ARZHAKOV, S.A.; RYLOV, Ye.Ye.; SHTARKMAN, B.P.

Pressure sintering of powdered polymers. Part 1: Regions where transparent specimens are obtained. Vysokom. soed. 1 no.9:1351-1356 S '59.
(MIRA 13:3)
(Polymers) (Methacrylic acid) (Acrylic acid)

ARZHAKOV, S.A.; RYLOV, Ye.Ye.; SHTARKMAN, B.P.

Pressure sintering of powdered polymers. Part 2: Regions of true compaction. Vysokom. soed. 1 no.9:1357-1360 S '59.

(MIRA 13:3)

(Polymers) (Methacrylic acid) (Acrylic acid)

ARZHAKOV, S.A; RYLOV, Ye.Ye.; SHTARKMAN, B.P.

Effect of pressure on the softening temperature of polymers.
Vysokom. soed. 1 no.9:1438 S '59.   (MIRA 13:3)
          (Polymers--Thermal properties)

15.8070

39576
S/020/62/145/003/010/013
B101/B144

AUTHORS: Arzhakov, S. A., Rylov, Ye. Ye., Slonimskiy, G. L., and
Shtarkman, B. P.

TITLE: The role of thermal destruction when molding polymethyl metha-
crylate powder into monolithic solids

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 3, 1962, 595 - 597

TEXT: The authors studied the conditions for the production of molded
specimens of polymethyl methacrylate (PMMA) powder which do not lose their
transparency when annealed at a temperature $30^\circ C$ above the vitrification
temperature. PMMA specimens were molded at a pressure of 50 kg/cm^2 and a
molding temperature (t_m) of 100 - 250$^\circ C$. At $t_m \sim 135^\circ C$, the transparency
decreased linearly after annealing, at $\sim 180^\circ C$, the specimen became opaque.
The molecular weight of PMMA decreased above $130^\circ C$ owing to thermal
destruction, then it reached a minimum in the viscous - liquid state at
$170\text{-}180^\circ C$ and increased again at $190\text{-}230^\circ C$ owing to easier recombination
of macroradicals. Above $230^\circ C$ decomposition of the macromolecules and :

Card 1/2

The role of thermal destruction ...   S/020/62/145/003/010/013
                                       B101/B144

formation of gaseous monomers set in. Between 130 and 190°C, transparency
decreases with the molecular weight. Conclusions: the loss in trans-
parency is a measure for the relaxation of the grains deformed by molding.
Relaxation is caused by separation of C-C bonds. Hence, increased molding
pressure or inhibitor addition (0.22% diphenyl picryl hydrazine) deceler-
ates the relaxation and impedes the production of transparent specimens.
Measurement of the decrease in specimen height during annealing showed that
the logarithm of the molding time depends linearly on the reciprocal
temperature at which the height becomes constant. The activation energy
(75 kcal/mole) thus calculated, is in good agreement with that of the C-C
bond. Perfectly molded specimens are obtained at temperatures and
pressures which guarantee complete relaxation. There are 4 figures.

PRESENTED: March 17, 1962, by V. A. Kargin, Academician

SUBMITTED: March 17, 1962

Card 2/2

ACCESSION NR: AP3001581   S/0191/63/000/006/0032/0037

AUTHOR: Lebedev, V. P.; Shtarkman, L. B.; Arzhakov, S. A.

TITLE: Some mechanical problems in the packing of powder polymers

SOURCE: Plasticheskiye massy, no. 6, 1963, 32-37

TOPIC TAGS: packing problems of powder polymers, porosity-pressure dependence, porosity-temperature dependence

ABSTRACT: The distribution of pressure during the compression of a number of powder polymers in the pressure interval from 0 to 5000 kg cm/square cm at room temperature has been investigated. It has been proven that the pressure during the compression of samples of powder polymers such as polyvinylchloride, polymethylmetacrylate, polyisobutyl and polyisoamylmetacrylate, is distributed according to the exponential law. It was shown that the relationship between the applied pressure and the pressure transmitted through the sample polymer is related to the properties of the compressed powder through a coefficient of particle friction on the walls of the press and through the applied weight and the angle of natural deflection. The porosity dependence of the polymers on the applied pressure in the intervals between 0 to 5000 kg cm/square cm was also studied. It was established that the pressure required for the attainment of density equal to the density of

Card   1/2

ACCESSION NR: AP3001581

the particles of powder material is characteristic for each individual polymer and does not depend on the shape, size or quantity of powder if the temperature is constant. With the increase of temperature, the magnitude of the characteristic pressure decreases. Comparison of this dependence with the lower pressure limit necessary to obtain transparent samples from polymethylmetacrylate powder has proven the point of view that the presence of those limits is stipulated by the narrowing of the particles during the compression of powder to the full limit of compression of the free volume between them. The uselessness of the existing experimental formula used previously in the description of the porosity dependence on the pressure has been indicated. A new empirical formula which satisfactorily corresponds with the experimental data has been proposed. Orig. art. has: 4 tables, 6 figures.

ASSOCIATION: none

SUBMITTED: 00   DATE ACQ: 01Jul63   ENCL: 00

SUB CODE: 00   NO REF SOV: 008   OTHER: 002

Card   2/2

L 15603-63   EWP(j)/EPF(c)/ENT(m)/BDS   ASD   Pc-4/Pr-4   RM/
WW/JW/MAT

ACCESSION NR: AP3004706   S/0190/63/005/008/1196/1200

AUTHORS: Arzhakov, S. A.; Ryvlov, Ye. Ye.; Slonimskiy, G. L.; Shtarkman, B. P.

TITLE: Peculiarities in the formation of monolithic solids under the effect of
pressure and temperature on polyacrylonitrile powder

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 5, no. 8, 1963, 1196-1200

TOPIC TAGS: monolithic solid, polyacrylonitrile, pressure, temperature, plastici-
zation of polymer

ABSTRACT: The present investigation was undertaken to study the formation of
transparent monolithic solids from polymeric substances with rigid chains and
vitrification temperatures near or above their decomposition margin. Polyacryl-
onitrile as such (or plasticized by vapors of dimethylformamide) was subjected
to various pressures at a temperature range of 50-200C. When the state of trans-
parency (estimated by visual means) had been reached, the corresponding pressure
and temperature were recorded and plotted as log P - T. It was found that trans-
parency in the solid state can be achieved at 140C, providing log P is 3.5, while
at atmospheric pressure polyacrylonitrile would decompose at 250C before any

Card 1/2

L 15603-63
ACCESSION NR: AP3004706

2

vitreous state had been reached. When subjected to compression at a temperature above 150C, powdered polyacrylonitrile loses its solubility in dimethylformamide, except when brought to a boil. An investigation of the properties of an acryl-onitrile—vinyl acetate copolymer at temperatures ranging from 110-250C and pressures of 160-1000 kg/cm^2 revealed the existence of a minimum in the similarly obtained curves, the temperature of which corresponds to the one at which the copolymer loses its solubility in dimethylformamide. Orig. art. has: 2 charts.

ASSOCIATION: none

SUBMITTED: 27Jan62   DATE ACQ: 28Aug63   ENCL: OO

SUB CODE: CH   NO REF SOV: OO4   OTHER: OO5

Card 2/2

ARZHAKOV, S.A.; RYLOV, Ye.Ye.; SLONIMSKIY, G.L.; SHTARKMAN, B.P.

Role of thermal degradation in the compression molding of
monolithic solids from powdered polymethyl methacrylate.
Vysokom. soed. 5 no.10:1513-1519 O '63.   (MIRA 17:1)

ARZHAKOV, S.A.; SLONIMSKIY, G.L.; SHTARKMAN, B.P.; KARGIN, V.A.

Temperature and pressure dependence of the specific volume
of polymers. Part 1: Polymethyl methacrylate. Vysokom. soed.
5 no.12:1854-1860 D '63.   (MIRA 17:1)

ACCESSION NR: AP4041780   S/0191/64/000/007/0029/0032

AUTHOR: Arzhakov, S. A.

