEL'NIK, Ye.M.

Plasticizers for the plastic leather "M". Kozh.-obuv.prom.
2 no.2:16-20 F '60.   (MIRA 13:5)
          (Plasticizers) (Leather, Artificial)

ZAYONCHKOVSKIY, A.D.; ALEKSEYENKO, V.I.; BERNSHTEYN, M.Kh.; YABKO,
    Ya.M.; KIRIYENKO, N.V.

Use of polyethylene in manufacturing artificial leather. Kozh.—
obuv.prom. 2 no.7:14-18 Jl '60.   (MIRA 13:8)
              (Leather, Artificial)
              (Polyethylene)

ALEKSEYENKO, V.I.; KOPYL, A.N.

Make full use of potentials in the artificial leather industry.
Kozh.-obuv.prom. 2 no.8:4-7 Ag '60.   (MIRA 13:9)

1. Kirektor Vsesoyuznogo nauchno-issledovatel'skogo instituta
plenochnykh meterialov i ikusstvennoy kozhi (for Alekseyenko).
2. Zamestitel' glavnogo khimika Vsesoyuznogo nauchno-issledovatel'-
skogo instituta plenochnykh materialov i iskusstvennoy kozhi
(for Kopyl).
                              (Leather, Artificial)

ALEKSEYENKO, V.I.; KOPYL, A.N.

Manufacture of artificial shoe-upper leather from textile fabrics
(continuation). Kozh-obuv.prom. 2 no.9:8-10 S '60.   (MIRA 13:10)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta
plenochnykh materialov i iskusstvennoy kozhi (for Alekseyenko).
2. Zamestitel' glavnogo khimika Vsesoyuznogo nauchno-issledovatel'-
skogo instituta plenochnykh materialov i iskusstvennoy khozi
(for Kopyl).
                         (Leather, Artificial)

87644

18.8500   2209 only?

S/191/60/000/012/003/016
B020/B066

AUTHOR: Alekseyenko, V. I.

TITLE: Practical Importance of Mixtures of Incompatible Polymers

PERIODICAL: Plasticheskiye massy, 1960, No. 12, pp. 6 - 8

TEXT: The author investigated the applicability of mixtures of incompatible polymers for glueing the fiberbase of artificial leather, and for electro-insulating films. For the former purpose, a mixture of polyethylene and butadiene-styrene rubber (polyethylene for cables, molecular weight 15,000, with 14.5 % polyisobutylene; butadiene-styrene rubber with 30 % styrene, filled with lampblack and kaolin) was used. Besides, also mixtures of polyethylene with reclaimed rubber were studied. Stearic acid was used as surface-active substance. The mixtures were rolled and then vulcanized. Figs. 1 and 2 give the results of tests made on films obtained from various mixtures. Fig. 1 shows the change in tensile strength and relative elonga-tion of films from polyethylene and butadiene-styrene rubber with lamp-black. These values drop when introducing polyethylene into butadiene-styrene rubber; relative elongation decreases more than tensile strength.

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87644

Practical Importance of Mixtures of   S/191/60/000/012/003/016
Incompatible Polymers   B020/B066

Fig. 2 shows the change in tensile strength and relative elongation of
films from mixtures of polyethylene and butadiene-styrene rubber with
kaolin. Like in the previous case (Fig. 1), relative elongation decreases
more than tensile strength. Beginning from an almost equal ratio of the
two components mentioned, a solidification of the system occurs, which
may be explained by the formation of a new system in which the polyethylene
represents the dispersion medium, and the rubber mixture the disperse
phase. The fiberbase (worsted cotton) was impregnated by molding some
of its layers with spread adhesives, and thus glued. The fiberbases glued
by means of incompatible polymer systems were tested for their mechanical
properties (Table). The highest seam strength (7.22 kg/mm) was obtained
at a content of 75 % of rubber mixture and 25 % of polyethylene. In connec-
tion with the investigation of electroinsulating properties of incompatible
polymers it was found that in the disperse system "polymer-polymer" the
molecules are not closely packed on the boundary between the disperse
phase and the dispersion medium. One of the reasons for this phenomenon
is the dipole distribution which does not favor close packing. On the
boundary between the dispersion medium and the disperse phase the dipoles

Card 2/3

87644

Practical Importance of Mixtures of   S/191/60/000/012/C03/016
Incompatible Polymers   B020/B066

with charges of equal signs face each other (Fig. 3), and the repulsive
forces are responsible for the leaks in the boundary layer. Another
distribution of the dipoles is also possible, in which charges of different
signs face each other (Fig. 4), which also accounts for an untight packing
of molecules in the boundary layer. This fact explains the high electro-
insulating capacity of incompatible polymer compounds. The dielectric
constant obtained for some incompatible mixtures is smaller than the
additive dielectric constant of the components, while it is higher in
compatible mixtures. For this reason, a comparison of the dielectric
constant of multicomponent mixtures with the sum of dielectric constants
of the individual components may indicate whether the respective polymer
mixture is compatible or incompatible. A. D. Zayonchkovskiy and
M. M. Bershteyn took part in this study. There are 4 figures and 1 table.

