LOZINSKAYA, T.A.; KARDASHEV, N.S.

Thickness of the gas disk of the Galaxy from observations at
21 cm. wave length. Astron.zhur. 40 no.2:209-215 Mr-Ap '63.
(MIRA 16:3)
1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.
(Milky Way)

ACCESSION NR: AP4032721   S/0033/64/041/002/0282/0287

AUTHOR: Kardashev, N. S.

TITLE: Communication of information by extraterrestrial civilizations

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 2, 1964, 282-287

TOPIC TAGS: astrophysics, astronomy, extraterrestrial civilization, extra-
terrestrial communication, interplanetary communication, interstellar
communication

ABSTRACT: The problem of communicating with civilizations elsewhere in our
Galaxy and other galaxies is discussed: the author draws almost exclusively on
English-language sources, with only limited assessment of the published data.
The most important factors in space communication (transparency of the inter-
stellar medium, instrument and cosmic noise and transmitter power) are discussed.
It is noted that the most likely frequencies for ultralong distance communi-
cation are 10^9 -10^{11} cps since the coefficient of absorption by the interstellar
medium is negligibly small at these frequencies. Isotropic radiation is
necessary for a possible and reliable reception by an unknown population. The
article cites computations of the optimal spectrum of a signal which carries a
maximal quantity of information in the presence of quantum fluctuations and the
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ACCESSION NR: AP4032721

cosmic radio emission background. It is shown that a civilization at any distance in the universe which can transform power of the order of $L_0 \sim 4 \cdot 10^{33}$ ergs/sec or more into an isotropic coded radio signal can be detected by present-day radioastronomical methods. The expected properties of artificial sources of cosmic radio emission are noted. A number of objects, such as CTA-21 and CTA-102, presently of unknown character, possess a spectrum extremely close to the postulated artificial spectrum. The most favorable region for seeking artificial signals is toward the center of the Galaxy, since the density of the stellar population along the line of sight is maximum. It also is desirable to investigate the nearest galaxies, especially a large nebula in the constellation Andromeda and the Magellanic clouds, and the nearest radiogalaxies NGC 4486 and NGC 5128. The author is convinced that other civilizations exist in the universe and that present-day radiophysics affords the possibility of establishing contact with them. Orig. art. has: 6 formulas, 2 figures and 1 table.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P. K. Shternberga (State Astronomical Institute)

SUBMITTED: 12Dec63   DATE ACQ: 11May64   ENCL: 00

SUB CODE: AA   NO REF SOV: 000   OTHER: 012

Card 2/2

ACCESSION NR: AP4043951   S/0033/64/041/004/0601/0607

AUTHOR: Kardashev, N. S., Lozinskaya, T. A., Sleptsova, N. F.

TITLE: Spiral structure of the Galaxy from observations at 21 cm

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 4, 1964, 601-607

TOPIC TAGS: astronomy, Galaxy, galactic spiral, galactic disk, interstellar hydrogen

ABSTRACT: The distribution of interstellar hydrogen in the Galaxy, determined from radio observations at 21 cm, does not reveal a clearly defined spiral structure. The presently available pattern of distribution of hydrogen masses in the Galaxy generally reflects reality and if there is a spiral structure the angle of torsion cannot differ greatly from 90°. In order to clarify this problem, the authors exploited all presently known profiles of the 21-cm line near the galactic equator. The radial velocities of the intensity maxima of these profiles were plotted on a graph as a function of galactic longitude. This graph, Fig. 1 of the Enclosure, represents the distribution of radial velocities of hydrogen clouds along the galactic equator; the velocities of hydrogen clouds along the galactic equator; the various symbols represent observations made at Leyden, Sydney, Moscow, Bonn and in California. Fig. 1. makes it possible to distinguish the chains and loops which

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ACCESSION NR: AP4043951

usually are identified with the spiral arms. After a full analysis of data in the literature for observations at 21 cm it was possible to construct Fig. 2. of the Enclosure, in which arm I is denoted by a solid line and arm II by a dashed line. The central part of the figure is based on data of G. W. Rougoor and J. H. Oort (Proc. National Academy of Sci., 46, 1, 1960). The distance to the nearest outer arm (Orion) is 800 parsecs; the distance to the inner arm (Sagittarius) is 900 parsecs. The spiral represented in the figure agrees quite well with observations. With an allowance made for the continuous spectrum it is concluded that the most probable regular form of the spiral arms of the Galaxy is a logarithmic spiral consisting of two arms, as shown, with an angle of torsion which varies smoothly from 83° in the central parts to 85° in the outer part of the galactic disk. Orig. art. has: 4 formulas and 5 figures.
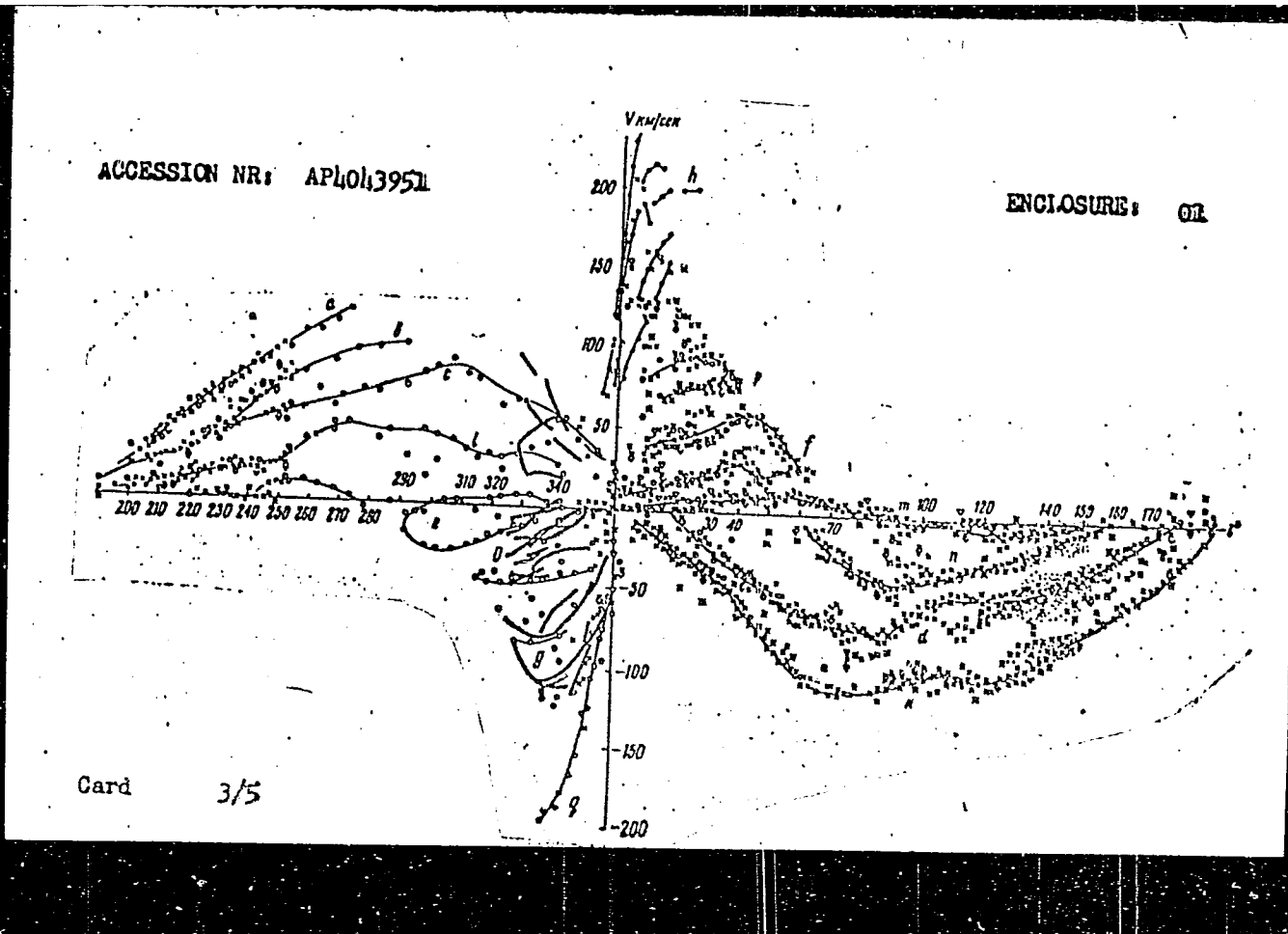
ASSOCIATION: none