TITLE: Effect of stress relaxation on the formation of a monolithic solid during pressing of polymethylmethacrylate powder

SOURCE: Plasticheskiye massy*, no. 7, 1964, 29-32

TOPIC TAGS: polymethylmethacrylate, molding, transparency, powder pressing, pressed plastic, transparent plastic, stress relaxation, monolithic plastic, pressing temperature

ABSTRACT: To confirm previous work in which the production of transparent plastic specimens was evaluated visually, the authors studied the transparency of 3-4x10 mm samples of pressed polymethylmethacrylate (mol. wt. of 300,000 and 500,000) in relation to pressing temperature (0-250C) using an IIT-15A photometer. Transparency curves show that products of maximum transparency can be obtained at temperatures lower than the range of true complete moldability. However, at these temperatures, no strong bond can be obtained between the particles. Above the glass temperature, the product remains opaque because of the presence of internal stresses. The formation of a true monolith shows that a considerable part of the internal stresses produced in the product by the pressure applied to the powder can be alleviated

Card   1/2

ACCESSION NR: AP4041780

duringpresssing. All the factors influencing the rate of stress relaxation play an important role in the formation of a true monolith from powdered polymethylmetha- crylate. Orig. art. has: 8 figures.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: OC, MT

ENCL: 00

NO REF SOV: 003

OTHER: 000

Card 2/2

ACCESSION NR: AP4043328   S/0191/64/000/008/0051/0054

AUTHOR: Arzhakov, S. A.; Razinskaya, I. N.

TITLE: Dependence of the thermomechanical curves on the conditions of production of monolithic samples from powdered polymers

SOURCE: Plasticheskiye massy*, no. 8, 1964, 51-54

TOPIC TAGS: polymer, powdered polymer, monolith, suspension polymerization, thermomechanics, polymethylmethacrylate, polyvinyl chloride, pressed polymer, polymer thermomechanical property, pressing, powdered polymer molding

ABSTRACT: The relationship between the thermomechanical properties of pressed polymers and the conditions of production of monolithic pieces from powdered polymer material was investigated using polymethylmethacrylate (mol. wt. 200,000), obtained by suspension polymerization, and polyvinyl chloride (PE-4) (10 mm in diameter, 3 mm in height). The molding process is described; 15 min. was required for cooling to a temperature 30-40C lower than the glass temperature. Thermomechanical curves were plotted with the thickness gauge IZV-1 at different temperatures and the same pressure (130 and 190C, 50 kg/cm^2), at the same temperature and different pressures (150C, 2500 and 187 kg/cm^2) and for the effect of molding conditions on the properties, in the region of trans-

Card   1/2

ACCESSION NR: AP4043328

parent and truly monolithic samples. It was found that the monomer formed during the molding of powdered polymethylmethacrylate decreases the glass temperature and the flow temperature because it plasticizes the polymer. For the correct determination of the flow temperature by means of thermomechanical curves, only true monolithic polymers are suitable. Since many new polymers are currently being produced in powder form, for which the transition temperatures must be determined, it is very desirable to develop methods for determining these temperatures on the initial polymer powders without converting them to monoliths. "The authors express their gratitude to Professor G. L. Slonimskiy for the evaluation of this work and the interest taken in it." Orig. art. has: 6 figures.

ASSOCIATION: None

SUBMITTED: 00   ENCL:00

SUB CODE: OC, MT   NO REF SOV: 008   OTHER: 000

Card   2/2

ACCESSION NR: AP4017636   S/0190/64/006/002/0253/0257

AUTHORS: Arzhakov, S. A.; Slonimskiy, G. L.; Arulin, V. I.

TITLE: The dependence of the specific volume of polymers on temperature and pressure. 2. Polymethylmethacrylate plasticized by dibutyl phthalate

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 2, 1964, 253-257

TOPIC TAGS: polymer, polymethylmethacrylate polymer, plasticizer, dibutyl phthalate, specific volume, pressure, critical pressure, heat expansion, vitrification, vitreous state, high-elasticity state

ABSTRACT: In an earlier publication by S. A. Arzhakov, G. L. Slonimskiy, B. P. Shtarkman, and V. A. Kargin (Vy*sokomolek. soyed., 5, 1854, 1963) it was shown that the vitrification temperature of polymethylmethacrylate (PMMC) registered a sharp rise at pressures above 1000 kg/cm^2. The present investigation studied what effect the plastification of PMMC with 5 and 20% of dibutylphthalate (DBP) would have on the specific volume of the polymer, as related to temperature and pressure. The heat expansion of the PMMC polymer, plasticized with 5% DBP, was recorded at constant pressures within a 50-5000 kg/cm^2 range at temperatures up to 350C, as presented in Fig. 1 on the Enclosure. As in the case with the nonplasticized PMMC

Card 1/3

ACCESSION NR: AP4017636

polymer, the V - T curve of the plasticized PMMC polymer shows a sharply defined bend between the two straight-lined sections, separating the glassy and the high elastic states. With increased pressure, the V - T curve shifts into a region of smaller specific volumes. Similar curves were also obtained with the PMMC polymer containing 20% DBP. A comparison with corresponding curves of the nonplasticized PMMC polymer revealed a lowering of the pressure above which the glass transition temperature sets in. This is explained by the fact that the plasticizer fills some of the free spaces within the polymer, which seem to be exhausted at a pressure of 2000 kg/cm^2. Orig. art. has: 6 charts.

ASSOCIATION: none

SUBMITTED: 29Nov62   DATE ACQ: 23Mar64   ENCL: 01

SUB CODE: CH   NO REF SOV: 002   OTHER: 001

Card 2/3

ACCESSION NR: AP4010760   S/0020/64/154/001/0181/0183

AUTHOR: Arzhakov, S. A.; Zaynullin, S. Z.; Shtarkman, B. P.

TITLE: Method of determining polymer transition temperatures by
powder deformation

SOURCE: AN SSSR. Doklady*, v. 154, no. 1, 1964, 181-183

TOPIC TAGS: polymer, polymer transition, polymer transition tempera-
ture, polymer transition temperature determination, polymer powder
deformation

ABSTRACT: A study of polymer transition temperatures by powder
deformation is especially important because it permits tracing
the powdered system over a wide temperature range, without converting
the polymer specimen to a monolithic state. A method is developed
for determining the polymer transition temperatures, with the spe-
cial feature that the thermomechanical curve is plotted by the defor-
mation of the polymer powder without making it into a block. The
apparatus used is shown in Fig. 1 of the Enclosure. The powder was

Card 1/3

ACCESSION NR: AP4010760

compressed at a pressure of 320 kg/cm^2, with subsequent reduction
in load to 40 kg/cm^2. The polymer is then heated at a rate of 1C
per minute with the deformation determined over a specific tempera-
ture interval by an indicator with 0.01-mm graduations. The ad-
vantage of the method is its high sensitivity in the determination
of the glass transition temperatures of crystalline polymers. "The
authors thank Academician V. A. Kargin and Professor G. L. Slonimskiy
for their interest in this study and for discussion of the results."
Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 30Jul63   DATE ACQ: 10Feb64   ENCL: 01

SUB CODE: OC, GC   NO REF SOV: 004   OTHER: 000

Card 2/3
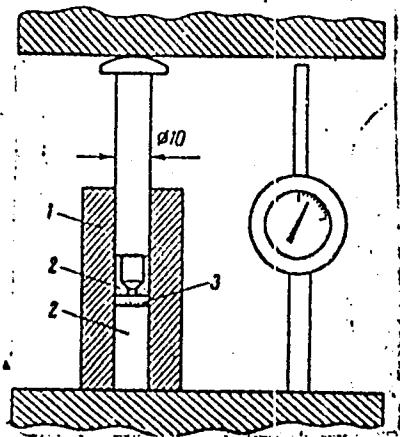
Fig. 1.   Design illustrating the
principle of the apparatus

1 - Die; 2 - plunger; 3 - point
of temperature change.

Card 3/3

BOKSHTEYN, S.Z.; KISHKIN, S.T.; NIKISHOV, A.S.; POLYAK, E.V.; SOLOV'YEVA, G.G.;
    Prinimali uchastiye: ARZHAKOV, V.M.; BULANOV, A.V.; VERTYUKOVA, L.G.;
    KORABLEVA; MIRSKIY, L.M.; PODVOYSKAYA, O.N.; SAZONOVA, T.N.;
    SOLONINA, O.P.; TITARENKO, I.I.; RINK, L.P.; KOZLOVA, M.N.;
    YERMOLOVA, M.I.; MOROZ, L.M.

    Aging of plastically deformed alloys. Metalloved. i term. obr.
    met. no.5:40-44 My '63.   (MIRA 16:5)
       (Heat-resistant alloys--Hardening) (Deformations (Mechanics))

ARKHANGEL'SKIY, Pav.P., agronom-entomolog

Loouuts are killed in Kazakhstan. Zashch. rast. ot vred. i bol.
2 no.6:17-20 N-D '57.   (MIRA 16:1)
                    (Kazakhstan--Locusts--Extermination)

/16,0

ARKHANGEL'SKIY, Pave., entomolog (Alma-Ata)

"Trudy" of the Kazakh Scientific Research Institute for Plant
Protection. Vol. 4. Reviewed by P. Arkhangel'skii. Zashch.
rast. ot vred. i bol. 5 no.10:55-56 O '60.