Card 3/3

88534

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S/190/60/002/010/001/026
B004/B054

AUTHOR: Alekseyenko, V. I.

TITLE: The Problem of Compatibility of Polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 10,
              pp. 1449-1455

TEXT: To investigate the compatibility of polymers, the author made the
following experiments: 1) Mixing of solutions of CKC-30-1 (SKS-30-1)
rubber (containing 1.25, 8, and 12% of methacrylic acid) with solutions
of nitrocellulose (12% N) in cyclohexanone; 2) mixing of solutions of
the same rubber with high-pressure polyethylene in benzene. The mixtures
were prepared in different ratios of the components, and it was observed
for 60 days whether a separation in two layers occurred. In this case,
the viscosity of the individual layers and their composition were deter-
mined (Table 1). Mixtures of 75% of polyethylene and 25% of rubber, as
well as 25% of nitrocellulose and 75% of rubber were stable. 3) The author
compared the additive value of the specific gravity with the experimental-
ly found value when mixing polyvinyl chloride with divinyl styrene rubber
of the type CKC-30 (SKS-30), divinyl nitrile rubber of the type C KH -40
Card 1/3

The Problem of Compatibility of Polymers   88534
S/190/60/002/010/001/026
B004/B054

(SKN-40), and divinyl chloro-vinylidene rubber of the type $\Delta BX6$-70
(DVKhB-70) (Fig.), and 4) he measured the volume contracting when mixing
these substances (Table 2). From the experimental data, the author arrived
at the following conclusions: The copolymer mixtures are separated in two
layers by the formation of molecular associations of the components in
different ratios. If these associations only contain small amounts of
solvent, a precipitate is also formed. For the separation into layers,
the following relation holds: $E_{p_2}(s) > E_{p_1 p_2}(s) < E_{p_1}(s)$, where $E_{p_1}(s)$,

$E_{p_2}(s)$ is the energy of interaction of the polymers p_1, p_2 with the solvent,

$E_{p_1 p_2}(s)$ the energy of interaction between the two polymers and the solvent.

If the mixture is stable, $E_{p_2}(s) < E_{p_1 p_2}(s) > E_{p_1}(s)$ holds. When mixing

high-molecular compounds, the molecular packing is intensified, which fact
can be ascertained by determining the specific gravity of the components
and their mixture. To clarify these processes, the author considers it
necessary to study the influence of the polarity of the polymers, the in-
fluence of various side groups, and the chain flexibility. There are

Card 2/3

88534

The Problem of Compatibility of Polymers   S/190/60/002/010/001/026
                                             B004/B054

1 figure, 2 tables, and 9 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh
                materialov i iskusstvennoy kozhi
                (All-Union Scientific Research Institute of Film Materials
                and Artificial Leather)

SUBMITTED: November 9, 1959

Card 3/3

ALEKSEYENKO, V. I., Dr. Tech. Sci. (diss) "Work in Field of Tech-

nology of Artificial Leather and Pellicular Materials," Moscow,

1961, 35 pp (All-Un. Sc.Res.Inst. of Pellicular Materials and Ar-

tificial Leather "VNIIPIK") 250 copies (KL Supp 12-61, 260).

ALEKSEYENKO, Vladimir Iosifovich; KOLESNIKOV, Vladimir Nikitich;
      SAFRAY, Boris Aleksandrovich; KHROMOVA, Nina Sergeyevna;
      PAVLOV, S.A., prof., nauchnyy red.; KATS, A.S., inzh.,
      nauchnyy red.; GUSEVA, A.I., red.; BATYREVA, G.G., tekhn.
      red.

      [Design and planning of new and reorganized factories for
      artificial (rubber-type) leather] Proektirovanie novykh i
      rekonstruiruemykh predpriiatii iskusstvennoi kozhi (tipa
      reziny). Moskva, Izd-vo nauchno-tekhn.lit-ry RSFSR, 1961.
      102 p.   (MIRA 15:3)
                  (Rubber goods industry)

21140

S/191/61/000/004/001/009
B110/B208

IS 9200   2203, 1372

AUTHOR: Alekseyenko, V. I.