SUBMITTED: 00   ENCL: 03
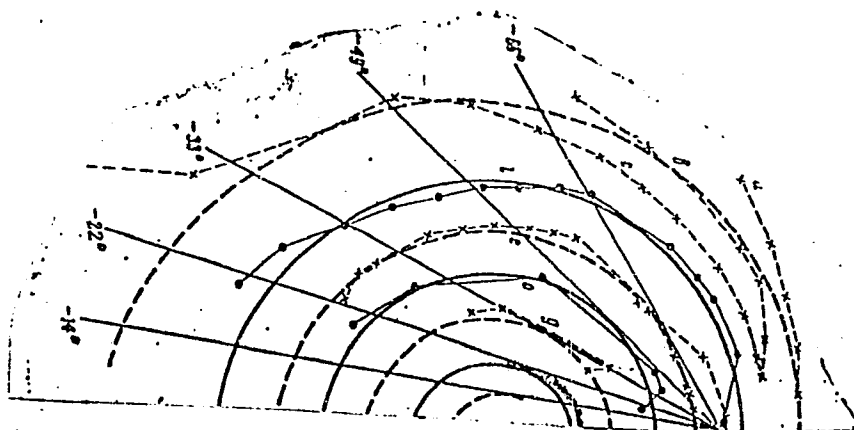
SUB CODE: AA   NO REF SOV: 002   OTHER: 016

Card 2/5

ACCESSION NR: AP4043951

ENCLOSURE: 02

Card   3/5

ACCESSION NR: AP4043951   ENCLOSURE: 02

continuation from enclosure 3

Card 4/5

ACCESSION NR: AP4043951   ENCLOSURE: 03

continuation from enclosure 2

Card 5/5

ACCESSION NR: AP4034535   S/0020/64/155/005/1039/1041

AUTHOR: Shklovskiy, I. S.; Kardashev, N. S.

TITLE: Gravitational waves and "superstars"

SOURCE: AN SSSR. Doklady*, v. 155, no. 5, 1964, 1039-1041

TOPIC TAGS: superstar, collapsing star, gravitational collapse, gravitational
wave, general relativity theory, cosmic ray, radio star, energy transformation,
gravitational energy

ABSTRACT: Starlike objects, identified with point radio sources, have been
recently discovered. They are believed to have masses many million times the
sun mass and to be of less than 10^{16}cm in diameter. The authors discuss some
results of the general theory of relativity that might be applicable to this
superstar and to their gravitational collapse. The intensive radiation of
gravitational waves must greatly affect the energy balance. By using a simple
model for the collapsing star (a rod) and by considering the gradual increase of
rotation due to conservation of angular momentum, a gravitational emission is
computed to be in the order of 10^{54}erg/sec. A similar result is obtained for

Card   1/2

KARDASHEV, N.S.; LOZINSKAYA, T.A.; SLEPTSOVA, N.F.

Spiral structure of the Galaxy from observations at the 21 cm. line. Astron. zhur. 41 no.4:601-607 Jl-Ag'64   (MIRA 17:8)

KARDASHEV, N.S.

Magnetic collapse and the nature of the ...
radio emission. Astron.zhur. 41 no. ...

1. Astronomicheskiy institut im. ...

L 40301-65   FBD/EWT(l)/EWG(v)/EEC-4/EEC(t)   Pe-5/Pae-2/P1-4   GW/WS-4
ACCESSION NR: AR5009015   8/0269/65/000/002/0052/0052

SOURCE: Ref. zh. Astronomiya. Otd. vyp., Abs. 2.51.409

AUTHOR: Kardashev, N. S.; Lozinskaya, T. A.; Slepteova, N. P.

TITLE: Spiral structure of the Galaxy as revealed by radio observations at 21 cm

CITED SOURCE: Astron. tsirkulyar, no. 289, marta 24, 1964, 1-4

TOPIC TAGS: Galaxy, galactic structure, radio astronomy, galactic hydrogen, spiral
arm, galactic disk, Orion, Sagittarius

TRANSLATION: The authors report the results of an investigation of the spiral
structure of the Galaxy on the basis of all published radio observations at 21 cm.
The dependence of the radial velocities of hydrogen clouds on galactic longitude
has been determined. The parameters of the two branches of the logarithmic spiral
have been found for the inner parts of the Galaxy. Using the theory of a circular
model of movement of hydrogen masses the authors have constructed a spiral for the
outer regions of the Galaxy. It was found that the angle of torsion for both spi-
ral arms changes smoothly from 83° in the central part to 85° in the outer regions

Card 1/2

L 40301-65

ACCESSION NR: AR5009015

of the galactic disk. The distance to the nearest outer (Orion's) arm is 800 parsecs and the nearest inner arm (Sagittarius' arm) is 900 parsecs, assuming the distance from the center of the Galaxy to the sun to be 8.2 kiloparsecs. Biblio-graphy of 11 items. T. Lozinskaya.

SUB CODE: AA   ENCL: 00

Card 2/2

LOZINSKAYA, T.A.; KARDASHEV, N.S.

Observations at the 21 cm. line for investigating the shape
of the gas disk of the Galaxy. Soob. GAISH no.131:37-41 '64.
(MIRA 17:8)

L 5168-66   EWT(d)/FSS-2/EWT(l)/FS(v)-3   DD/GS
ACC NR: AT5024309
                              SOURCE CODE: UR/0000/65/000/000/0037/0053
AUTHOR: Kardashev, N. S.