(MIRA 16:1)

(Kazakhstan—Plants, Protection of)

ARZHANIKH, N. G.

"Effect of Antipyrin on the Cardiovascular System." Cand Med Sci, Khar'kov
Medical Inst, Khar"kov, 1953. (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

KISLYAKOV, L.D.; BOCHAROV, V.A.; ARZHANNIKOV, G.I.

Flotation of pyrite with the use of smoke gases. TSvet. met.
36 no.4:22-26 Ap '63.   (MIRA 16:4)

(Flotation)   (Pyrites)

ARZHANIKH, N.G.; KRAVETS, N.P.

Electrocardiographic changes following the introduction of oxygen
into the gastrointestinal tract. Med.paraz.i paraz.bol. 33 no.4:
425-430 Jl-Ag '64.   (MIRA 18:3)

1. Kafedra obshchey terapii Stanislavskogo meditsinskogo instituta.

ARZHANIKOV, N.S.

K teorii pod''emnoj sily i lobovogo soprotivleniia prof. Vitoshinskogo.
Moskva, 1929. 13 p. (TSAGI. Trudy, no. 48)

Summary in English.

Title tr.: Prof. Witoszynski's theory of lift force and drag.

Cf. Witoszynski, Czeslaw; La mecanique des profils d'aviation.

QA911,M65 no.48

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955

ARZHANIKOV, N.S.

CHAPLYGIN, SERGEI ALEKSEEVICH, and N. S. ARZHANIKOV.

K voprosu o deformatsii truby, ogranichennoi dvumia ekstsentricheskimi tsilindrami i szhatoi postoiannym davlenien. (TSAGI. Trudy, 1933, no. 123, p. 13-25, diagrs.)

Summary in English.

Title tr.: Deformation of a tube bounded by two eccentric cylinders and subjected to a constant pressure.

QA911.M65 no. 123

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

АГ ВНА КН   НС,

PHASE I   TREASURE ISLAND BIBLIOGRAPHICAL REPORT   AID 203 - I

BOOK   Call No.: AF603637
  Author: ARZHANIKOV, N. S., and MAL'TSEV, V. N.
  Full Title: AERODYNAMICS
  Transliterated Title: Aerodinamika
Publishing Data
  Originating Agency: None
  Publishing House: State Publishing House of the Defense Industry
                     (Oborongiz)
     Date: 1952   No. pp.: 480   No. of copies: Not given
  Editorial Staff
     Editor: None   Tech. Ed.: None
     Editor-in-Chief: None   Appraisers: Professors
                                       Kamenkov, G. V., Martynov,
                                       A. K., Nuzhin, S. G.;
                                       Dotsents Putyata, V. I.,
                                       Lebedev, A. A.
     Others: Aspirants of the Moskva Aviation Institute Kotlyar, Ya. M.,
              Sadekova, G. S., and Orlov, R. A.
  Text Data
     Coverage: This is a textbook on theoretical aerodynamics. The first

1/12

Aerodinamika

two-thirds of the volume describes the basic ideas and conceptions of the hydro- and aerodynamics of incompressible fluids, the second part is dedicated to the aerodynamics of higher velocities (gasodynamics). Diagrams, graphs, photos, etc.

This is a well-compiled and up-to-date textbook on aerodynamics. It is most comparable to L. Prandtl's Essentials of Fluid Dynamics, 1952 or to M. Rauscher's Introduction to Aeronautical Dynamics, 1953, though it is shorter than either.

TABLE OF CONTENTS

2/12

Aerodinamika

dynamic pressure in a given point of a fluid;
Classification of forces acting in a fluid;
Independence of the hydrodynamic pressure in
a perfect fluid from direction.

3/12

Aerodinamika

Differential equation of movement of a perfect
fluid according to Euler, and according to
Gromeko; Initial and boundary conditions; In-
tegrals of differential equations of movement;
Limits of application of Bernoulli's equation
to air; Distribution of pressure outside and
inside a two-dimensional vortex.

4/12

5/12

Aerodinamika

AID 203 - I
PAGE

6/12

Aerodinamika

7/12

Aerodinamika

8/12

Aerodinamika

9/12

Aerodinamika

Aerodinamika

Ch. XIX Principles of Profile and Wing Theory in
          Supersonic Gas Flow
                                                    436 - 469
             Concept of a linearized supersonic flow
             of rarification and compression of gas
             along a firm boundary; Linearized theory
             of a supersonic flow around a flat plate;
             Linearized theory of a supersonic flow
             around a thin profile; More precise theories
             of a profile in supersonic flow; Precise
             solution of a problem concerning the flow at
             supersonic speed around a profile composed
             of straight sectors; Aerodynamic forces
             acting on a flat plate of infinite length
             sliding in a supersonic flow; Statement
             of the problem of a finite span wing in a
             supersonic flow; Rhomboidal flat wing.
          Literature   470 - 473
Purpose: Accepted by the Ministry of Higher Education of the USSR
          as a textbook for aviation universities. It may be
          useful also to engineering technical workers of aviation

11/12

Aerodinamika   AID 203

              plants and design bureaus.
  Facilities: Large number of Russian scientists mentioned in the text
No. of Russian and Slavic References: 17 prior to 1939, and 57 after
                                 this date
Available: A.I.D., Library of Congress.

                           12/12

ARZHANIKOV, N. S.

Call Nr: AF 1073605

AUTHOR: Arzhanikov, N. S., and Mal'tsev, V. N.

TITLE: Aerodynamics (Aerodinamika)

PUB. DATA: Oborongiz, Moscow, 1956, Second Edition, 484 pages,
               8,500 copies

ORIG. AGENCY: None

EDITOR: Kotlyar, Ya.M., Candidate of Technical Sciences;
               Managing Editor: Sokolov, A. I., Engineer; Editor of the
               Publishing House: Petrova, I. A.; Tech. Ed.: Gladkikh, N.N.
               Reviewers: Burago, G. F., Doctor of Technical Sciences,
               Professor, Votyakov, V. D., Candidate of Technical
               Sciences, Docent, and Shumyatskiy, B.Ya., Candidate of
               Technical Sciences.

PURPOSE: The book is approved by the Ministry of Higher Education
               as a textbook for students of advanced courses at aero-
               nautical engineering schools and can also be used by
               aircraft engineers and researchers. It is based on
               courses of lectures on Aero- and Gas Dynamics given at
               the Aircraft Construction Department of the Moscow
Card 1/4   Institute of Aviation.

Call Nr: Af 1073605

Aerodynamics (Cont.)

· COVERAGE: Several sections (IV, 5; V, 6 and 11, XII, 6, and XIII, 4) were not contained in the first edition.

Chapter IV: Principles of Hydrodynamics of a Perfect Fluid

Section 5:   Momentum equation for steady motion of a perfect fluid

Chapter V: Principles of Vortex Theory

Section 6:   Pressure distribution inside and outside a plane vortex

Section 11:   Proof of N.Ye. Zhukovskiy's theorem for an arbitrary two-dimensional contour

Chapter XII: Gas Dynamics

Section 6:   Speed of sound

Chapter XIII: System of Basic Differential Equations in Gas Dynamics

Section 3:   Limits of the application to air of Bernoulli's equation for incompressible fluids.

Card 2/4

Aerodynamics (Cont.)   Call Nr: AF 1073605

There are indications of some efficient methods for the solu-
tion of particular problems developed by USSR researchers.
These are: a) The method of S. G. Nuzhin for "construction of
the potential flow about an arbitrary airfoil", chapter VII,
section 10. For the same purpose, the methods of
Th. Theodorsen, Lighthill, and Goldstein are widely used in
the U.S.A; b) The method of L. G. Loytsyanskiy for "the de-
termination (calculation) of the laminar boundary layer for
curved surfaces", chapter X, section 8. This method is recom-
mended by the authors of this book as more accurate and easier
for computing purposes than that of Karman-Pohlhausen. It is
also applicable to the symmetrical flow about bodies of
revolution (fuselage, etc); c) The method of S. G. Nuzhin for
"solution of the integro-differential equation of an airfoil
of finite aspect ratio", chapter XI, section 9; d) The method
of S. G. Khristianovich for problems of airfoils and wings in
subsonic flows, chapter XVIII, section 4; e) The approximate
Card 3/4

Aerodynamics (Cont.)   Call Nr: AF 1073605

theory of the subsonic flow around arbitrary wing profiles by
G. F. Burago. This book contains very few numerical examples
but there is a considerable number of analytical (algebraic)
problems with solutions clarifying pertinent cases. The
number of references, all USSR, has been increased to 85.