TITLE: Methods of preparing some combined polymers, and their
             properties

PERIODICAL: Plasticheskiye massy, no. 4, 1961, 3-6

TEXT: The mutual dissolution of polymers for the preparation of plastics
having certain properties is limited by the structure and properties of
the macromolecules. Additional polymers have frequently been introduced
for the cross-linking of the two original polymers. In some cases, the
polymers are not very well suited for copolymerization because of short
chain lengths and dense molecule packing. In this case, 1) the latices
or aqueous dispersions may be combined, dried and pressed; 2) the highly
disperse powders of the polymers may be combined and then pressed; 3) their
latices or dispersions may be combined with solutions of the polymers,
dried and pressed. The hydrophilic polymers permeable to moisture, which
are used for clothing and shoes, are prepared in the form of films and

Card 1/3

coatings of fine porous structure. The author tried to combine polyvinyl
alcohol and carboxyl-containing rubber (with 10% methacrylic acid) in two
ways: 1) Small portions of a 35% aqueous solution were incorporated into
the rubber, after which the mixture was cold-rolled up to dehydration and
formation of a transparent film, and then pressed at 140°C for 10 min.
2) A 16% aqueous polyvinyl alcohol solution was mixed with 18% latex. The
films dried at room temperature were then pressed at 140°C for 10 min.
According to the Table and Figs. 1 and 2, the second method yields plastics
with better mechanical properties (strength limit, relative elongation).
The second system shows the additive properties of the components; the
first shows a negative deviation from additivity, and gives lower strength.
In the case of 1), the maximum of the relative elongation at 25% PVC and
75% rubber is higher than the additive value. In the case of 2), the size
of links A with carboxyl-containing rubber which are determined by the
dimensions of the latex globules, remains constant. The size of links B
with polyvinyl alcohol molecules varies with their dosage in the mixture.
In 2), the rubber properties are therefore far more pronounced as compared
with the properties of polyvinyl alcohol than in 1). Hence, the values of
the relative elongation are higher in 2) than in 1), even at a low rubber

Card 2/3

Methods of preparing some combined...   S/191/61/000/004/001/009
                                          B110/B208

content. Capability of swelling separation of water are also better in 2)
since the polyvinyl alcohol is better distributed between the rubber
globules. Also combinations of polychloroprene rubber .1-3 (L-3) nairit
and polybutadiene-chlorovinylidene copolymer ДВХҌ-70 (DVKhB-70) were studied.
The strength limit on elongation was additive (Fig. 3, curve 1), whereas
the relative elongation (Fig. 4, curve 1) somewhat deviated from additivity.
In the latex method, maxima of strength limit and relative elongation were
observed at a nairit/copolymer ratio of 85:15 (Figs. 3 and 4), which results
in a screen-like nairit-copolymer structure. The following ratios were
examined under an electron microscope: 80:20; 60:40; 40:60; and 20:80.
The latex mixtures were first heated at $70 \pm 2^{\circ}C$ for 5 hr. Considerable
coalescence of the globules of both components was found at a nairit/co-
polymer ratio = 20:80 by a 7500-fold electron-microscopic magnification,
and at a ratio of 80:20 screen-like structure in which the globules of
nairit and copolymer participated. Coalescence was less then in the first
case. Structure and size of the links may thus be changed by a proper
choice of the ratios of latices. There are 8 figures, 1 table, and
1 Soviet-bloc reference.

Card 3/3

ALEKSEYENKO, V.I.

Ways for developing film materials and artificial leather.
Vest. AN SSSR 31 no.4:73-82 Ap '61.   (MIRA 14:4)
                        (Plastics)
                        (Leather, Artificial)

BARAMBOYM, Bikolay Konstantinovich, prof., doktor khim. nauk;
    SLONIMSKIY, G.L., prof., doktor khim. nauk, retsenzent;
    ALEKSEYENKO, V.I., kand. tekhn.nauk, retsenzent; MINAYEVA,
    T.M., red.; SHAPENKOVA, T.A., tekhn. red.

[Mechanochemistry of polymers; chemistry of mechanical proces-
ses involved in the treatment of high polymers] Mekhanokhimiia
polimerov; khimiia mekhanicheskikh protsessov pererabotki vy-
sokopolimerov. Moskva, Izd-vo nauchno-tekhn. lit-ry RSFSR,
1961. 250 p.   (MIRA 15:2)
                    (Polymers)

KHOROSHAYA, Ye.S.; KOVRIGINA, G.I.; ALEKSEYENKO, V.I.

New rapid method for determining the specific gravity of film
materials. Plast.massy no.10:60-62 '61.   (MIRA 15:1)
               (Films (Chemistry)) (Specific gravity)

15.9300   2209

33283
S/191/62/000/002/001/008
B110/B101

AUTHOR: Alekseyenko, V. I.

TITLE: Swelling of combined polymers in low-molecular solvents

PERIODICAL: Plasticheskiye massy, no. 2, 1962, 5 - 10

TEXT: In a two-component system with complex formation, the degree of swelling depends on the amount of the complex-bound solvent: $E_{123} > E_{12}$, where E_{123} is the energy of linkage among the molecules of polymers I and II and the solvent, E_{12} is the energy of linkage among I and II molecules. For polymers with limited mutual solubility there exist optimum, quantitative ratios decisive for the specific properties of the system. Deviation from the optimum ratio with optimum mechanical properties causes the formation of a complex system composed of a portion combined to a limited extent, and a disperse excess of one of the polymers. The author found (Vysokomol. soyed., No. 10 (1960)) minimum swelling to occur with an optimum ratio. The mixture of solutions separates into layers owing