ORG: State Astronomical Institute im. P. K. Shternberg, MGU, Moscow (Gosudarst-
vennyy astronomicheskiy institut, MGU)

TITLE: The transmission of information by extraterrestrial civilizations

SOURCE: Vsesoyuznoye soveshchaniye, posvyashchennoye probleme vnezemnykh
tsivilizatsiy. 1st, Byurakan, 1964. Vnezemnyye tsivilizatsii (Extraterrestrial
civilization); trudy soveshchaniya, Yerevan. Izd-vo AN ArmSSR, 1965, 37-53

TOPIC TAGS: astronometry, galactic radiation, planet, radio astronomy, planetary
life, cosmic radio source

ABSTRACT: An optimistic viewpoint of the likelihood of receiving transmitted
information from extraterrestrial civilizations is taken. The discussion is
limited to radio communication, and judgment of likelihood is made on the basis
of observed information rather than pure speculation. An important question is

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L 5168-66

ACC NR: AT5024309

that of what is the level of a civilization from which we may receive information. This question may be broken down into questions about transmitter power, volume of transmitted information, and the likelihood of the detecting and receiving signals. The state of civilization is measured in terms of the production and consumption of energy. The author classifies civilizations into three types: I - one whose technological level is close to that of the earth, with an energy use of about $4 \cdot 10^{19}$ erg/sec; II - a civilization which harnesses energy radiated by its star (e.g., the stage of construction of a "Dyson sphere"), with energy consumption $\sim 4 \cdot 10^{33}$ erg/sec; and III - a civilization which harnesses energies on the galactic scale $\sim 4 \cdot 10^{44}$ erg/sec. The author offers his opinion on the rise and diffusion (in a galaxy) of the three civilizations, with estimates of the time required for a civilization to pass through the given stages. Discussion is offered on several points: 1) the capability of transmitting arbitrary informa- tion and the linguistics problem; 2) the unilateral character of transmission due to astronomic distances; 3) the optimal transmitting band; 4) the optimal trans- mitter radiation spectrum; 5) the reliability of signal detection and reception. Hypothetical cases of broadcasting over interstellar and intergalactic distances by various civilization types are considered. Conjecture on the type and volume

Card 2/3

L 5168-66
ACC NR: AT5024309

of broadcast information about the earth's civilization is offered. The questions
and comments of E. G. Mirzabekyan, V. A. Ambartsumyan, G. M. Ayvazyan, and P. M.
Geruni are given. Orig. art. has: 2 figures, 1 table, and 8 equations.

SUB CODE: AA/ SUBM DATE: 26May65/ ORIG REF: 001/ OTH REF: 008

Card 3/3

MATVEYENKO, L.I., KARDASHEV, N.S.; SHCLOMITSKIY, G.B.

Rad. interferometer with a large base. Izv. vys. ucheb. zav.;
rad. fiz. 8 no.4-651.654 '65.   (MIRA 18:9)

1. Fizicheskiy Institut imeni P.N. Lebedeva AN SSSR.

L 42283-66   EWT(d)/FBD/FSS-2/EWT(1)   GW/WS-2

ABSTRACT: A radiointerferometer system is proposed which permits realizing very large bases (1000 km), doing away with radio relaying, automating the recording of the signal and processing of the recordings, and accomplishing a full scan within the pattern of a single antenna. A system of two antennas operating by the principles described in this article permits obtaining, with large bases, not only amplitude but also space-phase characteristics of interference and consequently to study in detail the distribution of the brightness of discrete sources of very small angular dimensions. The authors mathematically examine two independent receiving systems separated by a large distance. Each system consists of an antenna, HF amplifier, mixer, heterodyne, IF amplifier, and an HF recording device. Orig. art. has: 4 formulas.

L 02336-67   EWT(1)   GW

ACC NR: AR6028399   SOURCE CODE: UR/0269/66/000/005/0041/0041

AUTHOR: Kardashev, N. S.; Sholomitskiy, G. B.

TITLE: Limit of distances in extragalactic studies

SOURCE: Ref. zh. Astronomiya, Abs. 5.51.330

REF SOURCE: Astron. tsirkulyar, no. 336, iyulya 31, 1965, 3-6

TOPIC TAGS: extragalactic object, extragalactic distance, extragalactic red shift, red shift limit, emission spectrum, optic density, extragalactic dust

ABSTRACT: For the investigation of extragalactic objects in the condensation stage, the objects for consideration should be those with the corresponding red shift $\Delta\lambda/\lambda = z \geq 100$. Investigation of these objects, requires the condition $\alpha \leq 0$, if the source of a continuous emission spectrum is represented by the formula $F_\nu \infty \nu^{-\alpha}$. The derived expression for the optical density of emission scattering for free electrons, in respect to z in isotropic homogeneous models of the Universe, shows that the limit of the observable value z is about 7. The authors are of the opinion that a more precise determination of the value of the

Card 1/2   UDC: 523.855

ACC NR: AR6035291   SOURCE CODE: UR/0209/66/000/009/0045/0045

AUTHOR: Kardashev, N. S.; Komberg, B. V.

TITLE: Dependence of the continuous optical spectrum of quasars on their red shift

SOURCE: Ref. zh. Astronomiya, Abs. 9.51.387

REF SOURCE: Astron. tsirkulyar, no. 357, fevr. 25, 1966, 1-5

TOPIC TAGS: optic spectrum, continuous spectrum, quasar optic spectrum, quasar continuous spectrum, quasar red shift

ABSTRACT: On the basis of three-color photometry (UBV) of a series of quasistelar objects, the dependence of "curvature" $\Delta = a_1 - a_2$ (where a_1 and a_2 are the spectral indexes of, respectively, UB and BV-rays) on the value of the red shift z of these objects has been calculated. From the dependence obtained it follows that in the region $\lambda_o = (2250 \pm 150)$ Å , quasar spectra have a "step" of absorption. The occurrence of the "step" may be due to a matter with a wide absorption band (starting near λ 2250) which is distributed either in the

Card 1/2   UDC: 523.164.4

ACC NR: AR6035291

vicinity of radiation sources, or in the intergalactic space. This matter may be interstellar dust as, according to certain data, it has an anomalous absorption with a maximum near $\lambda 2300$. However, as yet there is no definite answer as to the nature of the absorbing matter. With the existence of more materials on the identification and photometry of quasars, it becomes possible to ascertain with greater accuracy the dependence of Δ on z. By means of this dependence it is possible to estimate the red-shift of unidentified objects on the basis of UBV data. It also makes it possible to calculate the retardation parameter. Preliminary estimates of z were made for seven unidentified quasars. The direct detection of absorption "steps" requires a thorough fotometric investigation of the spectra of quasistellar sources near λ_0 . A bibliography of 7 titles is included. V. Zaytsev. [Translation of abstract].

[DW]

SUB CODE: 03/

Card 2/2

KARDASHEV, V., inzh.

A new engine? Tekh.mol. 31 no.9:37 '63.   (MIRA 16:9)
              (Internal combustion engines)

KARDASHEV, V., inzh.

A new engine? Tekh.mol. 31 no.9:37 '63.   (MIRA 16:9)
            (Internal combustion engines)

KARDASHEV, V.L.

"Balneology and balneohygiene." [in German] A.Kukovka. Reviewed by V.L.Kardashev. Vop.kur.fizioter. i lech.fiz.kul't. 21 no.2: 77-78 Ap-Je '56.   (MLRA 9:9)
        (HYDROTHERAPY)   (KUKOVKA, A.)

KARDASHEV, V. L. Cand Med Sci — (diss) "The Effect of the impulse of the electrical ultrahigh-frequency field upon the processes of biological oxidation under standard conditions and in experimental hypertonia." (Experimental study). Mos,1957. 16 pp. (Acad Med Sci USSR). 220 copies. (KL, 8-58, 108)

-62-

KARDASHEV, V. L.

Effect of an ultrahigh-frequency electric pulse field on biological
oxidation processes in normal states and in experimental hyperten-
sion. Vop.kur., fizioter. i lech. fiz. kul't. 22 no.2:37-41 22
no.2:37-41 Mr-Ap '57.   (MIRA 11:1)

1. Iz eksperimental'nogo otdela (zav. - prof. I.V.Puchkov) Nauchno-
issledovatel'skogo instituta fizioterapii Ministerstva zdravookhra-
neniya RSFSR (dir. - prof. A.N.Obrosov)
        (HYPERTENSION)
        (ELECTRICITY--PHYSIOLOGICAL EFFECT)
        (OXIDATION, PHYSIOLOGICAL)

KARDASHEV, V.L.