AVAILABLE: Library of Congress

Card 4/4

ARZHANIKOV, N. S. Prof.

        "Utilize the Scientific Cadres of Higher Schools More Extensively," Vest.
Vysshey Shkoly, No.9, 1955.
        Main
Head,/Administration of Polytechnic and Machine Building Vuzes, Ministry of Higher Educ
ation USSR.

Translation W-31694, 16 Mar 56

LEBEDEV, A..A.;   TERENIN, A.N.;   ARZHANIKOV, N.S.;   BOGORODITSKIY, N.P.;
YERMOLIN, N.P.;   ODINTSOV, G.V.;   SOKOLOV, S.Ya.

Professor B.P. Kozyrev.   Elektrichestvo no.1:94 Ja '56.   (MLRA 9:3)
(Kozyrev, Boris Pavlovich)

HKZHHNIKCV, N. S.

SUBJECT: USSR/Lenin Awards   25-5-1/35

AUTHOR: Arzhanikov, N.S., Scientific Secretary to the Lenin Awards
Committee for Science and Engineering

TITLE: Lenin Awards (Leninskiye Premii)

PERIODICAL: Nauka i Zhisn' - May 1957, No 5, pp 1 - 2 (USSR)

ABSTRACT: The first Lenin awards were distributed in 1925, when in-
itiated by the Communist Party and the Soviet government to
encourage scientific work in the fields of science, engineer-
ing, agriculture, medicine, and social sciences. Also in 1957
these awards have been distributed after very careful examin-
ation of the scientific material to stress their importance
for the entire nation. So, for instance, the scientists who
built the first atomic electric power plant for industrial
purposes in the world got the Lenin award. Academician E.K.
Zavoyskiy earned his award for discovering and studying the
phenomena of paramagnetic resonance. Soviet biologist B.A.
Dogel' got this prize for his research work on protistology.
A whole group of geologists was distinguished for discovering
diamond deposits in West Yakutiya and another group of geo-

Card 1/2   logists got their award for finding the largest iron ore de-

TITLE: Lenin Awards (Leninskiye Premii)   25-5-1/35

posit in the USSR. Academician A.N. Tupolev earned his prize
for constructing the passenger turbo-jet plane "TU-104". An-
other prize was awarded a group of constructors who introduced
the full automatization of industrial processes for the mass
production of bearings. The Lenin prizes have proved to be
very inspiring to the workers of Soviet science and engineer-
ing.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE:

Card 2/2

Uchenyy   Sekretar' Komiteta
po Leninskim   premijan v oblasti nauki
i Tekhniki

KRASNOV, Nikolay Fedorovich; ARZHANIKOV, N.S., prof., retsenzent; SHUMYATSKIY,
B.Ya., kand. tekhn. nauk, retsenzent; KUZNETSOV, S.I., kand. tekhn.
nauk, retsenzent; KRASIL'NIKOV, S.D., inzh., red.; TUBYANSKAYA, F.G.,
izd-va red.; FUKHLIKOVA, N.A., tekhn. red.

[Aerodynamics of rotating bodies] Aerodinamika tel vrashcheniia.
Moskva, Gos. izd-vo obor. promyshl., 1958. 560 p.   (MIRA 11:10)
                    (Aerodynamics)

ARZHANIKOV, N.S.

AUTHOR: Arzhanikov, N.S., Professor   3-58-4-27/34

TITLE: The System of Engineering and Technical Education in England
(Sistema inzhenerno-tekhnicheskogo obrazovaniya v Anglii)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 4, pp 75 - 80 (USSR)

ABSTRACT:
The author presents a detailed report on higher technical
education in England which he visited with a delegation of
workers of Soviet special institutes.

AVAILABLE: Library of Congress

Card 1/1

S/124/62/000/001/001/046
D237/D304

AUTHOR: Arzhanikov, N. S.

TITLE: S. A. Chaplygin (on his 90th birthday)

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1962,
                 4, abstract 1A16 (V sb. Vopr. istorii yeste-
                 stvozn. i tekhn. no. 10. M., AN SSSR, 1960,
                 42-48)

TEXT: A short bibliographical note is given together with
the more important results of S. A. Chaplygin's work in analyti-
cal mechanics, rigid body dynamics, ballistics, applied mathe-
matics, hydrodynamics, and, in particular, problems in aerodyna-
mics and gas dynamics. The main achievements of Soviet scien-
tists, who developed and continued S. A. Chaplygin's researches
on various separate problems, are also discussed. /Abstracter's
note: Complete translation./

Card 1/1

ARZHANIKO'/, N.S.; SADEKOVA, G.S.; DUBASOV, V.T., retsenzent;
ABGARYAN, K.A., rotsenzent; PRATUSEVICH, G.M., red.;
GAVRILOVA, T.M., red.

[Supersonic flow about bodies of revolution] Obtekanie tel
vrashcheniia sverkhzvukovym potokom. Moskva, Mosk. avitatsi-
cnnyi in-t im. Sergo Ordhonikidze, 1962. 65 p. (MIRA 16:4)
                    (Aerodynamics, Supersonic)

ARZHANIKOV, N., prof.

Pride of our science and technology. NTO 5 no.6:21-24 Je '63.
(MIRA 16:9)
1. Uchenyy sekretar' Komiteta po Leninskim premiyam v oblasti nauki
i tekhniki pri Sovete Ministrov SSSR.

KRASNOV, Nikolay Fedorovich; ARZHANIKOV, N.S., prof., retsenzent;
KOTLYAR, Ya.M., dots., red.

[Aerodynamics of bodies of revolution] Aerodinamika tel
vrashcheniia. Izd.2., perer. i dop. Moskva, Mashinostro-
enie, 1964. 572 p.   (MIRA 17:10)

ACC NR: AM6005564   Monograph   UR /

Arzhanikov, Nikolay Sergeyevich; Sadekova, Galina Sadekovna

High speed aerodynamics (Aerodinamika bol'shikh skorostey) Moscow,
Izd-vo "Vysshaya shkola", 1965.   558 p. illus., biblio. Errata slip
inserted. 6000 copies printed. A textbook for students of higher
aviation schools and faculties.

TOPIC TAGS: aerodynamics, gas dynamics, hypersonic aerodynamics,
supersonic aerodynamics, magnetogasdynamics, boundary layer,
aerodynamic heating, rarefied gasdynamics, couette flow, free
molecular flow, aerodynamic lift, aerodynamic drag

PURPOSE AND COVERAGE: This book is intended for students of aero-
nautical engineering and similar specialties. It can also be used
as a textbook by scientific personnel of design bureaus and research
institutes. It is based on a lecture course on theoretical and
applied gas dynamics given at the Moscow Aviation Institute im.
Sergo Ordzhonikidze and provides a full-scale treatise of the
fundamentals of high-speed aerodynamics. It is divided in 14
Chapters. The first six chapters are concerned with theoretical

Card   1/4

ACC NR: AM6005564

aspects of subsonic and supersonic gas dynamics, and shock wave theory. The next two chapters deal with the wing profile theory in subsonic and supersonic flows and contain descriptions of Chaplygin's and Khristianovich's methods for investigating gas flows at high subsonic speeds. Chapter 9 is concerned with the theory of finite span wings in supersonic flows and gives methods for determining the aerodynamic properties of rectangular and delta wings. Chapter ten deals with the theory of supersonic flows over bodies of revolution at an angle of attack and with applications of the method of characteristics to determining velocity fields. Chapter eleven is concerned with the principles of hypersonic aerodynamics, its peculiarities, and the application of hypersonic similarity law. Chapter 12 deals with the problems of the boundary layer and aerodynamic heating at high speeds. Chapter thirteen is concerned with aerodynamics of rarefied gases, slip flow, and free-molecular flow. Chapter fourteen deals with the principles of magneto-gas dynamics, studies of charged particles motion and Couette flow. The authors express their thanks to reviewers: Professor N.F.Krasnov, Associate Professors V.N.Koshevoy and A. N. Danilov, also to Professor G. F. Burago for his valuable remarks and advice.

Card 2/4

ACC NR: AM6005564

TABLE OF CONTENTS [abridged]:

Card   3/4

ACC NR: AM6005564

SUB CODE: 20/ SUBM DATE: 02Jul65/ ORIG REF: 022/ OTHER REF: 007

Card 4/4

BOCHAROV, V.A.; KISLYAKOV, L.D.; ARZHANNIKOV, G.I.

