KURBASOV, A.S., kand.tekhn.nauk

Improving the commutation of electric traction motors operating
on a pulsating current.  Vest.TSNII MPS 20 no.4:8-11 '61.

(MIRA 14:7)

(Electric railway motors)

KURBASOV, A.S., kand.tekhn.nauk

What causes the wear of the collectors of electric traction motors.
Vest.TSNIIMPS 21 no.7:8-11 '62.                              (MIRA 15:12)
(Electric railway motors)

KURBASOV, A.S., kand.tekhn.nauk (Moskva)

Fundamentals of the power theory of the commutation of d.c.
machines. Elektrichestvo no.7:24-28 Jl '62.          (MIRA 15:7)
          (Electric machinery—Direct current)
               (Commutation (Electricity))

KURBASOV, A.S., kand.tekhn.nauk (Moskva)

Calculation of the commutation of d.c. machines.  Elektrichestvo
no.8:69-72 Ag '62.                                  (MIRA 15:7)
          (Electric machinery--Direct current)

KURBASOV, Aleksandr Sevast'yanovich, kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Power consideration in the theory of commutation.  Izv.vys.ucheb. zav.; elektromekh. 5 no.9:1076-1079 '62.          (MIRA 16:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodo-rozhnogo transporta.
                    (Commutation (Electricity))
                    (Electric machinery--Direct current)

KURBASOV, A.S., kand. tekhn. nauk

Device for checking the commutation of electric traction motors.
Vest. elektroprom 34 no.6:53-56 Je '63.                    (MIRA 16:7)

(Electric railway motors—Testing)
(Electric measurements)

ALEKSEYEV, A.Ye.; KHVOSTOV, V.S.; KURBASOV, A.S., kand. tekhn. nauk

Concerning A.S. Kurbasov's articles "Principles of the energy
theory of the commutation of d.c. machines" and "Calculation
of the commutation of d.c. machines." Elektrichestvo no.12:
75-81 D '63.                                    (MIRA 17:1)

1. Chlen-korrespondent AN SSSR (for Alekseyev).

KURBASOV, A.S., kand.tekhn.mauk

Criteria of the commutational strength od d.c. machines.
Elektrotekhnika 34 no.9:9-12  S   '63.                    (MIRA 16:11)

KURBASOV, A.S., kand. tekhn. nauk

Experimental determining of induction in the commutation zone
of traction motors for electric locomotives.  Vest. TSNII MPS
23 no.7:27-30  '64.                                    (MIRA 18:3)

KURBASOV, Aleksandr Sevas'yanovich, starshiy nauchnyy sotrudnik

Current distribution between brush holders of the same polarity
in electric traction motors. Izv. vys. ucheb. zav.; elektromekh.
8 no.4:477-479  '65.                                 (MIRA 18:5)

KURBASOV, A.S., kand. ekhn.nauk; RUNOV, Yu.A., inzh.

Experimental study of the potential conditions of the traction motor
collectors of electric locomotives. Trudy TSNII MPS no.286:160-165
'65.                                                       (MIRA 18:8)

ACC NR:  AP6021336                          SOURCE CODE:  UR/0144/66/000/003/0283/0287

43 B

AUTHOR:  Kurbasov, Aleksandr Sevast'yanovich (Candidate of technical sciences; Chief
science associate); Yolkin, Sergey Nikolayevich (Chief engineer)

ORG:  [Kurbasov] All-Union Scientific Research Institute of Railway Transport
(Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta);
[Yolkin] Novocherkassk Electric Locomotive Works (Novocherkasskiy elektrovozo-
stroitel'nyy zavod)

TITLE:  Construction of load inserts in the frame of a pulsed current drive motor

SOURCE:  IVUZ.  Elektromekhanika, no. 3, 1966, 283-287

TOPIC TAGS:  electric motor, alternating current

ABSTRACT:  An NB-412M drive motor has no special frame devices for passing
the variable component of the commutating current, and therefore it exhibits
up to twice as much brush arcing when it is operated with a pulsed current
as compared with d-c.  Previously proposed load inserts for the cast frame
of this motor were defective in that they were designed solely for the
alternating commutating current but shorted the constant current of the main
poles; furthermore they became saturated, which sharply increased their
magnetic resistance to the alternating current.  A design is proposed that
avoids these defects.

Card  1/2                                                      UDC:  621.331

L 31701-66

ACC NR:  AP6021336                                                    O

The new inserts are laminated packets, the elements of which are stamped out
of an electrotechnical steel. Owing to a system of gaps, magnetic resistance
to dc of the main poles is increased, whereas it is practically unchanged.
for the d-c component and is significantly decreased for the alternating
component of the interpoles.
Tests of the modified design were made at the Central Scientific Research
Institute of the MPS, and the results indicate greatly reduced arcing. Other
results are tabulated and compared with tabulated test data for an unmodified
motor; the improvement in operation is marked. Orig. art. has:  3 figures and
2 tables. [JPRS]

SUB CODE:  09  /  SUBM DATE:  12Nov65

Card  2/2 GD

L  01298-67   EWT(1)
ACC NR: AP6015029  ( A )       SOURCE CODE:  UR/0144/66/000/004/0410/0415

AUTHOR: Kurbasov, A. S.

ORG: none

TITLE:  Magnitude and phase of the commutating flux in various types of traction-motor stators

SOURCE: IVUZ. Elektromekhanika, no. 4, 1966, 410-415

TOPIC TAGS:  electric motor, dc motor, commutation, electric traction

ABSTRACT:  The results are reported of an experimental investigation of these d-c traction motors:  (1) DPE-400, 400 kw, 1500 v  , 4 poles, cast-steel frame, laminated main-pole cores; (2) NB-412, 650 kw, 1450 v, 6 poles, design same as above; (3) NB-412 M, 690 kw, 1450 v, laminated (0.5-mm) commutating poles, cast-steel frame, 4 (0.5-mm) laminations ("insert") under main poles; (4) NB-415 A, 720 kw, 1450 v, 4 poles, a laminated core including commutating poles placed inside the cast-steel frame.  Motor performance was tested under both pulsating-current conditions (with various ripple factors) and d-c plus 100-cps current conditions; the

Card 1/2                                    UDC: 621.3.013.4 + 621.3.091

1. 01298-67

ACC NR: AP6015029                                                                    O

ac was fed either to the commutating poles or to the armature winding. Conclusions:
(1) Types 1 and 2 stator designs are permissible if the a-c component of the reactive
emf is lower than the noncompensated emf; (2) The stator magnetic-circuit
characteristics are better (the degree of noncompensation of the reactive emf equals
0.65) in type 3; (3) The type 4 stator improves the magnetic-circuit characteristics
only to a certain degree; (4) As the magnetic-circuit saturation is approached, the
a-c commutating flux either changes little (type 1), or essentially decreases (types 2
and 4), or increases (type 3); (5) The laminated insert (type 3) reaches saturation
very quickly; at 200 amp, the insert passes only 20% of the a-c commutating flux; the
laminated core (type 4) reaches saturation with smaller-than-rated current. Orig.
art. has: 1 figure and 2 tables.