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33283
Swelling of combined polymers...   S/191/62/000/002/001/008
                                          B110/B101

to a decrease in solubility of the combined system in the initial solvent.
Swelling of polyvinyl chloride (PVC) + C$_4$H-18 (SKN-18) rubber (I),
PVC + C$_4$H-26 (SKN-26) (II), and PVC + C$_4$H-40 (SKN-40) (III) systems was
determined with MacBain's spring balance ($\sim$10 g addition, $\sim$200 ml of
dichloro ethane). The curves obtained showed a steep rise at a 90% PVC
content. With (II) and (III) points of inflection occur at a rubber
content of 60 and 50% which vanish after some period of swelling. The
dependence of residual elongation of PVC films on the butadiene nitrile
rubber content showed a curve similar to that of rupture elongation. The
curve first rises, then drops sharply at a rubber content of 45 - 50%, and
rises again. The optimum point of inflection shifts toward PVC as the
content of nitrile groups increases. Minimum swelling corresponds to a
maximum residual elongation. This proves an increasing combination of
initial polymers and the existence of dispersion or polar bonds. Swelling
curves of nitrocellulose (NC) + SKN-18 (IV), NC + SKN-26 (V) have points
of inflection at 50% NC, curves of NC + SKN-40 (VI) obtained for 2 and
4 hr swelling are S-shaped, those obtained for a longer swelling time are
straight. Minimum swelling corresponds to maximum strength and elongation
limit. The binding strength increases due to dipole moments and decrease
Card 2/3

Swelling of combined polymers...

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B110/B101

in intermolecular distance. Closest molecular packing is reached only with optimum component ratios. Swelling is affected by the acrylonitrile content in rubber. There exists a given amount of polarity in polymer combination. Sharp bends in the swelling curves of (II), (IV), and (V) prove the combination ability to be high at given component ratios, slightly S-shaped curves of (VI) and (III) show an increase in linkage energy. Greater linearity with increasing swelling time indicates the existence of a binding strength in the region of polar bonds with constant dipoles (6 - 10 kcal/mole). The author thanks B. V. Shtarkh for experimental assistance. V. A. Kargin (ZhFKh, $\underline{30}$, 1952 (1956)) is mentioned. There are 11 figures, 1 table, and 4 Soviet references.

Card 3/3

ALEKSEYENKO, V.I.; Prinimal uchastiye: SHTARKH, B.V.

Swelling of compatible polymers in low molecular weight solvents.
Plast.massy   no.2:5-10 '62.
                (Polymers)   (Solvents)   (MIRA 15:2)

ALEKSEYENKO, V.I.; CHEKRIZOVA, A.P.; MISHUSTIN, I.G.; ZAVEL'GEL'SKIY, L.M.;
       L'VOVA, L.V.; SHEYDIRA, T.Z.; KREKSHINA, G.L.

New quick-setting adhesive for gluing soles. Kozh.-obuv.prom.
4 no.3:18-20 Mr '62.   (MIRA 15:5)
                        (Adhesives)
                     (Shoe manufacture)

KHOROSHAYA, Ye.S.; KOVRIGINA, G.I.; ALEKSEYENKO, V.I.

Rapid method for determining the specific gravity of film materials.
Zav.lab. 28 no.2:205 '62.
(MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut plenochnykh materialov i iskusstvennoy khozhi.
(Films (Chemistry))   (Specific gravity)

ALEKSEYENKO, V.I., doktor tekhn.nauk; PUSHKIN, P.S., kand.tekhn.nauk

Development of the artificial leather and plastic film materials
industry. Kozh.-obuv.prom. 5 no.5:1-4 My '63.   (MIRA 16:5)
    (Leather, Artificial)   (Plastic films)

ALEKSEYENKO, V.I., doktor tekhn.nauk

Aging of compatible polymer systems. Kozh.-obuv.prom. 5 no.4:
11-15 Ap '63.
        (Polymers) (Rubber, Synthetic)   (MIRA 16:5)

KORMUSHKIN, K.A.; ZAYONCHKOVSKIY, A.D.; ALEKSEYENKO, V.I.;
BERNSHTEYN, M.Kh.; YABKO, Ya.M.; KITAYEV, L.P.; YELPIDIN, N.F.;
KIRIYENKO, N.V.

Use of low-pressure polyethylene for the manufacture of sole
parts. Kozh. obuv. prom. 5 no.7:26-29 Jl '63.
                                                    (MIRA 16:8)
          (Boots and shoes, Rubber)

ALEKSEYENKO, V.I., doktor tekhn.nauk; MISHUSTIN, I.U., kand.tekhn.nauk

Viscoelastic properties of compatible polymer systems. Kozh.-obuv.
prom. 6 no.11:14-18 N '64.
(MIRA 18:4)

ALEKSEYENKO, V.I., doktor tekhn. nauk

Basic trends in the development of artificial leather for
footwear. Kozh.-obuv. prom. 7 no.4:13-16 Ap '65.

(MIRA 18:6)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta
plenochnykh materialov i iskusstvennoy kozhi.