"Reflex therapy with local ultraviolet irradiation" [in German] by
M.Ostermann. Reviewed by V.L.Kardashev. Vop.kur.fizioter. i lech.
fiz.kul't. 22 no.4:79 Jl-Ag '57.   (MIRA 10:11)
       (ULTRAVIOLET RAYS--THERAPEUTIC USE)
       (REFLEXES)   (OSTERMANN, M.)

KARDASHEV, V.L.

"Balneotherapy of spondylarthritis ankylopoietica" [in German] by
E.A.Lapp. Reviewed by V.L.Kardahsev. Vop.kur.,fizioter. i lech.
fiz.kul't. 22 no.5:90-91 S-O '57.   (MIRA 11:2)
        (SPINE--ANKYLOSIS)   (HYDROTHERAPY)
        (LAPP, E.A.)

KARDASHEV, V.V.

List of literature on psychology published in 1955. Vop.
psikhol. 2 no.4:138-143 Jl-Ag '56.   (MLRA 9:10)

(Bibliography--Psychology)

KARDASHEV, V.V.

        Index to literature of psychology published in 1956. Vop. psikhol.
3 no.2:177-187 Mr-Ap '57.   (MLRA 10:6)
                  (Bibliography--Psychology)

KARDASHEV, V.V.

Index to literature on psychology published in 1957. Vop.psikhol.
4 no.3:168-177 My-Je '58   (MIRA 11:8)
        (BIBLIOGRAPHY--PSYCHOLOGY)

KARD/SHEV, V.V.

Index to literature in psychology published in 1957. Vop.psikhol.
4 no.4:168-180 Jl-Ag '58.   (MIRA 11:11)
              (Bibliography--Psychology)

ACC NR₁ AT7002849 (N)   SOURCE CODE: UR/3239/66/000/003/0011/0017

AUTHOR: Buznik, V.M.; Kardashev, Yu.D.

ORG: none

TITLE: Investigation of heat transfer during the surface boiling and forced motion of seawater

SOURCE: Nikolayev. Korablestroitel'nyy institut. Sudostroyeniye i morskiye sooruzheniya, no. 3, 1966. Sudovyye energeticheskiye ustanovki (Ship power equipment), 11-17

TOPIC TAGS: heat transfer, convective heat transfer, heat exchanger, heat transfer rate, sea water, calorimeter, boiling

ABSTRACT: The heat transfer of seawater in the presence of surface boiling and forced motion is described by a system of differential equations, which lead to criteria for which a function containing the properties of vapor bubbles is presented. This function is experimentally demonstrated on cleaned water distillate and sea water by the use of a calorimetric apparatus. As shown, the results of these experiments with water distillate boiling in the presence of underheating correspond with data obtained by other authors. It is shown that the forced-motion velocity

Card 1/2   UDC: none

ACC NR: AT7002849

significantly affects heat transfer only within the limits of convective
heat transfer without boiling and does not influence its intensity during
developed surface boiling. An increased underheating rate, up to the
saturation temperature, affects heat transfer significantly. An analysis
of experimental results led to a parametric equation which generally
characterizes the heat transfer of a water distillate during surface
boiling. Several series of experiments with sea water were carried out
under the following conditions: a surface heating of 0.2×10^6 to
3×10^6 Kcal/m^{2}hr; a forced flow rate of 0.2 to 0.8 m/sec; underheating
up to saturation temperatures of 28, 56, and 83C; and a 0 to 4% solute
concentration. The graphically represented results are generalized by a
parametric equation which provides a criterion for the heat transfer of
underheated sea water subject to surface boiling and forced motion. The
close relationship between the investigated heat transfer, of heat trans-
fer in the presence of surface oscillations, and Reynolds criteria, [GE]
indicates that vapor bubbles greatly intensify heat transfer.

SUB CODE: 08, 20/ SUBM DATE: none/ ORIG REF: 006/ ATD PRESS: 5114

Card 2/2

in the screen at several distances from the center, the flow rate in the flow core can

UDC: none

Card 1/2

APPROVED FOR RELEASE

ACC NR: AT7002861   (N)   SOURCE CODE: UR/3239/66/000/003/0124/0126

AUTHOR: Buznik, V. M.; Artemov, G. A.; Bandura, V. N.; Fedorovskiy, A. M.;
Kardashev, Yu. D.

ORG: none

TITLE: Method of measuring flow rates in rotating passages of marine turbines by
means of metric pressure gages

SOURCE: Nikolayev. Korablestroitel'nyy institut. Sudostroyeniye i morskiye
sooruzheniya, no. 3, 1966. Sudovyye energeticheskiye ustanovki (Ship power equipment),
124-126

TOPIC TAGS: flow rate, flow velocity, gas turbine, turbine cooling, gas turbine
engine, marine engine

ABSTRACT: A method for cooling the parts of marine gas turbines is based on various
experimental investigations, including studies of gas and cooling-air flow in rotating
passages. An arrangement is described for determining the flow characteristics (flow
rate and pressure) in the clearance between a gas-turbine disk and a screen rotating
along with it, by which a pressure-sensitive directional probe and a traversing micro-
pitot probe is used. The probes are shown and their operation is described. By
inserting the directional probe into the disk-screen clearance through holes located
in the screen at several distances from the center, the flow rate in the flow core can

Card 1/2   UDC: none

ACC NR: AT7002861

be measured. The pressure field across the section of the clearance is measured with
the pitot tube. The arrangement for pressure transmission consists of a hollow shaft
rotating inside the stator and provided with measuring chambers hermetically sealed by
water chambers. The described method is reliable in operation and improves the
accuracy of flow rate measurements. Orig. art. has: 3 figures.

SUB CODE: 13, 21/ SUBM DATE: none/ ORIG REF: 001/

Card   2/2

L 3?927-66   EWT(1)   WW

ACC. NR: AP6016912   (N)   SOURCE CODE: UR/0143/66/000/001/0084/0086

AUTHOR: Buznik, V. M. (Doctor of technical sciences, Professor); Artemov, G. A. (Engineer); Bandura, V. N. (Engineer); Kardashev, Yu. D. (Engineer); Fedorovskiy, A. M. (Engineer)

ORG: Nikolayevskiy Ship-Building Institute im. Admiral S. O. Makarov (Nikolayevskiy korablestroitel'nyy institut)

TITLE: Heat transfer from a flat disc rotating in an unlimited space

TOPIC TAGS: heat transfer, turbulent heat transfer, heat transfer coefficient, Rotation

ABSTRACT: To accumulate experimental data and to study the heat transfer at a constant thermal flux, the authors experimentally investigate the heat transfer from a rotating disc to moving air at a constant value of the specific heat flux at the surface. The disc-calorimeter was heated by an electrical heater placed inside it. The temperature of the disc surface was measured by copper-constantan thermocouples. The hot junctions of the thermocouples were embedded on the outside surface of the disc at various distances from the axis of rotation. The experimental device is shown schematically. The results of the experiments were compared with the data of other authors investigating heat transfer from a rotating

Card 1/2   UDC: 536.244

L 38927-66

ACC NR: AP6016912   U

disc obtained at a constant wall temperature. The transition to turbulence occurred at
$Re = 2.4 \cdot 10^5$. It is found that the coefficients of heat transfer from a rotating disc in the
case of a constant specific heat flux agree with those in the case of a constant wall temper-
ature. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 01Feb65/ ORIG REF: 003/ OTH REF: 003

Card 2/2

BUZNIK, V. M.; KARDASHEV, Yu. D.