SUB CODE: 09 / SUBM DATE: 10Jul63 / ORIG REF: 002

Card 2/2

ACCESSION NR: AP4037178                 S/0069/64/026/003/0330/0334

AUTHOR: Kurbasov, V. V.

TITLE: Relationship between dichroism and the degree of polarization in the electrooptics of colloids

SOURCE: Kolloidny*y zhurnal, v. 26, no. 3, 1964, 330-334

TOPIC TAGS: colloid, electrooptics, dichroism, polarization, dichroism polarization correlation, intrinsic dichroism, Kerr effect, orientation theory, spectrophotometry, polarization spectral function, dichroism spectral function, optical density, hydrosol

ABSTRACT: This article proposes and experimentally verifies a formula correlating dichroism and polarization. The study initially considered two basic quantities usually used as a measure of electric dichroism: intrinsic dichroism, as determined by the formula:

$$D = (k_\parallel - k_\perp)/(k_\parallel + k_\perp).$$

(where $k_\parallel$ and $k_\perp$ are the coefficients of extinction for incident

Card   1/4

ACCESSION NR: AP4037178

light components parallel and perpendicular to the direction of
orientation); and the polarization of light passing through a
dichroic medium:

$$P = (I_\perp - I_\parallel)/(I_\perp + I_\parallel),$$

(where $I_\parallel$ and $I_\perp$ are the light intensities of the vibration planes
parallel and perpendicular to the electric field). Further con-
sideration developed the following expression based on the formula
of the orientation theory of the Kerr effect, for the absorption
of colloidal solutions in an electric field:

$$k = (k_\parallel + 2k_\perp)/3. \qquad (I)$$

The following relationship between dichroism and polarization was
also determined:

$$D = \frac{3 \ln [(1 + P)/(1 - P)]}{6kd + \ln [(1 + P)/(1 - P)]} \qquad (II)$$

It was concluded that dichroism can be determined if polarization
is known and if the optical density of the solution without a
field is calculated from spectrophotometric measurements: $kd = \lg(L/I)$.
It was determined graphically that the degree of polar-
ization approaches unity with high optical density values and

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ACCESSION NR: AP4037178

significant dichroism, that the polarization does not change with
change in dichroism or optical density, and that the spectral
function of the degree of polarization approximates that of dich-
roism.  An examination of the absorption spectra, degree of polar-
ization, and dichroism of dyes (methylene blue acid and neutral
Congo red, Brown Kkh), adsorbed on cellophane shows there is
agreement between the absorption spectra and the polarization and
dichroism functions.  The stationary method for determining elec-
trodichroism (measuring the optical density of plane polarized
light passing through a colloidal solution placed in an electric
field) was used in a study comparing the dichroism and optical
density of the hydrosol of Brown Kkh and of the acid hydrosol of
Congo red.  It was found that the developed formulas I and II hold
true for molecular-disperse systems; and the experimental data and
values obtained by the equations I and II differ by less than 5-6%.
Orig. art. has: 1 table, 3 figures, and 14 equations.

ASSOCIATION: Kry*mskiy pedagogicheskiy institut im. M. V. Frunze,
             Kafedra fiziki (Krymsk Pedagogical Institute, Physics
             Department)

Card 3/4

ACCESSION NR: AP4037178

SUBMITTED: 21Jan63          ATD PRESS: 3071          ENCL: 00

SUB CODE:   GC, EM          NR REF SOV: 005          OTHER: 003

4/4

Card

PETRZHAK, V.G.

Nature of the electrical dispersion of hydrosols of the brown Bx dye.  Koll. zhur. 26 no.4:482-484  July '64.
(MIRA 17:9)

1. Krymskiy pedagogicheskiy institut imeni Frunze, kafedra fiziki.

KURBASOV, V.V.

Particular features of the electrical dichroism of Congo red
hydrosols. Koll.zhur. 27 no.3:396-401 My-Je '65.
(MIRA 18:12)

1. Krymskiy pedagogicheskiy institut imeni Frunze, kafedra
fiziki. Submitted Jan. 10, 1964.

ACCESSION NR: AP4019968                     S/0020/64/154/006/1303/1305

AUTHORS: Grasyuk, A.Z.; Zuyev, V.S.; Kokurin, Yu.L.; Kryukov, P.G.;
        Kurbasov, V.V.; Lobanov, V.F.; Mozhzherin, V.M.; Sukhanovsky,
        A.N.; Cherny*kh, N.S.; Chuvayev, K.K.

TITLE: Optical moon ranging

SOURCE: AN SSSR. Doklady*, v. 154, no. 6, 1964, 1303-1305

TOPIC TAGS: laser, ruby laser, moon ranging, moon
light reflection, celestial ranging, optical ranging

ABSTRACT:  The paper describes the preliminary results of moon
ranging with a ruby laser.  For the transmission and reception of
the light pulses, a telescope was used with a mirror diameter of 2.6
m. (see Fig. 1 of the Enclosure). The laser used was developed by V.S. Zuyev and
P.M. Kryukov and had the following parameters: wavelength 6943Å,
pulse energy 50 to 70 joules, pulse duration  2 μsec,     diameter
of the beam 11 mm., and divergence 3'.  By taking into consideration
the light scattering in the atmosphere, the diameter of the spot on
the moon is estimated to be 14 km.  For the detection of the signal,

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ACCESSION NR: AP4019968

a photomultiplier cooled with dry ice was used.  The signal to noise
ratio was 0.16.  Therefore, statistical treatment was necessary.
The authors believe that the results prove the reality of the re-
flected signal.  "The authors are grateful to corresp. members A. G.
Basov and A. B. Severny*y, and to B. I. Belov, F. Kh. Nigmatullin
of the Lebedev Phys. Institute, and to V. B. Nikonov, V. K. Prokof'yev
P. P. Dobronravin, N. V. Stesheuko, and B. P. Abrazhevskiy of the
Crimean Astrophysics Observatory."  Orig. art. has: 1 figure.

ASSOCIATION: Fizicheskiy institut im. P.N. Lebedeva Akademii   nauk
SSSR (Institute of Physics, AN SSSR), Kry*mskaya astrofizicheskaya
observatoriya akademii nauk SSSR (Crimean Astrophysics Observatory,
AN SSSR)

SUBMITTED: 05Nov63          ATD PRESS: 3047           ENCL: 01

SUB CODE: EC, AA            NO REF SOV: 001           OTHER: 001

Card 2/3

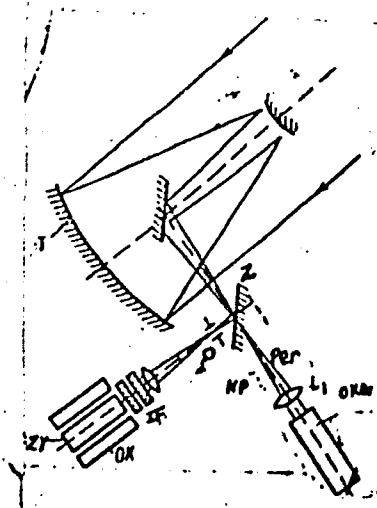ACCESSION NR: AP4019968

ENCLOSURE: 01



Fig. 1.   Diagram of unit for optical moon ranging

T - Telescope; OKG - optical quantized generator; $L_1$ - matching lens; Z - throwover mirror; D - diaphragm; IF - interference filter; FZY - electron photomultiplier; OK - dry ice container.