KAZAKOVA, I.I.; ALEKSEYENKO, V.I., doktor tekhn.nauk; MISHUSTIN, I.U., kand. tekhn.nauk; KUZNETSOVA, T.A.

Processing of polymers into film materials. Zhur. VKHO 10 no.2:160-164 '65.
(MIRA 18:6)

ALEKSEYENKO, V.I.; NIKIFOROVA, A.P.

Some characteristics of the new synthetic rubber. Kozh.-obuv.
prom. 7 no.7:16-20 Jl '65.

(MIRA 18:8)

ALEKSASHINA, A.A.

Use of ACTH in the treatment of acute exudative pleurisy and pneumopleurisy of tuberculous origin [with summary in French]. Probl.tub. 35 no.3:34-37 '57.

(MIRA 10:10)

1. Iz TSentral'noy klinicheskoy bol'nitsy imeni Semashko (nach. V.A.Akopov) Ministerstva putey soobshcheniya i kafedry tuberkuleza TSentral'nogo instituta usovershenstvovaniya vrachey (zav. kafedroy - prof. A.E.Rabukhin)
    (ACTH, therapeutic use,
        tuberc. exudative pleurizy & pneumopleurisy (Rus))
    (TUBERCULOSIS, PULMONARY, therapy,
        ACTH in exudative pleurisy & pneumopleurisy (Rus))

L 3797-66   EWT(1)   GW

ACCESSION NR: AT5023298   UR/2547/65/000/157/0058/0065

AUTHOR: Yurkina, M. I. ; Aleksashina, G. A.

TITLE: The estimate using an Earth's model of individual correction terms for the perturbation potential expansion coefficients in Stockes approximation

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut geodezii, aeros"yemki i kartografii. Trudy, no. 157, 1965. Issledovaniya po geodezicheskoy gravimetrii (Research on geodetic gravimetry), 58-65

TOPIC TAGS: geologic survey, Earth planet, measurement

ABSTRACT: During an expansion into spherical harmonics of perturbing potentials, the coefficient q_m of the Legendre polynomial P_m has the form

$$q_m = \frac{R\dot{\rho}_m}{m-1} + \frac{2-m}{4\pi R^2}\int T_e Q_m \, \text{tg}^2 a \, d\sigma + \frac{1}{4\pi R}\int (g-\gamma) Q_m \, \text{tg}^2 a \, d\sigma -$$
$$- \frac{1}{2\pi R^2}\int T_e \frac{\partial h}{R \partial \vartheta} \frac{\partial Q_m}{\partial \vartheta} d\sigma - \frac{1}{2\pi R^2}\int T_e \frac{\partial h}{R \sin\vartheta \partial \lambda} \frac{\partial Q_m}{\sin\vartheta \partial \lambda} d\sigma -$$

Card 1/3

UDC: 528.21

L 3797-66

ACCENSION NR: AT 5023298

$$-\frac{1}{4\pi R}\sum T_c Q_m J - \frac{1}{4\pi R^2}\int T_c Q_m \frac{\partial h}{R \partial \theta}\,ctg\,\theta\,d\sigma.$$

Here ϑ - polar angle, λ - longitude, p_m - the respective expansion coefficient of the $(g - \gamma)$ gravitational anomaly, R - average radius of the Earth, T_c - Stockes approximation of the perturbing potential, α - angle of inclination of the element of the physical surface of the Earth the projection of which on the reference sphere δ is equal to $d\varepsilon$, h - normal altitude,

$$J = R^2 \lim_{\Delta\sigma\to 0}\int \Delta_2 h \sin\theta\,d\theta\,d\lambda,$$

where $\Delta 2$ - projection on the reference sphere of an arbitrary curvature of the edge obtained by cutting the plane representing the Earth's surface, and Δ_{2h} - the Mologenskiy operator. The authors investigated the 2nd, 8th, and 16th order terms of this expansion on a model consisting of a spherical Earth and a mountain range girding it. Heights of the vertical section of this range were assumed equal to those taken from hypsometric maps of Tibet, the Himalayas, and the Caucasus. The surface of the range was put approximately equal to the combined area of all the Earth's mountain regions. The paper presents the determination of the influence of the mountain ridge on the q_m's and gives an estimate of the accuracy of the computations as a function of magnitude of the elementary intervals of numerical integrations (the accuracy

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L 3797-66

ACCESSION NR: AT5023298

diminishes noticeably with the increase in the elementary areas used). Results are summarized in the form of tables. Orig. art. has: 7 formulas, 3 figures, and 2 tables.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut geodezii, aeros"yemki i kartografii, Moscow (Central Scientific-Research Institute of Geodesy, Aerial Photographic Survey and Cartography)

44,55

SUBMITTED: 00   ENCL: 00   SUB.CODE: ES

NO REF SOV: 000   OTHER: 000

Card 3/3

ALEKSASHINA, G.A.

YURKINA, M.I.; ALEKSASHINA, G.A.