Ways of improving the quality of concentrates during the dressing
of Ural copper-zinc ores. TSvet. met. 36 no.8:12-16 Ag '63.
(MIRA 16:9)

(Ural Mountains—Nonferrous metals)
(Ore dressing—Quality control)

KISLYAKOV, L.D.; BOCHAROV, V.A.; ARZHANNIKOV, G.I.

 Flotation practices of Ural mountain pyrites and ways of
 improving the qualitative indices of ore dressing. TSvet. met.
 37 no.6:11-14   Je '64.   (MIRA 17:9)

CURSKIY, P.A.; MERRO, Ye.M.; KHUTORYANSKIY, N.M.; ANISIMOV, N.M.;
ARZHANNIKOV, S.M.; KORENEVSKIY, M.V., inzh., retsenzent;
STETSENKO, Ye.G., kand. tekhn. nauk, retsenzent; SOBAKIN,
V.V., inzh., red.; VASIL'YEVA, N.N., tekhn. red.

[Experience in the organization of railroad laboratory for
the inspection and maintenance of measuring equipment]Opyt
organizatsii dorozhnoi kontrol'no-izmeritel'noi laboratorii.
Moskva, Transzheldorizdat, 1962. 167 p.   (MIRA 16:1)
        (Railroads—Equipment and supplies)
        (Moscow—Testing laboratories)

ARZHAFNIKOV, Ye.P.; LAKN., A.A.

Optimal characteristics of low-frequency filters. Radiotekh-
nika 20 no.10:21-30 O '65.   (MIRA 18:11)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva
radiotekhniki i elektrosvyazi.

ARZHANOV, A.S.

Calibration of the International Temperature Scale by Means of Thermo-couples of Platinum and Platinum-Rhodium. V. N. Bozhovskii and A. S. Arzhanov. (*Vsesoyuznii Nauch.-Issledovatel. Inst. Metrol. i Standartizatsii,* 1933, (188), 3-11 (in French), 29-33 (in Russian); *C. Abs.,* 1935, 29, 4641).— A comparison over the range 300°-1300° C. of the International Temperature Scale as determined by the melting points of gold, silver, and antimony, with a scale determined by the melting points of zinc, antimony, and copper. —S. G.
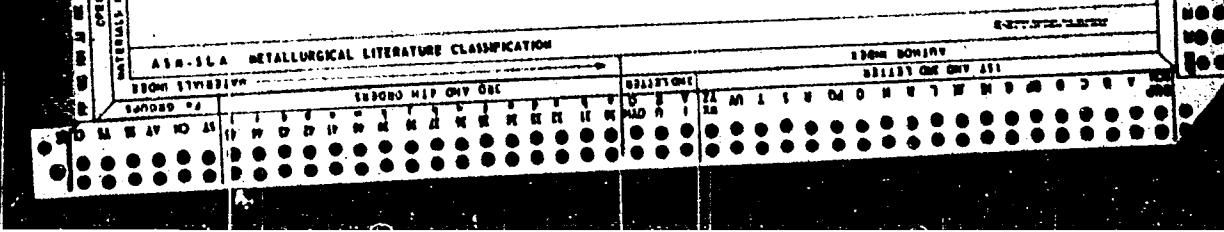
GORDOV, A.N.; ARZHANOV, A.S.; DIYKOV, U.V.

New determination of the solidification temperature of pure
gold. Dokl.AN SSSR 133 no.4:811-812 Ag '60.

(MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii
imeni D.I.Mendeleyeva. Predstavleno akademikom A.A.Lebedevym.
(Gold)

S/081/61/000/010/001/029
B117/B207

AUTHORS: Arzhanov, A. S., Gordov, A. N., Diykov, U. V.

TITLE: New methods of determining the solidification temperature of
                pure gold

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1961, 50, abstract
                10B342 (10B342). ("Tr. in-tov Kom-ta standartov, mer i
                izmerit. priborov pri Sov. Min. SSSR", no. 49 (109), 1960,
                5-12)

TEXT: This paper presents results obtained when determining the thermo-
dynamic solidification temperature of pure gold by means of a nitrogen-gas
thermometer of constant volume. Test results of the newly constructed gas
thermometer and the pressure coefficient of the operation gas are given.
The solidification temperature of gold was found to be 1064.5° ± 0.2° C.
[Abstracter's note: Complete translation.]

Card 1/1

ARZHANOV, D.

N/5
771.211
.A7

Sbornik uprazhneniy po kursu "Nalogi I Sbory S Kolkhozov I Naseleniya"
(Collection Of Exercises For The Course On "Taxes And Duties Collected
From Collective Farms And Individuals". By) D. Arzhanov i G. Tsalkin.
Moskva, Gosfinizdat, 1954.

106 p. tables.

ARZHANOV, Feliks Grigor'yevich; MIKHEYEV, N.I., red.; DURASOVA,
V.M., tekhn. red.

[Completing injection wells and increasing their intake
capacity; practices of the Oil Field Administration of the
Pervomayskiy Petroleum Trust] Osvoenie i uvelichenie prie-
mistosti nagnetatel'nykh skvazhin; iz opyta neftepromyslo-
vogo upravleniia "Pervomaineft'." Kuibyshev, Kuibyshevskoe
knizhnoe izd-vo, 1963. 36 p.   (MIRA 17:1)

81384

S/020/60/132/06/01/068
C 111/C 222

AUTHOR: Arzhanov, G.Y.

TITLE: Nonlinear Riemannian Type Boundary Value Problem

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 6, pp.1227-1230

TEXT: Let the simple smooth closed curve L divide the z-plane into the domains D^+ and D^- (external domain). The author seeks the functions $\phi^+(z)$ and $\phi^-(z)$ analytic in D^+ and D^- respectively, which on L satisfy the relation

(1) $\left[\phi^+(t)\right]^n = G(t) \phi^-(t) + g(t)$,

where $G(t)$ and $g(t)$ on L satisfy the Hölder condition, $G(t) \neq 0$, $n \geqslant 2$ and integral. By the substitution

(2) $\phi_1^+(z) = \left[\phi^+(z)\right]^n$, $\phi_1^-(z) = \phi^-(z)$

the nonlinear problem is reduced to the linear Riemannian boundary value

problem. In order that $\varphi^+(z) = \sqrt[n]{\phi_1^+(z)}$, $\varphi^-(z) = \phi_1^-(z)$ is a
Card 1/3

81384

Nonlinear Riemannian Type Boundary Value
Problem

S/020/60/132/06/01/068
C111/C222

solution of (1) it is necessary and sufficient that $\sqrt[n]{\phi_1^+(z)}$ has no ramification points in D^+. It is shown that the problem is always solvable for $\varkappa = \mathrm{ind}\ G(t) \geqslant 0$, namely it is

$$(5)\quad \phi^+(z) = e^{\frac{1}{n}\Gamma^+(z)}\sqrt[n]{P_{\varkappa}(z) + F^+(z)},\quad \phi^-(z) = e^{\Gamma^-(z)}z^{-\varkappa}\left[P_{\varkappa}(z) + F^-(z)\right] ,$$

where $\Gamma(z) = \dfrac{1}{2\pi i}\displaystyle\int_L \dfrac{\ln\left[t^{-\varkappa}G(t)\right]}{t - z}\,dt$, $F(z) = \dfrac{1}{2\pi i}\displaystyle\int_L \dfrac{g(t)\,e^{-\Gamma^+(t)}}{t - z}\,dt$,

$P_{\varkappa}(z) = c_0 z^{\varkappa} + c_1 z^{\varkappa - 1} + \ldots + c_{\varkappa}$, c_i - complex constants. For $\varkappa \leqslant -1$
(1) is not solvable with $g(t) = 0$; if $g(t) \neq 0$, then the problem is

solvable only if 1) $\displaystyle\int_L g(t)\,e^{-\Gamma^+(t)}t^{m-1}\,dt = 0$, $m = 1, \ldots, -\varkappa - 1$ and

2) $\sqrt[n]{F^+(z)}$ contains no ramification points in D^+ ; then the solution is
Card 2/3

$\nearrow$

Nonlinear Riemannian Type Boundary Value
Problem

81384
S/020/60/132/06/01/068
C111/C222

given by (5) with $P_{\alpha}(z) \equiv 0$. Finally it is investigated how far the coefficients c_i of $P_{\alpha}(z)$ are arbitrary. It is stated that the number of additional conditions to which the c_i can be submitted, depend in essential on these conditions themselves. The author investigates the question how many conditions of the kind $\phi^+(z_i) = a_i$, $\phi^-(w_j) = b_j$ can be given. There are 5 theorems. The author mentions V.K. Natalevich and P.V. Solov'yev. He thanks F.D. Gakhov for the leading of the work. There are 5 Soviet references.