Card   3/3

L 22702-66   EWT(1)/T . IJP(c)   JXT(CW)/CW

ACC NR: AP6010439              SOURCE CODE:   UR/0386/66/003/005/0219/0223

AUTHOR:   Kokurin, Yu. L.; Kurbasov, V. V.; Lobanov, V. F.; Mozhzherin,
V. M.; Sukhanovskiy, A. N.; Chernykh, N. S.

ORG:   Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR
(Fizicheskiy Institut Akademii nauk SSSR)

TITLE:   Measuring the distance to the moon by an optical method

SOURCE:   Zhurnal eksperimental'noy i teoreticheskoy fiziki.  Pis'ma
v redaktsiyu.  Prilozheniye, v. 3, no. 5, 1966, 219-223

TOPIC TAGS:   moon, moon earth distance, distance measurement, moon
location, optical location, laser application

ABSTRACT:   A description is given of the experimental measurement of
the distance to the moon by means of an optical locator.  A schematic
of the locator is shown in Fig. 1.  Ruby laser 1 and photomultiplier 2
are fixed rigidly in the Kude focus of telescope 3.  A tunable inter-
ference filter 4 is placed in front of the photomultiplier and behind
diaphragm 5.  Mirror 6 can be automatically switched from receiving
to transmitting operations.  Photomultiplier output amplifier and pulse
shaper 7 follow 2, and the measurement of the time intervals between
the emission and reflection (from the moon) of laser pulses is made by

Card   1/4

L 22702-66

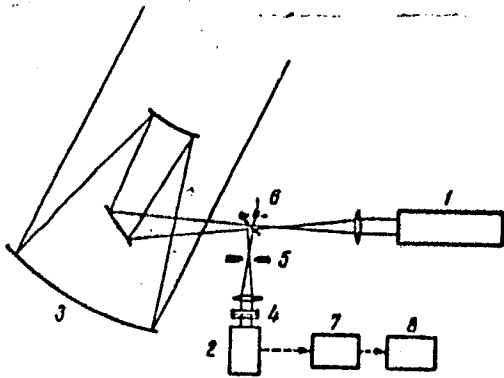ACC NR:    AP6010439                                                    0

Fig. 1.   Schematic of the locator

counter 8, which is activated by that portion of the laser pulse
directed to the photomultiplier.  The laser operated at 6943 Å, with a
pulse energy and duration of 5—7 j and $5 \cdot 10^{-8}$ sec, respectively.  The
diameter of the main telescope mirror was 2.6 m and its focal length
104 m; the beam diameter was 13 mm, and the divergence of the beam
reflected from the telescope mirror was 3 sec of arc.  The filter pass-
band was 10 Å, and the instrumental error in the measurement of time
$\pm 10^{-7}$ sec.  The observation of the lunar surface was confined to an area
located at the bottom of the Flammarion crater with the selenographic

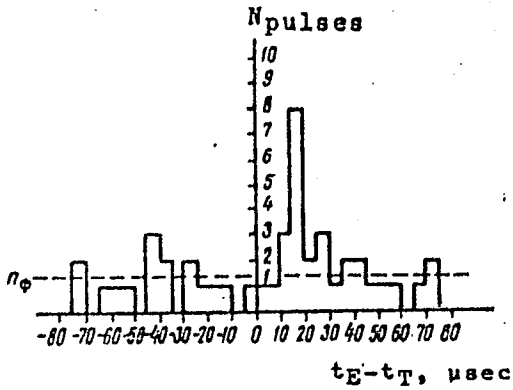Card   2/4

ACC NR:    AP6010439                                                  C)

$N$pulses



Fig. 2.   Results of measurements

$t_E$-$t_T$, μsec

coordinates of $\lambda$—$3°.57$ and $\phi$—$2°.98$. The results of observations are
shown in Fig. 2, as a frequency distribution of the quantity $t_E$—$t_T$ in
10-μsec class intervals ($t_E$ and $t_T$ are the experimental and calculated
times, respectively, required by a signal to complete the round trip).
The signal-to-noise ratio was ~5 and the mean of the useful signal was
found to be distributed within the 15—20 μsec class boundary, with
a  standard  deviation  of  $1.2$  x  $10^{-6}$  sec.   The  total  error
in positioning the distribution center was ~$1.3$ x $10^{-6}$ sec, which corre-

Card    3/4

ACC NR:    AP6010439                                                    $O$

sponds to ~200 m error in the measurement of distance.  Orig. art. has:
2 figures.                                                              [YK]

SUB CODE:  20/  SUBM DATE:  22Jan66/  ORIG REF:  002/  OTH REF:  001
ATD PRESS: 4229

Card  4/4

ACC NR: AT6019595                          SOURCE CODE:   UR/0293/66/004/003/0414/0426

AUTHOR:  Kokurin, Yu. L.; Kurbasov, V. V.; Lobanov, V. F.; Mozhzherin, V. M.;
Sukhanovskiy, A. N.; Chernykh, N. S.

ORG:  none

TITLE:  On the feasibility of measuring lunar disk and orbital parameters
by optical radar

SOURCE:  Kosmicheskiye Issledovaniye, v. 4, no. 3, 1966, 414-426

TOPIC TAGS:  lunar albedo, moon, laser application

ABSTRACT:

     Yu. L. · Kokurin and coworkers [!] have reviewed the theoretical
problems in laser ranging of the moon, with the object of determining more ·
accurate values for several Earth-Moon parameters.  The authors discuss
methods for  1) obtaining a more detectible reflection signal and 2) using the
measured range to compute such parameters as mean lunar orbital radius,   .
lunar disk radius, parallax constant. and Earth equatorial radius.
     The basic range equation for a reflected electromagnetic signal is taken
as a starting point.  The factors are the same as in the radar range equation,
except that the return signal varies inversely as the square, rather than as
the fourth power, of range, since  it is assumed that all the generated laser
flux is incident on the Moon.  Using an average figure for atmospheric ab-
sorption, a lunar albedo of 0.1, and an effective t e l e s c o p e  a r e a  o f
5.3 m² (actual area of a telescope currently in use), the authors calculate

Card  1/5                         UDC:   523.31.082.5 + 521.61.082.5

ACC NR: AP6019595

that the relationship between reflected and transmitted energy is

$$W_{refl} \approx 2 \times 10^{-19} \; W_{tr}.$$

It follows that with the highest sensitivity photodetectors now available, $W_{tr}$ must be at least 150 joules in order to obtain from the Moon a consistently detectible reflection, i.e., one that does not require statistical analysis to be detected. The pulse must be as short as possible to maximize range resolution; however, present laser pulses of the energy level demanded would have durations of the order of milliseconds, which means a range uncertainty of several hundred kilometers. If Q-switching is used to shorten pulse time, there is an intolerable loss in power amplitude. The conclusion is that only when more powerful short-pulse lasers are developed can there be a significant refinement in lunar ranging measurements.