Use of a model of the earth in correcting the individual correcting members to the Stokes approximation for the coefficients of determination of the disturbing potential. Trudy TSNIIGAiK no.157:58-65 '65.

Estimation of the mean square tilt in some regions of a mountain area. Ibid.:66-73

(MIRA 18:10)

ALEKSASHINA,K.S.

Pokrovshchina site (Pushkari 7). Uch.zap.Mosk.un. no.158:133-144 '52.
(MIRA 8:8)
(Pushkari--Stone implements)

ALEKSASHINA, M.I.

Placenta previa. Vop.okh.mat. i det. 3 no.1:50-52 Ja-F '58.
(MIRA 11:2)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.B.
Gillerson) Omskogo gosudarstvennogo meditsinskogo instituta
imeni M.I.Kalinina.
(LABOR, COMPLICATED)

ALEKSASHINA, M.I.

Placenta praevia and premature separation of the placenta.
Vop. okh. mat. i det. 6 no.10:54-58 O '61.   (MIRA 14:11)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.B.Gillerson)
Omskogo gosudarstvennogo meditsinskogo instituta imeni M.I.Kalinina.
        (LABOR, COMPLICATED)   (PLACENTA--DISEASES)

ALEKSASHINA, V.V., arkhitektor

Planning urban industrial districts in the U.S.A. Prom.
stroi. 41 no.5:45-48 My '64.   (MIRA 18:11)

ALEKSASHINA, V.V.

    Planning city industrial zones in England. Prom.stroi. 43
no.12:42-45 '65.

                                       (MIRA 18:12)

L 11551-66   EWT(1)/EWT(m)/EEC(k)-2/T/EWP(t)/EWP(b)/EWA(h)   IJP(c)   JD

ACC NR: AP6005026   SOURCE CODE: UR/0105/65/000/001/0042/0048

AUTHOR: Aleksashkin, A. A.; Bykov, Ye. I.; Zemlyanaya, Ye. A.; Krotov, L. B.;
Kurtsina, Z. T.; Poselenov, L. B.; Sakovich, A. A.; Yuditskiy, S. B.

ORG: none

TITLE: New semiconductor rectifiers for the rectifier substations of subways

SOURCE: Elektrichestvo, no. 1, 1965, 42-48

TOPIC TAGS: semiconductor rectifier, electric engineering, electric substation
equipment

ABSTRACT: Computations are presented to prove the feasibility and economy
of replacing the six IVS-500/2 type sealed mercury-arc rectifiers with
stacks of VK-200/4A type silicon rectifier cells (average current 200 amp;
operating peak inverse voltage [PIV] 400 v; rated PIV 600 v) in the recti-
fier substations that supply 825 volts d-c for subway traction. The com-
puted six-phase rectifier unit has six parallel branches per phase, with
six series-connected cells per branch. The number of parallel branches
is computed on the basis of peak load and surge current, taking the cir-
cuit-breaker interrupting time into consideration. The number of series-
connected cells is computed on the basis of the PIV's, with allowances
for variations in the supply voltage. The overall efficiency of the recti-
fier unit is 98.9 percent. It is assembled from modular stacks (12 cells
and one fan per module) and fits into two cabinets 800 by 600 by 2000 mm.
Although at present silicon rectifiers are more expensive than mercury-arc

Card 1/2   27

UDC: 621.314.632.4:621.311.44:625.42

L 11551-66

ACC NR: AP6005026

rectifiers (due to the high cost of single-crystal silicon and the low level of automation), conversion of subway substations to such rectifiers pays for itself in five to six years, and the economy of building new rectifier substations of this type is even greater. Orig. art. has: 4 figures, 23 formulas, and 1 table. /JPRS/

SUB CODE: 09 / SUBM DATE: 08Jun64 / ORIG REF: 002

HW

Card 2/2

ALEKSASHKIN, A. V.

ALEKSASHKIN, A. V.: "Analytic methods of calculating transitory proces-
ses in DC electric motors with independent excitation.# Min Higher
Education USSR. All*Union Correspondence Polytechnic Inst. Moscow, 1956
(Dissertation for the degree of Candidate in Sciences)

SO: Knizhnaya Letopis', No 36, 1956, Moscow.

8 (5)   SOV/112-57-5-10303

Translation from: Referativnyy zhurnal.· Elektrotekhnika, 1957, Nr 5, p 104 (USSR)

AUTHOR: Aleksashkin, A. V.

TITLE: On the Problem of Calculating Transients in a Field-Controlled DC Motor
    (K voprosu o raschete perekhodnykh protsessov v dvigatele postoyannogo toka
    pri upravlenii vozbuzhdeniyem)

PERIODICAL: Sb. statey Vses. zaoch. politekhn. in-ta, 1956, Nr 14, pp 63-79

ABSTRACT: Bibliographic entry.