Card 3/3

27305
S/199/61/002/004/001/007
B112/B108

16.3000

AUTHOR: Arzhanov, G. V.

TITLE: Nonlinear boundary value problem of the Riemannian type

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 2, no. 4, 1961, 481 - 504

TEXT: The author studies the following boundary value problem: In the plane of complex numbers a smooth closed curve L separates an internal domain D^+ from an external domain D^-. The functions $\phi^+(z)$ and $\phi^-(z)$ which are analytic in D^+ and D^-, respectively, and which, on L, satisfy the relation $[\phi^+(t)]^n = G(t)\phi^-(t) + g(t)$ (n being an integer > 1) are required. $G(t)$ and $g(t)$ are given functions which satisfy Hölder's condition. $G(t)$ must not vanish. The solvability of this problem mainly depends on the index of G $\varkappa = \text{ind } G(t) = (S)\int_L d(G(t))$. Among other things the author demonstrates that the homogeneous problem ($g(t) = 0$) can be solved only for $\varkappa \geqslant 0$. If $\varkappa > 0$, the inhomogeneous problem can be solved for any free term g. If $\varkappa < 0$, the problem cannot be solved. Professor F. D. Gakhov is thanked for help. There are 6 Soviet references.

Card 1/2

ARZHANOV, G.V.

Solvability of one type of nonlinear boundary value problems.
Dokl. AN SSSR 139 no.2:267-270 Jl '61.   (MIRA 14:7)

1. Rostovskiy-na-Donu gosudarstvennyy universitet. Predstavleno
akademikom P.Ya. Kochinoy.
     (Boundary value problems) (Operators (Mathematics))

L. 03769-67   FSS-2/EWT(l)/EEC(k)-2   SCTB   TT/DD/GD/GW

ACC NR: AT6036480

SOURCE CODE: UR/0000/66/000/000/0034/0036

AUTHOR: Arzhanov, I. M.; Beregovkin, A. V.; Bryanov, I. I.; Buyanov, P. V.;
Zaloguyev, S. N.; Kamen'shchikov, Yu. V.; Kovalev, V. V.; Krasovskiy, A. S.;
Kuznetsov, S. V.; Litsov, A. N.; Nikitin, A. V.; Nistratov, V. V.; Poruchikov, Ye. A.;
Potkin, V. Ye.; Teret'yev, V. G.; Fedorov, Ye. A.; Khlebnikov, G. F.;
Yaroshenko, G. L.

ORG: none

TITLE: Results of clinical and physiological investigations of the crew of the
first multiman Voskhod spacecraft [Paper presented at the Conference on Problems of
Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy
kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii,
Moscow, 1966, 34-36

TOPIC TAGS: space medicine, space physiology, weightlessness, bodily fatigue,
stress reaction, combined stress, cardiovascular system, central nervous system,
manned spaceflight/Voskhod-1

ABSTRACT: The inclusion of a physician in the crew of the Voskhod-1 made it pos-
sible to increase medical investigations of the crew members during
flight and to compare them with results of preflight and postflight exami-
nations. The scope of the physiological examinations was selected in
order to obtain a more complete evaluation of the functional condition of
the cardiovascular and central nervous systems, and the function of

Card 1/4

L 08269-67

ACC NR: AT6036480

,external respiration of the cosmonauts. Physical exercises and ortho-
static tests were included to detect earlier signs of physiological shifts.

Examinations were carried out before and after training in the ship,
where certain conditions of flight were simulated, and also two weeks
before flight. Postflight examination was begun fifteen minutes after
landing and was continued for the first four days after the flight and also
two weeks later.

After landing, the cosmonauts were active, looked somewhat excited,
and complained of general fatigue. They were found to have hyperemia
of the mucosa of the upper respiratory tract and conjunctivitis.

Komarov's weight dropped by 2. 6%, Feoktistov's weight dropped by
4%, and Yegorov's by 3. 9%. Weight loss was determined by Zhdanov to
be due to water and fat loss. Neurological examination revealed a light
swaying in the Romberg position, a tremor of the fingers, and increased
perspiration. In addition, Yegorov showed a contraction of the retinal
arteries. Disruption of vision and vestibular difficulties were not noted.
Changes in EEG indicated an increase in inhibitory processes in the
cortex of the brain. A diminution in work capacity was established by

Card 2/4

ACC NR: AT6036480

psychological experiments (increase in the number of mistakes, increase in latent periods).

Indices of cardiovascular activity during rest did not exceed wide norms. However, an increase in pulse frequency was noted (Komarov up to 96, Feoktistov up to 100, and Yegorov up to 94 beats/min), as well as moderate drop in arterial pulse pressure at the expense of an increase in diastolic pressure. All three cosmonauts, when subjected to exercise, showed a significant increase in the pulse rate and inertia in the stroke volume. Feoktistov and Yegorov showed a significant diminution in the heart stroke volume and minute circulation of the blood during the passive orthostatic test. This could indicate a discuption of the venous inflow to the heart.

Postflight blood examinations indicated neutrophilic leukocytosis and eosinopenia. Urine was found to contain significant quantities of salts, chiefly urates, single erythrocytes (in the field of vision), and an increase in the excretion of 17-oxycorticosteroids. Eosinopenia, an increase in excretion of products of hormone decomposition, indicated the development of a stress reaction in cosmonauts. Since some of the indications found on the flight were also found after training in the train-

Card 3/4

L 08269-67

ACC NR: AT6036480

O

ing ship, there is reason to attribute them to limitation of motor activity under conditions of weightlessness. The functional shifts found after flight are indications of a general fatigue, a moderate stress reaction, and a certain amount of detraining. In general, the changes observed in the cosmonauts were of one type. The differences found between the cosmonauts can be attributed to individual differences. [W.A. No. 22; ATD Report 66-116]

.SUB CODE: 06, 22 / SUBM DATE: 00May66

Card 4/4

L 08268-67   FSS-2/EWT(1)/EEC(k)-2   SCTB   TT/DD/GD/GW·

ACC NR: AT6036481   SOURCE CODE: UR/0000/66/000/000/0036/0037

AUTHOR: Arzhanov, I. M.; Bryanov, I. I.; Baturenko, V. A.; Beregovkin, A. V.; Buyanov, P. V.; Kovalev, V. V.; Kondrakov, V. M.; Krasovskiy, A. S.; Kuznetsov, O. N.; Kuznetsov, S. V.; Nikitin, A. V.; Nistratov, V. V.; Teret'yev, V. G.; Fedorov, Ye. A.; Khlebnikov, G. V.

ORG: none

52
13+1

TITLE: Some results of the postflight examination of P. I. Belyayev and A. A. Leonov following their flight on the Voskhod-2 spacecraft [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 36-37

TOPIC TAGS: space medicine, postflight medical examination, bodily fatigue, body weight, cardiovascular system, oculocardiac reflex, unconditioned reflex, space psychology, oxygen consumption, respiration, pulmonary ventilation/Voskhod-2

ABSTRACT: Postflight examinations of the Voskhod-2 crew members, Leonov and Belyayev, were performed on the third and fourth days after the flight and again a month later. The cosmonauts complained of light fatigue, They were found to have hyperemia of the mucosa of the nose and throat and conjunctivitis of the eyelids and eyeballs. They had lost weight

Card 1/3

L-08268-67

ACC NR: AT6036481

Their pulse showed a certain lability. Pulse frequency rose significantly during mild physical exertions and changes in the position of the body. There was an increase in intraventricular conductivity, an increase in the systolic index (7—11%), and a delay in restoration of hemodynamic indices after physical exercise.

Belyayev's oxygen consumption increased by 23% and Leonov's by 14% as compared with preflight levels. Vital capacity of the lungs diminished by 8—12%, while pulmonary ventilation increased by 51—18%.

Neurological examinations revealed a light tremor of the fingers, a high orthostatic reflex with an absence of pulse reaction to the oculo-cardiac reflex, and an increase in the slow bioelectrical activity of the brain cortex. Psychological tests revealed an increase in distribution and in the middle magnitudes of the duration of the period of sensory motor reaction. Since this was not accompanied by errors, it is possible to assume that the fatigue observed in cosmonauts was a compensatory reaction. Blood and urine examination on the third day after flight did not differ substantially from preflight levels. Biochemical examination uncovered an increase of chlorides, adrenalin, noradrenalin, and 17-oxycorticosteroids in the urine.