Factors which degrade the laser technique are also discussed. One of these is the unavoidable divergence of the beam in the atmosphere, estimated at 2" to 3", which would give a lunar spot of some 3.5—5 km across. Contour irregularities within the illuminated area can add to the range uncertainty in the return signal, in the form of range "smear." Owing to the Moon's curvature, a similar effect occurs which increases as a function of

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ACC NR: AP6019595

the distance of the target area from the center of the lunar disk. An obvious way to improve the technique would be to place some form of mirror on the Moon; the authors propose an optical corner reflector for this purpose (see Fig. 1) and have analyzed ways of optimizing its design. With the density of the reflector material assumed to be the limiting factor, it is shown that one large reflector is more effective than several small ones. For a glass corner reflector, the gain $\beta$ in return signal over that from the lunar surface alone (assuming a ruby laser) is calculated to be $\beta = 2.15 \times 10^{-3} a^4$, where $a$ is the length of a joint edge in cm. (see Fig. 1). Assuming a glass density of 2.7 g/cc, the authors find values of gain ranging from $\beta = 25$ for $a = 10.4$ cm up to $\beta = 1330$ for $a = 28.2$ cm. Some loss in reflectivity

Fig. 1. Corner reflector (Hexagon indicates effective reflective area)

must be anticipated, such as by dust contamination, so the foregoing figures are based on a reflection coefficient of only 0.5.

Card   3/5

ACC NR: AP6019595
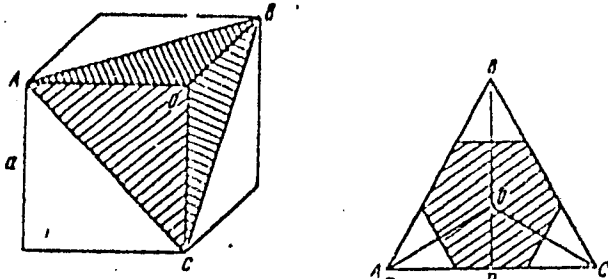


Orientation of the reflector would be critical. If the plane of the aper-
ture is not nearly normal to the laser beam, a severe loss in return signal
results; for example, a 15° offset would mean a signal loss of approximately
30% (Initial acquisition of the reflector is not discussed). Constraints on
reflector geometry are also quite severe, if diffraction losses are to be
minimized. For a reflector with $a = 14$ cm, it is estimated that the angular
tolerance between adjoining planes should be held within 0.1"; with such
tight tolerances, temperature extremes and mechanical stresses could be

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ACC NR: AP6019595

critical factors in reflector performance. Under reasonably good condi-
tions, however, it is calculated that a reflector with  β = 40 would return
an adequate detectible signal to Earth from a Q-switched ruby laser of
4 to 5 joules output.

The possibility of confusing a genuine signal with noise or surface
rather than reflector return can be minimized by using multiple detection
and correlating the results. In fact, if three photomultipliers are used
simultaneously, the experiment could be performed in daylight, with a low
probability of error.

The authors conclude by giving the procedures for calculating mean
lunar orbital radius (mean distance between Earth and Moon mass centers),
radius of the lunar disk, Earth equatorial radius, and Earth-Moon parallax
constant. All of these are obtainable from knowledge of an arbitrary line-
of-sight distance from the Earth to the Moon, measured as described above.
The calculations show that, with the improved ranging method, parameters
such as the Moon's orbital radius and disk radius could be determined to
accuracies of several hundreds of meters, a great improvement over the
present accuracy of several kilometers. Unfortunately, these accuracy figures
do not seem to be tied to any tolerance on the range measurement.
[FSB:  v. 2, no. 9/   Orig. art. has: 33 formulas, 2 figures and 1 table.
Card  5/5    SUB CODE: 03,20 / SUBM DATE: 26May65 / ORIG REF: 009 / OTH REF: 003

49 - 2 - 9/13

AUTHOR:      Kurbatkin, G.P.

TITLE:       Hydrodynamic determination of the annual characteristics
             of the temperature of the air at sea level. (Opredeleniye
             metodami gidrodinamiki godovogo khoda temperatury voz-
             dukha na urovne morya).

PERIODICAL:  Izvestiya Akademii Nauk, Seriya Geofizicheskaya, 1957,
             No.2, pp. 228-243.  (U.S.S.R.)

ABSTRACT:    The solution of the problem of determining the annual
             temperature variation at sea level is given on a world
             wide scale.  The dependence of the thermal properties
             of the underlying surface of the geographical coordinates
             is taken into consideration more accurately than has been
             done in earlier published work.  The calculated examples
             are compared with observation data and with results
Card 1/4     obtained theoretically by other authors.

49 - 2 - 9/13

TITLE:       Hydrodynamic determination of the annual characteristics
             of the temperature of air at sea level. (Opredeleniye
             metodami gidrodinamiki godovogo khoda temperatury voz-
             dukha na urovne morya).

             The aim of the author is to present a more detailed
             theory which would particularly permit taking into con-
             sideration the effect of densification and sharp bending
             of isotherms near the shores.  The method presented here
             permits taking into consideration fully the heat flow
             from the soil and providing a solution which is less
             dependent on the slow convergence of spherical function
             series.  The obtained solution is independent of earlier
             given longitude and latitude ranges.  The starting
             equation for determining the annual variation of the air
             temperature at sea level is the relation expressing the
             heat inflow in the form of eq.(1), p.228.  The finally
             derived relations are expressed by eqs.(45) and (46),
             p.238.  Thereby the problem was reduced to solving a
             system of linear non uniform integral equations of the
Card 2/4     second Fredholm type.

49 - 2 - 9/13

TITLE:     Hydrodynamic determination of the annual characteristics
of the temperature of air at sea level. (Opredeleniye
metodami gidrodinamiki godovogo khoda temperatury voz-
dukha na urovne morya).

For practical calculations a number of simplifying
assumptions are made and it is shown that even the first
approximation yields a non stationary and non zonal
temperature field which is close to the real one.  In
Figs.1-8, pp.240-242, claculated values are given for
January, and in Figs.3-5, these values are compared with
real values (curves), actually measured at sea level
during January.  The method, for instance, can also be
applied in long term forecasting of temperature at sea
level, taking into consideration the transofrmation of
air masses under the influence of the underlying surface,
the investigation of the influence of the orography on
Card 3/4     meteorological fields, etc..