"Heat transfer with surface boiling of sea water."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Nikolayevskiy Ship Building Inst.

BUZNIK, V.M., doktor tekhn. nauk, prof.; ARTEMOV, G.A.; inzh.;
        BANDURA, V.N., inzh.; KARDASHEV, Yu.D., inzh.; FEDOROVSKIY, ...
        inzh.

        Heat transfer from a flat disc rotating in an unbounded space
        Izv. vys. ucheb. zav.; energ. 9 no.1:84-86 Ja '66.

                                                        (MIRA ..)

        1. Nikolayevskiy korablestroitel'nyy institut imeni admiral
        S.O. Makarova. Predstavlena kafedroy teorii teplotekhniki i
        sudovykh parovykh kotlov. Submitted February 1, 1965.

ACC NR: AT6034432 (A)   SOURCE CODE: UR/0000/66/000/000/0015/0024

AUTHOR: Savitskiy, Ye. M.; Burkhanov, G. S.; Kopetskiy, Ch. V.; Bokareva, N. N.; Kardashevskaya, V. G.

ORG: none

TITLE: Production and properties of single crystals of refractory metals and alloys

SOURCE: AN SSSR. Institut metallurgii. Svoystva i primeneniye zharoprochnykh splavov (Properties and application of heat resistant alloys). Moscow, Izd-vo Nauka, 1966, 15-24

TOPIC TAGS: refractory metal, refractory alloy, single crystal, molybdenum, niobium, tungsten

ABSTRACT: The two main methods for production of metallic single crystals are extraction from a melt by the recrystallization method, and zone refining. The method of extraction from a melt by seeding is widely employed industrially for growing large single crystals of germanium, silicon (up to 80 mm in diameter), and semiconductor compounds of varying composition for diodes, transitors, and condensers. Application of this method to refractory metals has not been widely developed. The article describes in detail the techniques of zone refining. In vertical zone melting without a crucible, the ratio of the surface tension to the density of the melt should be

Card 1/2

ACC NR: AT6034432

100:1 or greater. The maximum size of single crystal rods produced by this method is, for example, 14-16 mm for molybdenum and 6-8 mm for tungsten, with a length of the order of 200-250 up to 500 mm. A table shows the purity and mechanical properties of rhenium of different degrees of purity, including the mechanical properties under elongation stress, the hardness, and the temperature of the start of recrystallization. A further table lists the mechanical properties of single crystals of various alloys of the refractory metals. It is found that an increase in the purity of zone refined molybdenum considerably lowers its resistance to deformation. Based on experimental results, a series of figures illustrate the substructure of single crystalline alloys, the mechanical properties of single crystal alloys of the molybdenum-niobium system, and the microhardness of alloys of the molybdenum-niobium system. P. M. Nosov, N. P. Khazov, A. Ye. Tsutskov, and T. S. Stronina took part in the work. Orig. art. has: 6 figures and 3 tables.

SUB CODE: 11/ SUBM DATE: 10Jun66/ ORIG REF: 012/ OTH REF: 005

Card 2/2

KARDASHEVSKIY, S.V., inzh.

Ways of mechanizing the single-ball planting of sugar beets. Trudy
VISKHOMa no.40:80-95 '63.   (MIRA 17:9)

KARDASHEVSKIY, S.V., inzh.

Variation of the starting flow of seeds in single-seed planting
of sugar beets. Mekh. i elek. sots. sel'khoz. 21 no.5:22-24 '63.
(MIRA 17:1)

1. Pushkinskaya mashinoispytatel'naya stantsiya.

KARDASHEVSKIY, S.V., inzh.

In the Scientific Technical Council of the All-Union Scientific
Research Institute of Agricultural Machinery. Trakt. i sel'-
khozmash. 33 no.9:47 S '63.   (MIRA 16:10)

(Agricultural machinery)

VEVERS, E.V.; KARDASHEVSKIY, S.V.

Statistical modeling of the process of sowing sugar beet
seeds. Trakt. i sel'khozmash. 33 no.9:20-21 S '63.
(MIRA 16:10)

(Sugar beets)   (Planters (Agricultural machinery))

KARDASHEVSKIY, S.V., kand. tekhn. nauk

Reviews and bibliography. Trakt. i sel'khozmash. no.6:48 Je '65.
(MIRA 18:7)

1. Pushkinskaya mashinoispytatel'naya stantsiya.

KARDASHIN, L.L.; KAZANTSEV, V.S.

Improving the quality of surface machining of piston pins. Avt.
prom. no.10:35-38 O '60.   (MIRA 13:11)

1. Gor'kovskiy avtozavod.
                              (Grinding and polishing)

KARDASHIN, L.I.,inzh.; KAZANTSEV, V.S.

Effect of the adjustment on the quality of machining parts on
centerless polishing machines. Vest.mash. 40 no.10:60-63 0'60.
(MIRA 13:10)

(Grinding and polishing)

S/113/60/000/010/011/014
D270/D301

AUTHORS: Kardashin, L.I., and Kazantsev, V.S.

TITLE: Improving surface finish in the machining of
                gudgeon pins

PERIODICAL: Avtomobil'naya promyshlennost', no. 10, 1960, 35 - 38

TEXT: Stringent requirements are imposed on gudgeon pins for the
ГАЗ-51 (GAZ-51) automobile. Tolerances for diameter, cylindricity
and roundness must not exceed 0.0025 mm, whereas surface finish
must be kept within class $\nabla 10$ "b". The component is ground on 8
machines in an automatic line, while finish operations are perfor-
med on two type э86 [Abstractor's note: Soviet] or Cincinnati No. 5
centerless grinders. Quality and output depend entirely upon cor-
rect setting of these machines, but occasionally it is impossible
to ensure the desired result due to insufficient knowledge of cen-
terless grinding. A study of the effect of inidvidual elements of
setting on the quality of the machined components was carried out
on Cincinnati No. 5 grinders at the Moskovskiy avtozavod (Moscow

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Improving surface finish in the ...   S/113/60/000/010/011/014
D270/D301

Automobile Plant). ЭЛ2ОС2K (E120S2K), Э120CT3K (E120ST3K), ЭБ150CT3K
(EB150ST3K), ЭБ180CT2K (EB180ST2K) and ЭБ320СT2K (EB320ST2K) grind-
ing wheels together with K320SM2B regulating wheels were tested.
The working capacity of the wheels was determined by their machin-
ing capacity and by surface finish of the machined components after
2 hours of operation. Surface finish was measured by a profilometer
whereas the machining capacity was determined by the constancy of
metal removed in one pass. The tests demonstrated that the EB320
ST2K, EB180ST2K and EB 150ST3K wheels gave good surface finish, but
do not possess an adequate machining capacity. On the other hand,
E120S2K wheels have a sufficient machining capacity, but do not
give the desired surface finish. During the last operation, the
grinding wheels should have only a polishing capacity. Their use-
ful life between truing amounted to 50,000 - 60,000 components. Ma-
chining conditions are improved when there is a certain elasticity
of the regulating wheel. The angle of inclination of the working
wheel in vertical plane of a Cincinnati No. 5 grinder is opposite
to the angle of inclination of the regulating wheel. The inclina-
tion of the working wheel improves machining: contact stresses in