Card 2/3

L 08268-67

ACC NR: AT6036481

    The observed shifts in physiological indices were short-term and reversible. They indicated the development of moderately marked fatigue in the subjects. Thus, despite the complexity of the flight, the postflight examinations revealed only moderate functional changes in the two cosmonauts. There was no difference in the nature of these changes in the cosmonauts. This indicates a high degree of training and a good neuropsychological and physical preparation for spaceflight. [W.A. No. 22; ATD Report 66-116]

SUB CODE: 06, 22 / SUBM DATE: 00May66

Card 3/3

ARZHANOV, N.I.; BEKKER, G.M.

Cholesteatoma of the spinal cord. Vop.neirokhir. 24 no.6:43-44
N-D '60.   (MIRA 14:1)

1.Orlovskaya oblastnaya bol'nitsa.
                    (SPINAL CORD--TUMORS)

IVANOV, S.S.; ARZHANOV, N.I.

Treatment of chronic suppurative processes in the lung complicated
by metastatic abscesses of the brain. Khirurgiia no.10:119-122 '64.
(MIRA 18:8)

1. Orlovskaya oblastnaya bol'nitsa (glavnyy vrach M.P.Khrisanopulo).

ARZHANOV, P.

Solid shelves for storing mill products. Muk.-elev.prom. 20 no.6:
30 Je '54.   (MLRA 7:8)

1. Kuybyshevskaya realizatsionnaya baza Zagotzerno.
    (Flour--Storage)

ARKHANOV, S. P.

ARKHANOV, S. P.
Ekonomiko-geograficheskie osnovy SSSR. Ocherki
i materialy. S prilozheniem tablits: "Ekonon-
icheskie profili SSSR po raionam Gosplana"... Leningrad,
Brokgauz-Efron, 1927. 332 p.
CtY

SO LC Soviet Geography Part I 1951, Uncl.

ARZHANOV, Ye.P.

Using light and shade to control the smoothing of film. Geod. i kart. no.1:24-27 Ja '57.   (MLRA 10:3)
                (Photography--Films)

ANZANOV, Ye.P., Cand Tech Sci--(diss) "Method of combined con-
(the smoothing out of aerial)
trol of film flattening." Jen, 1958. 25 pp with ill (Min of
Higher Education USSR. Loc Inst of Engineers of Geodesy, Aerial-Photo-
Surveying, and Cartography), 100 copies. Printed by duplicating
machine. (KL,45-58, 146)

AUTHOR: Arzhanov, Ye. P., Graduate Student   SOV/154-58-1-14/22

TITLE: Checking the Level Passage of Aerofilm During the Flight
            (O kontrole vyravnivaniya aeroplenki v polete)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aero-
            fotos"yemka, 1958, Nr 1, pp 1o7-112 (USSR)

ABSTRACT: In the paper under review the author discusses the possibilities
            of manometer checking of the level passage of the filmstrip
            during the flight. By means of a manometer any faults in the
            evenness caused by some influence from the outside could be
            checked continuously. In the test the manometer recorded un-
            evenness eighteen times. It was caused from the outside
            when small foreign substances (micro particles) penetrated
            underneath the filmstrip. In other cases also other causes
            of unevenness were detected. The test proved that the manometer
            operated satisfactorily in the course of the test and check-
            ed any unevenness. All stages of photography were tested and
            any unevenness was recorded by means of a raster. The check-
            ing method proposed may also be employed (under different
Card 1/2   conditions) in factories. There are 3 figures and 1 reference.

SOV/154-58-1-4/22

Checking the Level Passage of Aerofilm During the Flight

1 of which is Soviet.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i
kartografii
(Moscow Engineering Institute of Geodesy, Aerophotography
and Cartography)

Card 2/2

AUTHOR: Arzhanov, Ye. P., Graduate Student   SOV/154-58-2-9/22

TITLE: On the Use of Pneumatico-Mechanical Means for Flattening Films
            in Aerial Cameras (O pnevmomekhanicheskom vyravnivanii
            aeroplenki)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i
            aerofotos"yemka, 1958, Nr 2, pp 87-91 (USSR)

ABSTRACT: The introduction of the new aerial camera AFA-TE resulted in
            a considerable reduction of waste occurring in other cameras
            because of the failure of the film to lie flat. Nevertheless,
            work is still being done with a view to perfecting the method
            of flattening-out films. Specifically, the pneumatico-mechan-
            ical method has been further developed. The basic idea on
            which this method rests was developed in 1943 by Docent A. I.
            Shershen'. Essentially it consists of flattening the film by
            mechanical means and at the same time by a vacuum, whereupon
            the flattening device is removed and the negative air pressure
            is used to keep the film in the right position. The first
            systematic tests with regard to this method were carried out by
            Ye. A. Bugayets. These tests proved that this method made it
Card 1/3   possible to obtain a higher quality of the film surface than

SOV/154-58-2-9/22

On the Use of Pneumatico-Mechanical Means for Flattening Films in Aerial
Cameras

the ordinary pneumatic method. In 1956-57 the author tested a
new device of two rollers moving in the camera case. A sketch
of the device is attached. The tests proved that the friction
of the rollers did not cause a frictional mist. The lab tests
were carried out by I. F. Kushtin, Candidate for the Diploma,
and proved that the flattening of the film was carried out more
effectively than had been the case with the normal pneumatic
method. During 1956 and 1957 the method was also tested in
flight, and the results corresponded to those of the lab tests.
The improvement is expressed in thousandths of millimeters. It
seems that the film is additionally "equalized" by the move-
ment of the rollers. Still, the design will hardly be used
since the application is very difficult. There are 2 figures,
1 table, and 3 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i
kartografii (Moscow Engineering Institute of Geodesy, Aero-
photography, and Cartography)

Card 2/3

SOV/154-58-2-9/22

On the Use of Pneumatico-Mechanical Means for Flattening Films in Aerial
Cameras

SUBMITTED: October 18, 1957

Card 3/3

ARZHANOV, Ye. P.

IVANOV, A.I.

SOV/11,4-58-2-16/22

AUTHOR: Bol'shakov, V. D., Candidate of Technical Sciences

TITLE: Scientific and Technical Conference of MIIGA i K (Nauchno-tekhnicheskaya konferentsiya MIIGA i K) I

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 111-114 (USSR)

ABSTRACT: From April 24 to 26 a scientific and technical conference of the MIIGA i K (Institute of Geodesy, Aerophotography, and Cartography, Moscow) was held in Moscow. Furthermore, there were four sections in operations on geodesy, aerophotogeodesy, cartography, and on the production of photogrammetrical instruments. More than 300 delegates from 45 institutes took part in the conference at which 28 lectures were given. 20 delegates participated in the discussions. The opening speech was made by the Director of the MIIGA i K, Professor P. S. Zakatov, Doctor of Technical Sciences. The first paper read was that by A. I. Durnov, Professor on "The Fight Against Revisionism." A. I. Durnov, Professor, Doctor of Technical Science, spoke on "The Setup and the Levelling Principle of the Geodetic Basic Network of the USSR." A. N. Lirovets, Professor, read a paper on "The Theory of Equiangular Coordinates in Some Kinds of Geodetic Networks on the Basis of the Data Directly Measured in the Ellipsoid." M. S. Muravyev, Docent: "On a Bench Mark of Special Stability." V. G. Sojkhanovich, Docent, Candidate of Technical Sciences: "The Life and Scientific Work of A. P. Bolotov." V. D. Bol'shakov: "Optical Measurements of Distances Under Precise Conditions. M. Y. Yakovlev, Assistant: "On the Scaling of Non-Precision Geodetic..." ... Degulations Z., M. L., Bohr: "On the Problem of Determining Some Elements of Inner Orientation of Wide-Angle and Super-Wide Angle Aerial Cameras." A. K. Pyrasv, Graduate Student. Dimitgriyev reported on "Geodesy and Cartography at the Beginning of the Soviet Rule." Ye. P. Arzhanov on "An Investigation of the Film Smoothing Device With Supporting Rollers." L. N. Vasil'yev, Graduate Student: "Stereocomparator With Electrical Correction." F. I. Mikhaylov, Docent, Candidate of Technical Sciences: "On the Change of Scale of Aerial Photographs Resulting From Enlargement." A. V. Zakharov: "On the Distinctive Capabilities of Black-and-White and Color Photographs." Yu. M. Kuzn, High-Speed Shutter." I. G. Sprin, Professor: "The Present State of Physical-Mathematical Knowledge on the Precise Functioning of Measuring Tools. S. M. Colovin: "Speeding up and Improving the Production of Measuring Tools. L. A. Makin, Docent, Candidate of Technical Sciences: "On Instruments for the Precise Measurement of Distances. V. S. Nikheychev, Assistant: "Field Tests With the Optical Range Finder CBB-..." V. I. Uber, Assistant: "On the Study of Inaccuracies in the Focusing Devices of Telescopes." E. N. Volkov, Professor, Doctor of Geographical Sciences: "Some Remarks on Engraving in the Production Process of Original Maps."