49 - 2 - 9/13

TITLE:          Hydrodynamic determination of the annual characteristics
                of the temperature of air at sea level. (Opredeleniye
                metodami gidrodinamiki godovogo khoda temperatury voz-
                dukha na urovne morya).

                The text includes 1 table, 2 world temperature distri-
                bution maps, 7 graphs, and equations throughout the text.
                There are 3 references of which 2 are Slavic.

ASSOCIATION:  Academy of Sciences of the USSR, Institute of Terrestrial
                Physics.

PRESENTED BY:

SUBMITTED:    12/3/56

AVAILABLE:    Library of Congress

Card 4/4

KURBATKIN, G.P., Cand Phys-Math Sci—(diss) "The hydrodynamic theory of the effect of the irregularities of the Earth's surface on the large-scale atmospheric processes." Moscow, 1958. 7 pp, (Acad Sci USSR. Inst. of Applied Geophysics). 150 copies. (KL, 33-58, 104).

5

KURBATKIN, H...

AUTHOR:    Kurbatkin, G.P.                              49-58-2-10/18

TITLE:    The Influence of Large-scale Orographic Obstacles
on the West-East Air Flow. (Vliyaniye krupnykh
orograficheskikh prepyatstviy na zapadno-vostochnyy
potok.)

PERIODICAL:  Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya,
1958, Nr.2, pp.244-254. (USSR).

ABSTRACT:  The west-east air flow as it meets large mountain masses
in its path sometimes flows round them and sometimes
flows over them.  Depending on the height and orien-
tation of the mountain barriers their influence on
large-scale atmospheric processes differs:  in some
cases the air flow over the barrier is most signifi-
cant in the determination of the weather (the Rockies
and the Andes), and in other cases it is the flow round
the obstacle (the Himalayas) that is significant.
In recent years there have appeared many theoretical
papers devoted to the problem of the interaction between
the zonal flow and orographic obstacles; but in
Card 1/12 nearly all these papers (e.g., see Refs.1,2) the

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East  Air Flow.

influence of mountains is expressed by a linearized term

$$U \frac{\partial \xi}{\partial \lambda}$$

where  U  is the zonal flow,  and $\frac{\partial \xi}{\partial \lambda}$  is the derivative
of the mountain profile along a contour line.   Physically
this term takes into account only the effect of the air
mass flow over the mountain;  it does not account for
flow round mountain obstacles.   In Refs. 3,4 a
theoretical attempt was made to obtain the flow round
a mountain by solving an over-idealized problem in
which the air mass flow over the mountain was ignored.
For a barotropic model with constant incident flow the
problem of the influence of   orography on the west-
east flow was solved by Gambo (Ref.5).   The present
paper proposes another solution of this problem, in
which the zonal flow is given as a function of the
Card 2/12 latitude.   The author considers a stationary linear

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barotropic model.   Turbulent friction forces are
ignored, and it is assumed that the air density depends
weakly on the altitude.   The boundary conditions are
given on the earth's surface and are, firstly, that the
normal component of the wind velocity vector to the
mountain surface is zero and, secondly, that at infinity
$(\rho w)_{z \to \infty} \to 0$.   Equations of motion are written
(in spherical coordinates) which describe the motion of
a two-dimensional compressible layer on a rotating
sphere in the presence of an uneven relief on the
surface of the earth.   The motion of the atmosphere
consisting of a pure zonal circulation, upon which is
imposed a perturbation caused by   orographic obstacles,
is considered, i.e.

$$v_0 = v_0', \quad v_\lambda = \bar{v}_\lambda + v_\lambda', \quad w = w', \quad \zeta = \bar{\zeta} + \zeta', \quad \bar{v}_\lambda = a\, a\, \sin \theta.$$

Here   $a$   is the earth's radius, $\theta$ is the complement
of the geographical latitude,  $\lambda$  is the geographical
longitude,  $v_\theta$ ,  $v_\lambda$  and  $w$   are the velocity components

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along the axes $\theta$, $\lambda$ and $z$ ($z = r - a$; $r$ is the distance from the centre of the earth), $\zeta$ is the vertical component of the curl of the velocity and $a$ is the index of the circulation. Barred quantities refer to zonal values, and primes to their perturbations. Let the surface of the earth be defined by the equation $z = \xi (\theta, \lambda)$, and let $H$ denote the height of the homogeneous atmosphere. Then we define

$$\eta(\theta, \lambda) = \frac{\xi(\theta, \lambda)}{H} .$$

The linearized equations of motion and of continuity, and the liniarized boundary condition at the earth's surface may be written

$$\frac{v_\theta'}{a} \frac{\partial}{\partial \theta} (\bar{\zeta} + 2\omega \cos \theta ) + \frac{\bar{v}_\lambda}{a \sin \theta} \frac{\partial \zeta'}{\partial \lambda} + (\bar{\zeta} + 2\omega \cos \theta)\frac{w_\zeta'}{H} = 0,$$

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(Eq.7)

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$$\frac{\partial}{\partial \theta}\left[ (1 - \eta)v'_\theta \sin\theta \right] + \frac{\partial}{\partial\lambda}\left[(1 - \eta)v'_\lambda - \eta\bar{v}_\lambda\right] = 0, \quad (Eq.8)$$

$$\frac{w'_\zeta}{H} = \left[ \frac{v'_\theta}{a} \frac{\partial\eta}{\partial\theta} + \frac{1}{a\sin\theta}(\bar{v}_\lambda + v'_\lambda)\frac{\partial\eta}{\partial\lambda} \right]_\zeta \quad (Eq.9)$$

where  $\omega$  is the angular  velocity of the earth, and
$\eta(\theta, \lambda)$  is not to be considered a small quantity
(contrary to Ref.2).   The function  $\psi = \bar{\psi} + \psi'$  is
introduced, the known zonal part which satisfies Eq.8
and is related to the velocities  $v'_\theta$  and $v'_\lambda$  by the

relations:

$$v'_\theta = -\frac{1}{1-\eta}\frac{1}{a\sin\theta}\frac{\partial\psi'}{\partial\lambda}, \quad v'_\lambda = \frac{1}{1-\eta}\frac{1}{a}\frac{\partial\psi'}{\partial\theta} + \eta a_a \sin\theta.$$

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$$(Eq.10)$$

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Substituting in Eq.7 from Eqs.10, and eliminating $w_\xi$ from Eqs. 7 and 9 with the assumptions that

$$(v'_\theta)_\xi = v'_\theta \, , \quad (v'_\lambda)_\xi = v'_\lambda, \quad \text{and} \quad a_\xi = qa \quad (0 < q \leq 1),$$

we obtain for $\psi'$:

$$a\frac{\partial \Delta \psi'}{\partial \lambda} + 2\omega \frac{\partial \psi'}{\partial \lambda} = 2\omega \cot \theta \, (\psi, \eta) - 2\omega a^2 a_\xi \cos \theta \, \frac{\partial \eta}{\partial \lambda} \, , \quad \text{(Eq.11)}$$

where

$$(\psi, \eta) = \left( \frac{\partial \psi}{\partial \lambda} \frac{\partial \eta}{\partial \theta} - \frac{\partial \psi}{\partial \theta} \frac{\partial \eta}{\partial \lambda} \right) \, ,$$

which is accurate to the first order of magnitude.
We note that to define the known zonal deviation of the stream function $\Psi'$ introduced for an incompressible layer, we obtain an equation exactly similar to Eq.11.
Card 6/12 In this case the equation of continuity has the form:

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$$\frac{\partial}{\partial \vartheta} (v_\vartheta \sin \vartheta) + \frac{\partial}{\partial \lambda} v_\lambda = 0,$$

whence

$$v'_\vartheta = - \frac{1}{a \sin \vartheta} \frac{\partial \psi'}{\partial \lambda}, \quad v'_\lambda = \frac{1}{a} \frac{\partial \psi'}{\partial \vartheta} . \qquad (\text{Eq.}13)$$

Thus we have to solve Eq.11 in the compressible case using Eq.10, and in the incompressible case using Eq.12. The solution for $\psi'$ can be written in the form:

$$\psi'(\vartheta, \lambda) = \frac{1}{\pi} \iint_S \psi'(k, \eta)' d\lambda' d\vartheta' - \frac{a_k a^2}{\pi} \iint_S \frac{\eta}{\partial \lambda'} l \sin \gamma' d\lambda' d\vartheta'.$$

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$$(\text{Eq.}23)$$

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where

$$K = K(\theta, \lambda; \theta', \lambda') = \cos \theta' \sum_{n=1}^{\infty} \sum_{h=1}^{n} a_n^h \sin h(\lambda' - \lambda) P_n^h(\cos \theta) P_n^h(\cos \theta'),$$

$$(\psi', \eta)' = \left( \frac{\partial \psi'}{\partial \lambda'} \frac{\partial \eta}{\partial \theta'} - \frac{\partial \psi'}{\partial \theta'} \frac{\partial \eta}{\partial \lambda'} \right). \qquad \text{(Eq.22)}$$

($P_n^h(\cos \theta)$ are normalized associated Legendre poly-
nomials). Solution of Eq.23 can be applied to
investigate the influence of the Himalayas and Tibet on
the general circulation of the atmosphere. The region
of influence of the Himalayas and the Tibetan uplands
is taken as from $40^0$-$150^0$ E. longitude, and from
$15^0$-$70^0$ N. latitude. Equation 23 can be solved by the
method of successive approximations, by taking mesh
with a longitude interval of $10^0$ and a latitude interval
of $5^0$ with terms in the series (22) up to n=20 and
h=8. This mesh approximates to the Tibetan plateau by
Card 5/12 15 points. The index of circulation varies during the

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course of a year, and influences the behaviour of the function K.   Hence it was decided to obtain a picture of the flow over Asia for the winter and summer seasons.

For the winter season   $\dfrac{a}{\omega}$ is taken as 0.034,   and for the summer season as   0.020.   It was assumed that for winter   $a_{\xi} \simeq 1/2\, a$,   and for summer   $a_{\xi} \approx a$.   Isobaric charts for summer and winter are introduced for comparison with the lines $\overline{\Psi} + \Psi' = \text{const}$,   which are obtained from the solution of Eq.23.   Figs.5 and 8 show that if

only the term   $\dfrac{\overline{v}_{\lambda}}{a \sin \theta} \dfrac{\partial \eta}{\partial \lambda}$   in Eq.9 is taken into account,

the picture obtained is very far from the true one;   but if the remaining terms are included the flow round Tibet and the bifurcation of the zonal flow are obtained.   In

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Figs. 6 and 7 are clearly seen the southern jet stream and the broad winter cyclonic region over Tibet and to the south of it.  Thus it is possible to suppose that the high cyclonic region of weather on winter maps arises through the interaction of the central Asian mass with the winter zonal flow.  On Figs.9 and10 is seen a depression towards the south and a weak anti-cyclone over Tibet.  Many meteorologists explain the transition from the winter picture to the summer one in Tibet only by a displacement of the maximum western flow towards the south.  The author has obtained the typical synoptic situation for summer only as a result of the general weakening of the zonal flow, its maximum not being displaced.  A reduction in the intensity of the west-east flow and the displacement of the maximum speed towards the south occur apparently approx-imately simultaneously as a result of a change in the thermal conditions in the atmosphere.  It seems that in describing the beginning and the establishment of the
Card 10/12 summer circulation in the region of Tibet, and allowing

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for a displacement of the maximum speed towards the
south, it is essential to take into account the conditions
indicated above, arising from the mechanical effect of the
mountains.   These conditions are very favourable for the
picture of the summer flow.   By taking account of them
alone, it is possible to understand the unusual increase
in intensity of the southern jet from summer to winter.
Comparing Figs. 3 and 4 with Figs. 6,7, 9 and 10, there
is a very satisfactory coincidence of the results with
the given observations.   It must be noted that only the
influence of large-scale mountain masses on the west-
east flow has been discussed.   After constructing the

stream lines $\Psi + \Upsilon' = $ const,  it is not difficult to
give a qualitative evaluation of the role played by the
vertical compressibility.   From Eq.11 it is clear that
compressibility of the layer only appears over the
mountain; it tends to smooth out the discontinuities
in the velocity.   Thus, for example, for a compressible
3 and 11/12layer the effect of flow over the mountain will be

49-56-1-10/13

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increased.   There are 10 figures and 11 references, of which 6 are Russian and 5 English.

ASSOCIATION: Academy of Sciences of the USSR; Institute of Applied Geophysics. (Akademiya nauk SSSR; Institut prikladnoy geofiziki.)

SUBMITTED: June 19, 1957.

AVAILABLE: Library of Congress.

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SOV/49-59-4-9/20

AUTHOR: Kurbatkin, G. P.