Card 1/1

HLEKSASHKIN, HV

105-58-4-11/37

AUTHOR: Aleksashkin, A. V., Candidate of Technical Sciences (Moscow)

TITLE: Using Chaplygin's Method for the Calculation of Transient Processes in a Motor-Generator System (Primeneniye metoda Chaplygina k'raschetu perekhodnykh protsessov v sisteme generator - dvigatel')

PERIODICAL: Elektrichestvo, 1958, Nr 4, pp. 51 - 52 (USSR)

ABSTRACT: The increase of the velocity of a d.c. motor with independent excitation by a sudden change of the resistance in the generator exciter winding for the case of a static ventilator moment is investigated. When solving such a problem a differential equation is obtained for the behavior of the plant. This equation (3) is linear of first order and in its final form can not be integrated. Only approximation methods can be applied here and such a method by S. A. Chaplygin (Ref 1) is used. By means of this method not only one approximated solution of the differential equation can be found but it can also be determined inhowfar the posed problem could be
Card 1/2   satisfactorily solved. In the present case it was shown that

Using Chaplygin's Method for the Calculation of Transient Processes in a
Motor-Generator System

105-5C-4-11/37

        the real velocity is located between the first and second
approximation. Concluding the author states that based on the
theory of the solutions of differential equations rather
simple formulae of calculation were obtained. There are 1
figure and 1 **Soviet reference**.

SUBMITTED: February 4, 1957

AVAILABLE: Library of Congress

    1. Motor generators-Transients-Theory

Card 2/2

ALEKSASHKIN, Aleksandr Vladimirovich; BAKHSHIYAN, F.A., prof., doktor
fiziko-matem.nauk, red.; ARTEMOVA, T.I., red.izd-va; SAGITULLINA,
R.I., tekhn.red.

[Double integral and change of the order of integration; lecture No.1]
Dvoinoi integral i izmenenie poriadka integrirovaniia; lektsiia
pervaia. Pod red. F.A.Bakhshiiana. Moskva, Vses.zaochnyi politekhn.
in-t, 1959. 19 p.   (MIRA 14:1)
                         (Integrals)

S/196/61/000/012/022/029
E194/E155

AUTHOR: Aleksashkin, A.V.

TITLE: Calculation of transient processes in a
           generator-motor system

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
            no.12, 1961, 10-11, abstract 12K 74. (Sb. statey
            Vses. zaochn. politekhn. in-ta, no.24, 1960, 11-15)

TEXT: The article describes the use of Chaplygin's
method to solve the differential equation of the transient
process of starting a d.c. motor in a generator-motor system;
the process is considered from the instant at which the armature
commences to move. It is assumed that the motor is started by
switching on the generator field circuit whilst maintaining the
motor field constant, a static fan torque being applied to the
motor shaft. The calculation makes no allowance for the
electromagnetic time constant of the armature circuit. The fan
equation for the running speed, which is not integrated in
finite form, is solved by Chaplygin's method which gives not

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Calculation of transient processes... S/196/61/000/012/022/029
                                        E194/E155

only the necessary approximate speed but also permits the speed
to be related to the true integral of the initial equation.
It is found that the true speed of the motor lies between the
first and second approximations. In a particular case this
latter differed from the true speed by not more than 11%.
2 literature references.

[Abstractor's note: Complete translation.]

Card 2/2

ALEKSASHKIN, A.V.; BAKHSHIYAN, F.A., doktor fiz.-matem. nauk, prof.,
     red.; TAL'SKIY, D.A., red.; YEZHOVA, L.L., tekhn. red.

[Application of double integrals]Prilozhenie dvoinogo integ-
rala. Lektsiia vtoraia. Pod red.F.A.Bakhshiiana. Moskva, Gos.
izd-vo "Vysshaia shkola," 1960. 26 p.   (MIRA 16:3)
                    (Integrals, Multiple)

ALEKSASHKIN, V.

Subject   : USSR/Aeronautics

AID P - 2437

Card 1/1   Pub. 135 - 3/19

Author   : Aleksashkin, V., Lt. Col.

Title   : Bombing from higher altitudes and from the stratosphere

Periodical : Vest. vozd. flota, 8, 14-18, Ag 1955

Abstract   : The author gives a general description of the special
features of bombing from high altitudes and from the
stratosphere. In particular, he explains the behaviour
of the aircraft, the trajectory and speed of the bombs,
and atmospheric conditions at high altitudes. He gives
some suggestions about flying and training, gives
examples of well coordinated flights, and cities some
data. Some names are mentioned.

Institution: None

Submitted : No date

GOFMAN, I.L.; ZOTOVA, K.S.; ALEKSASHINA, L.M.; Prinimali uchastiye: VINNIK,
M.M.; LYSENKO, M.G.; BAKARINOVA, N.M.; NIKITINA, N.A.