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Improving surface finish in the ...   S/113/60/000/010/011/014
D270/D301

the component are reduced, and this gives a better finish and grea-
ter accuracy. During tests the angle of working wheel was varied
from 2.5 to 4° and that of the regulating wheel from 2 to 3°. De-
terioration in finish was observed with smaller inclination of the
working wheel or larger angle of the regulating wheel. The angle of
inclination for the working wheel in the first machine (preciding
the last operation) was 3.5°, whereas in the last grinder it was
3°. Inclination of the regulating wheels in both cases was 2°. A
greater inclination results in lower speed of the component which
impairs the quality of finish. Both wheels are given a hyperboloid
shape to ensure full contact between component and wheel. This is
achieved by slewing the truing devices in the horizontal plane by
an angle equal to that in the vertical plane, and also by shifting
the diamond tool from zero position to the right for regulating and
to the left for working wheel by an amount, calculated in an equa-
tion. It was found that an increase in the speed of the working
wheel improved the finish. Preliminary truing should be made with
diamond impregnated tools, and final truing with a diamond. The
working part of the supporting blade of the first grinder consisted

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Improving surface finish in the ,.•   S/113/60/000/010/011/014
                                          D270/D301

of accurately lapped rectangular carbide strips with 30^0 edge. The
second grinder was provided with a textolite working blade and a
flat top. The straightness, horizontal disposition and state of
the working part of the above, as well as their position in rela-
tion to the centers height of the wheels have a great effect on
finish. The results of a study of the effect of this height on fin-
ish are shown. Machining practice with Cincinnati No. 5 grinders
revealed that, all other conditions being equal, lengthening of
the contact between workpiece and wheels improves the finish due
to the greater number of grains that take part in the work. As a
rule, the length of contact is reduced after each truing due to va-
rious factors. This should be remedied by resetting the wheels
with the use of a control shaft of the same diameter as the work-
piece, but longer than the width of wheels. Due to the small wheel
inclination, the line of contact after truing is easily restorted
by cross tie bolts. The position of the guide plates has a great
effect on the geometrical form and finish of the components. There
are 3 figures and 2 tables.
ASSOCIATION: Gor'kovskiy avtozavod (Gor'kiy Automobile Plant)

Card 4/4

KARDASHIN, L.I.

Investigating some factors affecting the elasticity of piston
rings. Avt.prom. 28 no.1:33-39 Ja '62.   (MIRA 15:2)

1. Gor'kovskiy avtozavod.
                    (Piston rings--Testing)

KARDASHIN, L.I.

Investigating some technological factors affecting the fitting
and radial pressure diagram of piston rings. Avt.prom. 28
no.10:32-35 O '62.   (MIRA 15:9)

1. Gor'kovskiy avtozavod.

                              (Piston rings)

SOV/102-58-3-5/10

AUTHORS: Kardashov, A.A.   and   Karnyushyn, L.V. (Karnyushin, L.V.)

TITLE: Constructing Frequency Characteristics from Experimental
Transient Response Curves (Do pytannya pro pobudovy chastot-
nykh kharakterystyk za eksperymental'nymy kryvymy
perekhidnykh protsesiv).

PERIODICAL: Avtomatika (Kyiv), 1958, Nr.3, pp.74-83 (USSR)

ABSTRACT: In para.1 the curves are approximated by sections of semi-
infinite smooth curves delayed relative to one another
(as shown in Fig.1, and represented mathematically in
Eq.(3)). Eqs.(6) and (7) then have the same general form
as is obtained when piecewise-linear approximation is used.
Eqs.(8)-(10) deal with the forms used for the approximating
curves; Eqs.(11)-(12) relate to the use of Eq.(8) for this
purpose. In para.2 the essentials of Solodovnikov's method
(see Ref.11) are utilized (tables of the h_x functions,
given by Solodovnikov (Ref.11) are required). The last
section of the paper deals with an example, for a system
with the differential equation of Eq.(18); the response
Card 1/2   to a step input is assumed to be that of Eq.(19). The

SOV/102-58-3-6/10

Constructing Frequency Characteristics from Experimental
Transient Response Curves.

first method is found to give a good result if the
approximating functions remain bounded as t approaches
infinity (e.g. are exponentials); it is very simple and
convenient. Both methods give good results. There
are 4 figures and 11 references, of which 8 are Soviet,
2 English and 1 Swiss.

ASSOCIATION: L'viv s'kyy politekhnichnyy instytut   (L'vov Polytechnic
Institute).

SUBMITTED: August 25, 1957.

Card 2/2

KARDASHOV, A.A.

AUTHORS: Kardashov. A. A., Karnyushin, L V (L'vov)   103 19 4 6/12

TITLE: Determination of the System Parameters by Using Experimental
(Given)Frequency Characteristics (Opredeleniye parametrov
sistemy po eksperimental'nym (zadannym)chastotnym kharakteri-
stikam)

PERIODICAL: Avtomatika i Telemekhanika. 1958, Vol. 19. Nr 4. pp. 334-345
(USSR)

ABSTRACT: Here the experiment is made to create a universal and suffi-
ciently exact method for the determination of the values of
factors of the transfer functions or of single parameters of
linear models of real elements and of the parameters of automa-
tic control systems by means of approximation of the experi-
mental amplitude-phase characteristics. By interpolation the
orientation values for the factors of the analytical formula
for the amplitude-phase-characteristics are found and after
this according to the method of the least squares the cor-
rections to the found factors are computed. The suggested
method is applicable in case of arbitrary structure of the nu-
merator- and denominator polynomials of the transfer function
and gives sufficiently accurate results in the computation
with a slide rule. The process of computation is explained at

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Determination of the System Parameters by Using Experimental   103-19-4-6/12
(Given) Frequency Characteristics

examples. The method shown here is more universal and exact
than the other ways used for this purpose The advantage of
the interpolation method, which is given here, is represented
by the fact, that, compared with reference 5, here a solution
for a much larger class of approximating transfer functions
is obtained, but without essentally complicating the computa-
tions. A much greater amount of computation becomes necessary
only then, if according to the accuracy conditions for the ap-
proximation of the function the corrections to the factors, which
are sought, must be computed
There are 6 figures, 2 tables, and 9 references, all of which
are Soviet.

SUBMITTED: August 9, 1957

AVAILABLE: Library of Congress

1. Mathematics Theory   2. Functions   3. Polynomials

Card 2/2

13,2000

S/105/60/000/011/005/008
B012/B058

AUTHORS: Kardashov, A. A., Engineer, and Karnyushin, L. V., Docent,
             Candidate of Technical Sciences

TITLE: Determining the Parameters of Linearized Simulators of
             Control Systems According to Experimental Frequency
             Characteristics

PERIODICAL: Elektrichestvo, 1960, No. 11, pp. 51 - 55

TEXT: In the papers (Refs. 1-4), methods were explained for determin-
ing the numerical values of coefficients of linearized differential
equations for elements of <u>automatic control systems</u>. These methods are
based on the approximation of the experimental frequency response by an
analytical formula already known previously. This formula should be
drawn up under consideration of all internal connections and all physic-
al processes within the element, which is practically impossible.
Strictly speaking, the required parameters should therefore not be de-
signated as "physical" ones, but as equivalent parameters of the simpli-
fied simulator of a real element. The selection of circuit and