TITLE: The Known Geostrophic Effect in the Airflow Over Mountains
(Uchet negeostrofichnosti v prostranstvennoy zadache obtek-
aniya gor)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya,
1959, Nr 4, pp 581-592 (USSR)

ABSTRACT: The effect of airflow over high mountains is described
in the system of right-angled coordinates with no Earth's
spherical shape considered. The motion is assumed to be
stable and adiabatic, and the atmosphere is considered as
baroclinical. The suggested linear equations are based on
the longitudinal waves. The partial derivatives of $U$, $V$,
$W$ and $P$ are determined as Eqs (1-4) which are calculated
from the basic equations of wind, velocity, pressure, density,
and temperature ($u$, $v$, $p$, $\rho$, and $T$) on p 582. The first
two equations (Eqs (1) and (2)) can be substituted by Eq (5),
thus the value of $W(x, y, z)$ can be derived as Eq (6), for
which the limiting conditions are Eqs (7) and (8). The

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solution of the expression (6) can be shown as

$$W = (1 - z)W^0(x, y) + S(x, y, z) \quad \text{(Ref 2) where}$$

the value of S can be calculated from Eq (9) for

$f(xy) = \Delta W^0$ . The latter can be determined from the Fourier transformation (p 584) and the parameter $\delta^2$ taken as $\delta^2 \approx 100$ (Ref 10). Finally, the expression (10) is derived, which gives the solution for W . When an assumption is made that the motion is quasi-geostrophic, then the expression (5) should be substituted for $\Delta P = \epsilon\Omega$ . The value of W in this case will take the form Eq (11) and its solution will be shown as Eq (12). Then the value of W is determined and the pressure can be found from Eq (4) and its solution Eq (13) or Eq (14) in the case of the quasi-geostrophic conditions. The values of U and V are calculated at this stage from Eqs (1) and (2). In order to determine the effect of the separate harmonic on W , the coefficient k in Eqs (10) and (12) can be analyzed by using $\beta_k$ and $\gamma$

Card 2/4 calculated from the formulae at the foot of p 586 and the top

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of p 588 and the results tabulated on p 587. In order to verify the above calculations, a profile of the mountain was taken:

$$\xi = ae^{-b^2\left[(1.2-x)^2+(1.4-y)^2\right]}$$

where a unit on the axes $x$ and $y$ = 1000 km and on $z$ = 10 km. The height of the mountain was 2 km. The co-efficients were $a = 0.2$ , $b = 3.6$ , the horizontal dia-meter – 800 to 1000 km. The vertical velocities were cal-culated from the formulae (10) and (12) with the first and second approximations. The results are shown in Figs 1 to 20. The quasi-geostrophic and non-geostrophic cases are shown in Figs 1-5 and Figs 6-10 respectively, where the vertical dimensions were obtained for $y = 1.8$ , $1.6$ , $1.4$ , 1.2 and 1.0 (w' multiplied $10^2$ times). Figs 11 and 12 show the field of vertical velocity $w' \times 10^2$ m/sec at the plane $z = 0.4$ and $z = 0.6$ in the non-geostrophic case. In the quasi-geostrophic case there is a deflection of the

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The Known Geostrophic Effect in the Airflow Over Mountains

flow to the right in front of the mountain. The line of
flow behind it is bent upwards and to the left, which is
also shown in Fig 13. Figs 13 to 20 were calculated for
$z = 0.2 - 0.6$ . It can be noted that the waves are dist-
inguished on the windward side of the mountain in Figs 6-10
and 11-12. There are 20 figures, 4 tables and 10 references,
of which 5 are Soviet and 5 English.

ASSOCIATION: Akademiya nauk SSSR, Institut prikladnoy geofiziki
(Academy of Sciences USSR, Institute of Applied Geophysics)

SUBMITTED: May 17, 1958.

Card 4/4

BYKOV, V.V.; KURBATKIN, G.P.

Analysis of meteorological and aerological data with the aid of an electronic computer. Dokl. AN SSSR 134 no.5:1065-1068 O '60.
(MIRA 13:10)

1. Institut prikladnoy geofiziki Akademii nauk SSSR. Predstavleno akademikom A.A.Dorodnitsynym.
(Electronic data processing) (Meteorology)

BYKOV, V.V.;  KURBATKIN, G.P.

 Objective analysis of aerological data.  Izv. AN SSSR. Ser.
 geofiz. no. 2:307-318 F '61.
              (MIRA 14:2)

 1. Institut prikladnoy geofiziki AN SSSR.
       (Weather forecasting)

KURBATKIN, G.P.

Two-level pressure field forecasting for the Northern Hemisphere.
Izv. AN SSSR. Ser. geofiz. no.2:229-232 F '62.
(MIRA 15:2)

1. AN SSSR; Gidrometsluzhba SSR. 1. Ob"yedinennyy meteorologicheskiy
vychislitel'nyy...

         (Atmospheric pressure)
         (Weather forecasting)

KURBATKIN, G.P.

Forecasting of the barometric field, temperature, and vertical
velocities of hemisphere for a period not exceeding 5 days.
Izv.AN SSSR. Ser.geofiz. no.12:1825-1836 '62.  (MIRA 16:2)

1.  Vychislitel'nyy meteorologicheskiy tsentr.
            (Numerical weather forecasting)

ACCESSION NR: AT4034672                    S/0000/64/000/000/0019/0041

AUTHOR: Kurbatkin, G. P.

TITLE: Two-level scheme of short-range forecasting of geopotential and vertical movements

SOURCE: AN SSSR. Ob''yedinenny*y meteorologicheskiy vy*chislitel'ny*y tsentr. Gidrodinamicheskiy dolgosrochny*y prognoz pogody* (Hydrodynamic long-range weather forecasting). Moscow, Izd-vo "Nauka," 1964, 19-41

TOPIC TAGS: meteorology, atmospheric pressure, weather forecasting, atmospheric geopotential, atmospheric vertical movement

ABSTRACT: Atmospheric pressure is forecast using the baroclinic two-level nonlinear model proposed by Ye. N. Blinova (Dokl. AN SSSR, III, No. 6, 1956), using Blinova's vorticity and heat flux equations in a spherical system of coordinates as the initial equations. Forecasts for up to five days were made using an electronic computer. It was found that with an increase in the forecasted period the indicated model causes a continuous intensification of westerly winds in the middle latitudes; in the middle latitudes there is a systematic increase in the value of moment of momentum. As a result of this middle-latitude exaggeration the forecasts for 3-days in advance already were bad and computations for 5-days in ad-
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ACCESSION NR: AT4034672

vance led to unreal values of the heights of isobaric surfaces. Two examples are cited as an illustration. A smoothing method is proposed for eliminating this difficulty, making it possible to make generally valid 5-day forecasts (although in certain cases processes associated with a sharp change of zonal velocity are not described sufficiently well in particular regions). The improved method then was used to make five sample forecasts of $AT_{300}$, $AT_{700}$ and $OT_{700}^{300}$ charts and charts of vertical velocities; evaluations of these forecasts are given. Orig. art. has: 14 formulas, 7 figures and 10 tables.

ASSOCIATION: Ob''yedinenny␣y meteorologicheskiy vy*chislitel'ny␣y tsentr (Joint Meteorological Computation Center)

SUBMITTED: 22Nov63          DATE ACQ: 16Apr64          ENCL: 00

SUB CODE: ES               NO REF SOV: 004             OTHER: 008

Card  2/2

...astern Europe and the new idge was ...

forecasting algorithm, multilevel forecasting, numerical forecasting

KURBATKIN, G.P.

Changes in the kinetic energy of atmospheric motions. Izv.
AN SSSR. Fiz. atm. i okeana 1 no.12:1260-1269 D '65.
(MIRA 19:1)

1. Vychislitel'nyy tsentr, Sibirskoye otdeleniye AN SSSR.
Submitted May 26, 1965.

L 19370-66    EWT(1)/FCC    GS/GW

ACCESSION NR:  AT5008059

S/0000/64/000/000/0204/0213

AUTHOR:  Bykov, V. V.; Kurbatkin, O. P.; Gorelysheva, I.V.