Card 1/3

Card 2/3

Card 3/3

ARZHANOV, Ye. P.

AUTHOR: None Given   SOV/ 6-58-6-21/21

TITLE: Chronicle (Khronika)

PERIODICAL: Geodeziya i kartografiya, 1958, Nr 6, pp. 79-80 (USSR)

ABSTRACT: From April 24 - 26, 1958 a Technical Scientific Conference
              took place at the Moscow Institute of Surveying-, Aerial
              Photography- and Cartography Engineers (Moskovskiy institut
              inzhenerov geodezii, aerofotos"yemki i kartografii).

              In the section of aerial-surveying the following lectures
              were held: N. Ya. Bobir, Docent,- "On the Problem of the
              Determination of Elements of the Internal Orientation of
              Aerial Cameras With Wide and Superwide Angles". Ye. P. Arzhanov,
              Assistant, - "Investigation of the Apparatus for the Straight-
              ening of the Film by Means of Waves". (Compressed Airomechan-
              ical Method by Docent A. I. Shershen'). V. Ya. Mikhaylov,
              Docent, - "On the Change of the Scale of Aerial Photographs
              in the Course of Enlarging". L. N. Vasil'yev, Aspirant, -
              "Stereocompensator With Electric Corrections". P. V. Zakharov,
              Teacher, - "On the Fineness of Grain of Black and White as
Card 1/3   Well as Color Negatives of Aerial Photographs". Yu. M.

Kuznetsov, Aspirant, - "Elements of the Theory of the New Rapid Shutter".

In the section for surveying and photogrammetric apparatus the following lectures were held: I. G. Sarkin, Professor, - "Physical and Mathematical Theses of the Theorem on the Accuracy of the Apparatus as a Means of Measurements". S. M. Golovin, Docent, - "Accelerating the Production Preparations of New Products and Reducing Their Costs". L. A. Malkin, Docent, -"Apparatus for the Exact Recording of Distances". V. S. Mikheyeehev, Assistant, -"Field Tests With the Light Range Finder CBB-1" (In Moscow in August 1957). V. S. Usov, Assistant, - "On the Investigation of the Errors of the Focusing Devices of Telescopes".

In the section of cartography the following lectures were held: N. M. Volkov, Professor, - "On the Engraving in the Production of the Original Publication Editions". A. V. Naumov, Docent, - "Some Problems of the Household of Cartographic Production". G. A. Ginzburg, Docent, - "On the Interrelation of the Distortions in Cartographic Projections". L. A. Bogomolov, Docent, - "The Topographic Evaluation of Aerial Photographs Taken From Airplanes and Helicopters in

Card 2/3

Chronicle

SOV/ 6-58-6-21/21

the Cartographing of Areas Difficult of Access". A. S.
Tolstoukhov, Assistant, - "On the Representation of Reliefs
of Plane Areas on Topographic Maps".

1. Cartography   2. Aerial photography   3. Scientific reports

Card 3/3

ARZHANOV, YE. P

Transactions of the Laboratory (Cont.) of fAeromathbdds AS USSR/3815
V.7, Materials of 7th AU Interdept Conf. Aerial Survey (Dec 56), Moscow, 1959, 331pp.
Arzhanov, Ye.P. [Moscow Institute of Geodetic, Photogrammetric,
and Cartographic Engineering].
    New Methods of Flattening the Aerial Films   102

Romanovskiy, G.V. [Nauchno-issledovatel'skiy institut voyenno-
topograficheskoy sluzhby, SA - Scientific-Research Institute of
the Military Topography Service, SA].
    The Present State and Future Prospects of Aerial Topographic   107
    Surveying in the USSR

Rusinov, M.M. [Leningradskiy institut tochnoy mekhaniki i optiki -
Leningrad Institute of Precision Mechanics and Optics].
    New Wide-Angle Lenses for Aerial Photography and Future   114
    Prospects of Development

Zhukov, G.P. [Scientific-Research Institute of the Military
Topography Service, SA].   121
    Photogrammetric Apparatus

Card 5/15

ARZHANOV, Ye. P.

SOV/6-59-6-21/22

None Given

Chronicle (Khronika)

Geodeziya i kartografiya, 1959, Nr 6, pp 75-77 (USSR)

At the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers), the Ordinary Scientific Conference took place on April 22-24. A. I. Ivanov, Docent, Candidate of Philosophic Sciences, spoke on "The Outstanding Work of Materialistic Philosophy". A. N. Karmov, Chief of the Glavnoye upravleniye geodezii i kartografii (Main Administration of Geodesy and Cartography) spoke "On the Seven-Year Plan for the Development of topographic-geodetic and Cartographic Work". The following reports were delivered in the geodetic section: A. M. Parfen'ev, Professor, "Some Integrals of the Surface Theorems and Their Application to the Mechanics of Artificial Satellites of the Earth".-- A. V. Kondrashkov, Docent, "Radio-electronics and Geodesy".-- O. V. Kartashkul, Docent, "Accuracy in the Solution of Inverse Position Computations by the Coordinates of Different Geodetic Systems".-- ... Feodlik, Docent, "Gravimetry in the Present Stage of Development".-- Ye. I. Mokhov, Assistant, reported on the influence of rounding errors on the accuracy of solution of linear equation systems.-- L. D. Belfnakin, Candidate of Technical Sciences, spoke on the "Investigation of the Rule of Distribution of Errors in Generalizing the Relief in Survey".-- ... Braidsr, Post-Graduate Student, reported on the solution of linear systems for the adjustment of geodetic ... Y. N. Lerlartsev, Docent, demonstrated an apparatus designed by him for parallactic traversing ... reported on vertical bases. The following reports were delivered in the aerophotogeodetic section: A. S. Lasarev, Docent, reported on a parallactic rangefinder.-- ... spoke on the possibility of recording ... the formulas for the air survey of outlines and altitudes.-- N. ... Aldoneo and ... P. Lazarov, Docents, reported on a prism-shaped optical shutter for aerial cameras.-- Rodionov (in a stereoscopic comparator sight, L. N. Rodionov and Engineer ... Tarakov on the scheme of a computing device for the automatic entry of the airplane into the route for air survey.-- Ye. ... Arkhanev presented some simplifications for the compilation of explanatory of aerial charts.-- N. ... Kupalov, Post-Graduate Student, spoke on the use of rapid film recording for the investigation of aerial-camera shutters.-- ... I. Grishin, Engineer of the Geotekhkontors Gosplana RSFSR, spoke "On Some Results and Tasks in the Execution of Large-scale Photo-geodetic Surveys". The following reports were delivered in the cartographic section: Professor V. I. Sukhov spoke on the content of the new map on a scale of 1 : 2,500,000.-- Professor ... Frocenko ... spoke on "Mineral Resources of the USSR ... Their Representation on Economic Maps".-- D. L. Bakharev, Assistant, reported on the method of geographic field research during the preparatory editorial work at the object of cartography.-- A. B. Rodicndur, Assistant, reported on the improvement of relief representation of ... flat country, as the topographic map on a scale of 1 : 10,000.-- Yu. S. Bilich, Assistant, reported on maps of apartment buildings ... nllness of the object.-- In the section of building of the apparatus, I. I. Maslistkar, Docent, spoke on the life of ... L. B. Popov, N. V. Takarlin, Assistant, reported on reflecting ... Professor L. G. Serkin on the increase in accuracy in measuring physical magnitudes, Engineer I. M. Nasonov on vertical axial systems for highly accurate optic theodolites, K. S. Usov, Assistant, on sighting with telescopes with some plates, ... L. Zakharov, Assistant, on the automatization of calculation of image couples.

Card 1/4

Card 2/4

Card 3/4

ARZHANOV, Ye.P.

New method of testing the flatness of aerial films. Trudy Lab.
aeromet. 7:102-106 '59.   (MIRA 13:1)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki
i kartografii.
   (Photography, Aerial--Equipment and supplies)

ARZHANOV, Ye.P., kand.tekhn.nauk

Computing the elements of inner orientation. Trudy MIIGAIK
no.39:57-62 '60.   (MIRA 13:8)

1. Kafedra aerofotos"yemki Moskovskogo instituta inzhenerov
geofezii aerofotos"yemki i kartografii.
                    (Aerial photogrammetry)

ARZHANOV, Ye.P., assistent, kand.tekhn.nauk

Testing the flattening of the aerial film by the use of its reflecting properties. Izv. vys. ucheb. zav.; geod. i aerof. no.2:111-117'61.

(MIRA 14:6)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii.

(Photography--Films)