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S/105/60/000/011/005/008
B012/B058

parameters of correction elements expediently takes place on an elec-
tronic simulator. Approximated (simplified) differential equations of
the main elements of the system may be used when building up the simula-
tor. Since the initial experimental characteristics may be distorted
owing to nonlinearity, measuring errors etc., the methods based on a
simple interpolation (Refs. 2,3) are often not sufficiently accurate
for the approximation of the frequency response characteristic. In the
paper (Ref. 4), a better method was therefore elaborated by the authors.
It is based on using the method of the least mean square errors. The
calculations for this method are, however, very lengthy. In the present
paper, a simple method is given for solving the problem in question. It
is true that this method was elaborated for a more narrow (compared
with the above mentioned method), but still sufficiently wide class of
elements of electromechanic automatic control systems. The amplitude-
phase characteristics, smoothed out with the aid of statistical proc-
esses (Ref. 7), served as initial data for the determination of the re-
quired parameters of individual elements or the total control system.
The differential equation (1) of a linear simulator of the investigated

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Determining the Parameters of linearized   S/105/60/000/011/005/008
Simulators of Control Systems According to   B012/B058
Experimental Frequency Characteristics

element (and the system respectively) is written down. In most cases,
the setup of this equation may be determined already in advance, on the
basis of the mode of action of the element. The analytical formula (3)
of the amplitude-phase characteristic $W(j\omega)$ corresponds to this equa-
tion (1). Two constant coefficients $a_s(s=1, 2, \ldots, n)$ and k are con-
tained in formula (1). The problem consists in finding such values for
these coefficients, so that formula (3) may conform best with the ex-
perimental characteristic. k is the amplification coefficient and may
be determined from the initial part of the characteristic $k=W(j\omega)\big|_{\omega=0}$.

A transition to the reciprocal amplitude-phase characteristic $W'(j\omega)$ is
made for the determination of a_s, and system (11) for a_s is finally ob-
tained. This system consists of two groups of equations, each of them
containing n/2 unknowns. The method given here is simple and accurate.
It can be used for checking the admissibility of a simplification of
equations for elements or systems, for the determination of parameters
and equations of electric drive systems from given dynamic character-
istics and for the synthesis of electric current circuits. There are

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Determining the Parameters of Linearized   S/105/60/000/011/005/008
Simulators of Control Systems According to B012/B058
Experimental Frequency Characteristics

6 figures, 2 tables, and 7 Soviet referen ɔs.

SUBMITTED: March 28, 1960

Card 4/4

KARDASHOV, Arkadiy Aleksandrovich, assistent

Frequency method for designing transient processes in dynamic
systems during arbitrary perturbation process. Izv.vys.ucheb.
zav.; elektro-mekh. 3 no.1:61-72 '60. (MIRA 13:5)

1. Kafedra elektrifikatsii promyshlennykh predpriyatiy
L'vovskogo politekhnicheskogo instituta.
        (Automatic control)

BARDACHEVSKII, V.T., kand.tekhn.nauk, dotsent; KARDASHOV, A.A., inzh.

Static accuracy of the operation of an automatic control system.
Elektrichestvo no.9:22-25 S '61.   (MIRA 14:9)

1. L'vovskiy politekhnicheskiy institut.
                        (Automatic control)

L 14533-63   EWT(d)/FFC(w)/BDS   AFFTC/ASD/APGC   Pg-4/Pk-4/Pl-4/Po-4/Pq-4
BC/IJP(C)
ACCESSION NR: AP3004818   S/0103/63/024/008/1073/1083

AUTHOR: Kardashov, A. A. (L'vov)

TITLE: Analysis of the quality of automatic control by the method of reducing
the order of differential equations

SOURCE: Avtomatika i telemekhanika, v. 24, no. 8, 1963, 1073-1083

TOPIC TAGS: stable automatic-control system, quality analysis, differential-
equation order reduction, automatic control system

ABSTRACT: A method is presented for reducing the order of the differential
equation which describes a stable linear control system. This method is based on
the approximation, by the method of least squares, of curves of transient processes
corresponding to the original and reduced differential equations. The problem of
determining the coefficients of the reduced differential equation from the
coefficients of the original equation is analyzed. This problem is first reduced
to the solution of a system of nonlinear (with respect to unknown coefficients)
equations of which the solutions cannot be obtained in explicit form. By means of
certain assumptions and transformations this system is reduced to a linear one.
The error of approximation is estimated by the standard deviation formula expressed

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ACCESSION NR: AP3004818

in terms of coefficients of the original differential equation. It is noted that coefficients of the reduced differential equations very often are composite functions of coefficients of an original equation. In such cases the reduction of the order of a differential equation can be facilitated considerably by analyzing the influence of particular parameters of an automatic control system upon its dynamic properties. Two examples illustrate the method. "The author thanks L. B. Karnyushin for his help in preparing the article." Orig. art. has: 63 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 08Oct62

DATE ACQ: 26Aug63

SUB CODE: CG

NO REF SOV: 007

ENCL: 00

OTHER: 000

Card 2/2

KARDASHOV, A.A. (L'vov)

Analysis of the quality of an automatic control system using
a differential equation order reduction technique. Avtom. i
telem. 24 no.8:1073-1083 Ag '63.   (MIRA 16:8)

(Automatic control)

KARDASHOV, A.A., inzh.; KARNYUSHIN, L.V., kand.tekhn.nauk

Second-order delay component equivalent for a complex dynamic sys-
tem. Elektrichestvo no.7:70-73 Jl '63.   (MIRA 16:9)

1. Ukrainskiy zaochnyy politekhnicheskiy institut.
                    (Automatic control)

KARDASHOV, D.A., kand.tekhn.nauk.

New synthetic adhesives. Khim.nauka i prom. 2 no.5:602-612
'57.   (MIRA 10:12)
                    (Adhesives)

KARDASHOV, D.A.; ORLOVA, I.A., red.; GONCHAROV, N.G., tekhn.red.

[Epoxide resins; methods of preparation, properties, and fields
of application] Epoksidnye smoly; sposoby polucheniia, svoistva
i oblasti primeneniia. Moskva, Vses.in-t nauchn.i tekhn. infor-
matsii, 1959. 37 p.   (MIRA 13:10)
               (Epoxy resins)

KARDASHOV, D.A., red.; PANSHIN, B.I., kand.tekhn.nauk, red.;SHEKHTMAN,
     E.A., izdat.red.; ROZHIN, V.P., tekhn.red.

[Glue and gluing technology] Klei i tekhnologiia skleivaniia;
sbornik statei. Moskva, Gos.nauchno-tekhn.izd-vo, 1960.   284 p.
                    (Gluing)   (MIRA 13:10)

SOLOV'YEVA, V. N.; KARDASHOV, D. A.; MASHINA, M. A.; MURINA, I. S.
    MIKHAYLOVA, L. A.

    Phenol-rubber adhesive of higher elasticity. Plast. massy
    no.11:44-46 '62.   (MIRA 16:1)

        (Adhesives)   (Phenol condensation products)

BLAGONRAVOVA, A.A., kand.tekhn.nauk; KARDASHOV, D.A., kand.tekhn.nauk

New types of polymer coatings and adhesives. Zhur.VKHO 7 no.2:
187-194 '62.   (MIRA 15:4)
        (Protective coatings) (Adhesives) (Polymers)

KARDASHOV, D.A.; ZAMANSKIY, I.M.

Synthetic adhesives for metal-bonding to metal. Plast.massy
no.2:72-77 '63.   (MIRA 16:2)
                (Adhesives)   (Metals)

KARDASHOV, David Alekseyevich; NIKOLAYEV, A F , red.

[New adhesives based on synthetic polymers for bonding metals to nonmetallic materials] Novye klei na osnove sin teticheskikh polimerov dlia skleivaniia metallov i ne- metallicheskikh materialov. Leningrad, 1964. 18 p.