Preparation of a tetrasodium pyrophosphate decahydrate food product
based on phosphoric acid obtained by the extraction method. Khim.-
prom. no.9:630-632 S '62.   (MIRA 15:11)

1. Nauchno-issledovatel'skiy institut po udobreniyam i insekto-
fungisidam imeni Samoylova i Opytnyy zavod Nauchno-issledovatel'skogo
instituta po udobreniyam i insektofungisidam imeni Samoylova.
            (Phosphoric acid) (Sodium pyrophosphate)

ALEKSAT, N.K.; DOMBROVSKIY, N.G., laureat Stalinskoy premii, pro-
fessor, doktor tekhnicheskikh nauk.

[Single-bucket excavator operator] Mashinist odnokovshovogo
ekskavatora. 2., perer.i dop. izd. Pod red. N.G.Dombrovskogo.
Moskva, Trudrezervizdat, 1953. 335 p.   (MLRA 7:2)
                                        (Excavating machinery)

ALEKSAT, Nikolay Karlovich [deceased], inzh.; BILINSKIY, M.Ya., red.; RAKOV,
S.I., tekhn. red.

[Repair of the E-505 power shovel] Remont ekskavatora E-505.
Moskva, Vses. uchebno-pedagog. izd-vo Trudrezervizdat, 1958.
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                        (Shoveling machines)

SUROVOY, Yu.N.; ALEKSAYEV, V.I.; SHVARTSMAN, L.A.

Thermodynamics of complex carbides $(Fe_x Mo_y)_2 C$. Dokl. AN
SSSR 157 no.4:951-953 Ag '64   (MIRA 17:8)

1. Institut metallovedeniya i fiziki metallov TSentral'nogo
nauchno-issledovatel'skogo instituta chernoy metallurgii
im. I.P. Bardina. Predstavleno akademikom G.V. Kurdyumovym.

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Selelection of signals for the transmission of discrete information.
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1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva radio-
tekhniki i elektrosvyazi.

ALEKSEEV, IU.; GENCHEV, D., inzh.

Labor wages based on the piecework-bonus system at the Georgi
Damianov State Copper Combine, Pirdop. Trud tseni 5 no.2:
59-66 '63.

ACCESSION NR: AT5/X9144

AUTHOR· Alekseevski, N. E.; Kiryanov, A. P.; Samarskii, Yu. A.

TITLE: The anisotropy of the Mossbauer effect in β-tin crystals at 4.2K

Conference on Low Temperature Physics and Techniques   Prague

techniques of low temperatures

Publ. House of the Czechosl. Academy of Sciences

TOPIC TAGS: Mossbauer effect, anisotropy, Beta tin, single crystal, low temperature research

ABSTRACT: The purpose of the experiments was to reconcile the discrepancies observed in the sign of the anisotropy of the Mossbauer effect in different investigations. The resonance absorption was measured with equipment that made it possible

the inversion of the anisotropy was

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L 60300-65
ACCESSION NR: AT5009444

3

the Lamb-Mossbauer factor were 0.31 ± 0.06 at 80X and 0.42 ± 0.06 at 4.2K. "The authors thank P. L. Kapitsa for encouragement and Professor V. S. Shpinel' and his collaborators for assistance and valuable discussions." Orig. art. has: 3 figures, 4 formulas, and 1 table.

ASSOCIATION: Institute fizicheskikh problem AN SSSR (Institute of Physics Problems AN SSSR)

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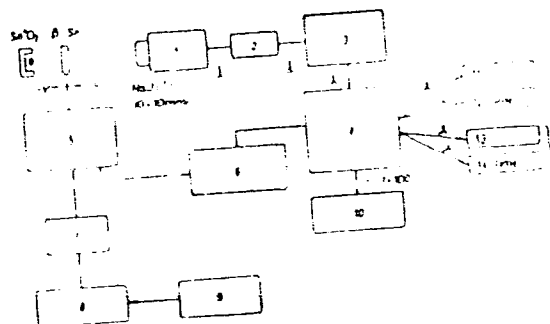OTHER: 002

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NR REF SOV: 004

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ACCESSION NR:

Fig. 1 Schematic diagram of experimental equipment:

NaI(Tl) scintillation counter 2 - cathode ... single-channel pulse-height analyzer 4 - electronic switch ... cam 6 - mechanical trigger relay 7 - electromotor 11040, 8 - power amplifier UM 50 A ... low-frequency ... 9 ... quartz low-frequency oscillator ...

Card 3/3

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Sugar – Analysis and Testing

Determination of total nitrogen of sugar products. Sakh. prom. 26 no. 2, 1952.

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PA 195T70

USSR/Radio - Receivers   Jul 51
                Production

"Radio - The Great Invention of Russian Science,"
G. V. Aleksenko, Minister of Communications
Equipment Ind

"Radio" No 7, pp 1-3

In 1950, 150% more radio receivers were produced
than in all the prewar years. Plan for construc-
tion of radio broadcasting stations was exceeded
by 39%. Industrial electronics continued to
develop in 1950, particularly the use of hf
currents for fusing metals, hardening tools and
parts, drying wood, etc.
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Aseembling and testing of high voltage tranformers   Moskva, Gosl energ. izd-vo, 1933. Mic 53-318)

Collation of the original: 166p.

Microfilm AC-97