(MIRA 18 3)

L 37723-65   EPF(c)/EPR/EWP(j)/EWT(m)/T/EWP(v)   Pc-4/Pr-4/Ps-4   RM/WW

ACCESSION NR: AP4028546   S/0191/64/000/004/0023/0025

AUTHORS: Bek, V.I.; Kardashov, D.A.; Vlasova-Golovataya, V.I.

TITLE: Heat-resistant elastic adhesive VK-4

SOURCE: Plasticheskiye massy, no. 4, 1964, 23-25

TOPIC TAGS: adhesive, filled phenolic rubber adhesive, physical
property, chemical property, thermal stability

ABSTRACT: The physical and chemical properties of VK-4 adhesive (a
phenolic-rubber composition containing inorganic fillers) were in-
vestigated. The results of shear strength and stripping tests
showed that VK-4 joints are stable for a long time at high temperatures.
After being subjected to temperature changes (50 cycles at -60C for
1 hour, 20 C for 0.5 hour, 275C for 1 hour and 20C for 0.5 hour),
the shear strength of VK-bonded steel joints at 20C was reduced 30-40%,
and the adhesive strength, by 70%; at 275 and 300C there is no change
in shear strength and the adhesive strength is reduced 45-50%.
VK-4 is resistant to the action of water, gasoline, kerosene, AMG-F
type hydraulic liquid, T-2 fuel and transformer oil; it does not
cause anodic corrosion of aluminum alloy D16, aluminum powder or

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ACCESSION NR: AP4028546

EI-654 steel; it does not increase corrosion of galvanized steel or unshielded carbon s t e e l. Ventilation is required when working with the cement. It may be used for cementing carbon and stainless steels, titanium alloys and non-metallic materials such as glass-fiber reinforced plastic. "O. A. Markina, M. I. Znamenskaya, L. A. Vozdvizhenskaya participated in the experimental work." Orig. art. has: 4 tables and 2 figures.

ASSOCIATION: None

SUBMITTED: 00   ENCL: 02

SUB CODE: MT, MM   NR REF SOV: 005   OTHER: 000

Card 2/4

KARDASHOV, David Alekseyevich; KUDISHINA, Vera Alekseyevna;
        SHUMSKAYA, Nina Ivanovna; CHERNOV, M.M., kand. tekhn.
        nauk, retsenzent; ANTONOVA, S.D., red.

        [Epoxy resins and safety measures to be applied in their
        handling] Epoksidnye smoly i tekhnika bezopasnosti pri
        rabote s nimi. Moskva, Mashinostroenie, 1964. 135 p.
                                        (MIRA 17:11)

KARDASHOV, David Alekseyevich. Prinimal uchastiye LANGE, Yu.V.;
        VENKOVA, Ye.S., red.

    [Synthetic adhesives] Sinteticheskie klei. Moskva, Izd-
    vo "Khimiia," 1964. 494 p.   (MIRA 17:6)

L 31806-65   EWT(m)/EPF(c)/EWP(v)/EPR/EWP(J)/T   Pc-4/Pr-4/Ps-4   WW/RM
ACCESSION NR AM4047294   BOOK EXPLOITATION   S/

Kardashov, David Alekseyevich

Synthetic adhesives (Sinteticheskiye klei), Moscow, Izd-vo "Khimiya", 1964,
494 p. illus., biblio., indices. Errata slip inserted. 7,200 copies
printed.

TOPIC TAGS: synthetic glue, thermoplastic glue, thermosetting glue, metal to
metal bonding, metal to nonmetal bonding

PURPOSE AND COVERAGE: This monograph presents the theoretical principles of the
gluing process, describes the methods of obtaining and the properties of
synthetic glues, the technology of using glues to join metals and nonmetallic
materials in various fields of engineering, and also methods of testing glues and
glued joints. The book is intended for engineers, technicians, and researchers
in machine building, electrical engineering, construction, woodworking, and the
chemical industry and other branches of the economy connected with the
development, production, and use of synthetic glues.

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SUBMITTED: 23Mar64

NO REF SOV: 025

SUB CODE: MT, GC

OTHER: 065

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L 3144-66   EWT(m)/EPF(c)/EWP(v)/EWP(j)/T   WW/RM   UR/

                                BOOK EXPLOITATION   20

AM5019640   44.55   β+1

Kardashov, David Alekseyevich

New adhesives based on synthetic polymers for bounding metals to non-
metallic materials (Novyye klei na osnove sinteticheskikh polimerov
dlya skleivaniya metallov i nemetallicheskikh materialov) Leningrad,
[LDNTP] 1964.   38 p. illus., biblio., tables.   4500 copies printed.

TOPIC TAGS: adhesive, cold setting adhesive, heat resistant adhesive,
organosilicon adhesive, elastic adhesive

PURPOSE AND COVERAGE; This book is intended for personnel in indus-
tries using adhesives. The principal heat-resistant adhesives with
high elasticity as well as the composition of those used at normal
temperatures, developed in the Soviet Union in recent years and,
based on synthetic polymers, are covered. Some non-Soviet data on
adhesives and their use are included. No personalities are
mentioned.

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SUB CODE: GC   SUBMITTED: 0000064   NO REF SOV: 023

OTHER: 011

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KARDASHOV, I., polkovnik zapasa, kand. filosof. nauk

Our international duty. Voen. znan. 40 no.12:11-12 D '62

(MIRA 18:1)

KARDASHOV, I., polkovnik zapasa, kand.fiolscf.nauk

Soviet patriotism and socialist internationalism. Voen.znan.
38 no.12:16-18 D '62.
(Military education) (Internationalism) (MIRA 15:12)

KARDASHOV, Ivan Stepanovich, polkovnik, kand.filosof.nauk; ZHLYNOV,
N.M., red.; BEZDENEZHNYKH, P.T., red.; STREL'NIKOVA, M.A.,
tekhn.red.

[International obligation of the Soviet Armed Forces] Inter-
natsional'nyi dolg Vooruzhennykh Sil SSSR. Moskva, Voen.izd-vo
M-va obor.SSSR, 1960. 211 p.   (MIRA 13:5)
                    (Russia--Army)

VLASHCHENKO, L.F.; NOVIKOV, V.M.; ZINOV'YEVA, M.M.; SIDOROVA, A.F.;
        KARDASHOVA, A.A.; KLEYMENOV, I.Ya.; KRASNOPOL'SKIY, N.M.
        [deceased]; LUKASH, Ye.G.; SAMOFALOV, P.Ye.; YASHINA,
        Ye.I.; KULIKOV, P.I., dots., retsenzent; MAKAROVA, T.I.,
        kand. tekhn. nauk, retsenzent; MERENBURG, A.N., spets. red.;
        KOSSOVA. O.N., red.; SOKOLOVA, I.A., tekhn.red.

[Handbook for the technologist of the fishing industry]
Spravochnik tekhnologa rybnoi promyshlennosti. Moskva, Pi-
shchepromizdat. Vol.1. 1963. 589 p.   (MIRA 17:3)

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             saturation with SO_2 at c ∠ 13%; maximum decrease of $\varkappa$
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An analysis of the BCG of 40 patients aged 12-34 years, with mitral valve defects, was carried out. In those patients, besides the process under examination, no factors which might have yielded a pathological BCG were present. An increase of L deflection, a sharp H deflection and a knotting of the HI section (the changes which had not been present in the control group of healthy persons) were observed. The changes appeared with equal frequency in the cases of 'pure' mitral stenosis or insufficiency. This is an argument against the usefulness of ballistocardiography in differentiating both these heart defects.

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                    (BLOOD DISEASES)