TITLE:  Numerical analysis of the geopotential and of wind at five atmospheric levels

SOURCE:  Simpozium po chislannym metodam prognoza pogody. Moscow, 1963. 'Trudy. Leningrad, Gidrometeoizdat, 1964, 204-213

TOPIC TAGS:  meteorology, geopotential, wind, objective analysis

ABSTRACT:  A multilevel method for objective analysis of aerological data is described. This method is based on representation of the field of the analyzed meteorological element by means of a polynomial. In the proposed scheme of objective analysis of geopotential and wind at five atmospheric levels some methods adopted from the usual synoptic analysis of charts of baric topography were used. In the matched analysis at several levels erroneous information was corrected and gaps in the data were filled in. The results of the computations are given. A new method of numerical analysis of the absolute geopotential is proposed which is based on the principles of plotting of baric topography charts. Orig. art. has:

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L 19370-66
ACCESSION NR: AT5008059

2 figures, 3 tables, 6 equations.

ASSOCIATION: none

SUBMITTED: 06Oct64          ENCL: 00                    SUB CODE: ES

NO REF SOV: 005            OTHER: 001

Card 2/2  βG

KURBATOV, A.

Comprehensive mechanization of potato warehouses.  Sov.torg. 34
no.7:54-56  Jl  '61.                                                    (MIRA 14:7)
                    (Moscow--Potatoes--Storage)

KURBATOV, A.

Storing pickles in containers filled with water.  Sov.torg.  35
no.1:54-55  Ja  '62.                                      (MIRA 15:1)
(Canning and preserving)

KURBATOV, A.

Mechanizing the sorting and packaging of potatoes.  Sov. torg.
35  no.5:61-63  My  '62.                                     (MIRA 15:5)

(Potatoes—Grading)

K u r b a t o v , A.

ORANSKIY, N., inzh.; KURBATOV, A., inzh.; KOSTRIKIN, Ya., inzh.

Collective farm work-shops for current repairs. Nauka i pered. op.
v sel'khoz. 8 no.5:11-12 My '58.           (MIRA 11:5)
(Agricultural machinery--Maintenance and repair)

KURBATOV, A.

Recording instrument for multiple-bucket dredger operations.  Tech.
transp.  21  no.2:54  F '62.
(MIRA 15:3)

1. Novosibirskiy tekhnicheskiy uchastok puti.
          (Dredging machinery)  (Recording instruments)

KUZNETSOV, A. D.

21 50 KUZNETSOV, A. D. Vliyaniye relmorrichest bi rastrachenly shchulu the na mrs at' mechutechee o azotisto o obrena u sobak. Trudy prsikhst. s.-kh. in-ta. t. XIX, 1 , s. 1 6-97.-Bibliogr: 16NAZV.

SO: Letopis' Zhurnal'nykh Statey, No. 2 , Moskva, 1 .

KRISTONV, A. D.

"Heral by Chanica and Eronomic Frontaire of Iron in Pro...ce; suit be f.....of tier
o Pyrol and Iron Ctlr...ces and Spector to Acos...h." (U. 3:0) by Krister, A. D.

CO: Progress of Contemporary Molom, 1951, Vol. XXXI, No. 2, March-April

KURBATOV, A.D.

Heredity modifications, and increase of vitality of progeny by transplantation of fecundated ovum of another breed of rabbit. Effect of the mother-carrier on development, appearance and vitality. Usp. sovrem. biol. 32 no.1:113-120 July-Aug 1951.          (CLML 20:11)

1. Leningrad.

KURBATOV, A. D.

"Changes of Heredity and Increase in Vitality of the Offspring by Means of Inter-breeding Transplantation of Fecundated Ovicells in Female Rabbits. Report II" (p. 121) by Kurbatov, A. D.

SO: Achievements of Modern Biology (Uskpekhi Sovremennoy Biologii) Vol. XXXII, No.1 (4) Moscow-Leningrad, July-August, 1951.

KURBATOV, A. D., TIKHOMIROVA, M. M.

Metabolism

Basal metabolism in animals and sex of progeny.  Agrobiologiia, No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress. November 1952.  Unclassified.

1. KURBATOV, A. D.

2. USSR 600

4. Rabbits

7. Change in the ingeritance of coat color in rabbits under the influence of the development of their parents in the organism of mothers of other breeds, Vest Len un, 7, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KURBATOV, A.D.

Abrupt hereditary changes in rabbits following cross breeding.
Usp. sovrem. biol. 33 no. 3:466-471 May-June 1952. (CLML 22:4)

1. Leningrad.

KURBATOV, A. D.

KURBATOV, A.D.; TIKHOMIROVA, M.M.

Effect of the intensity of basal metabolism in animals on the
ratio of sexes in their progeny. Uch.zap.Len.un. no.165 '53.
(MLRA 7:7)

1. Laboratoiya genetiki zhivotnykh kafedry genetiki i selektsii
(zaveduyushchiy kafedroy professor N.V.Turbin)
(Metabolism) (Sex(Biology))

KURBATOV, A.D.; MINYAYLO, D.D.

Effect of the age of mated pigs on the ratio of sexes in offspring.
(MLRA 9:7)
Vest.Len.un. 9 no.1:57-64   Ja '54.
(Swine breeding)

B-5

USSR / General Biology. Genetics.

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Author : Kurbatov, A. D.
Inst    : Not given.
Title   : Change of Heredity in Rabbits in Intravariety
          Zygote Transplantation.

Orig Pub: B.sb.: Probl. sovrem. embriologii. L., Un-t, 1956,
          221-226.

Abstract: An attempt is made to prove the effect of the
          mother-bearer on hereditary fetal processes. In
          the experiments females of the varieties white
          angora and white giant, and males of the chinchilla
          variety, were used. The females and a portion of
          the males were pure-bred; another portion of the
          males of chinchilla variety were developed in the
          organism of mothers of a different breed, i.e.,

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USSR / General Biology. Genetics.

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Abstract: these males were the result of transplanting
          intravarietal zygotes. Through mating of females
          of the indicated varieties with pure-bred chin-
          chilla males, 398 young were born, which had a
          gray fur color characteristic of the chinchilla
          variety. The fur color of young begotten by males
          which developed in the organism of white angora
          females was not always grey. Thus, of 92 young
          born from mating these males with white angora
          females, 42 young were grey, but 48 had a fur
          characteristic of Russian ermine young. From a
          chinchilla male which developed in the organism of
          a white giant female and was mated with white giant

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USSR / General Biology. Genetics.

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Abstract: females, 41 young were born, of which 15 had a color characteristic of chinchilla; the remainder had the color of Russian ermine young. In other experiments the effect of the mother-bearer organism was shown in the length of the fur cover. Usually when animals of variety white giant, which possess a fur cover of normal length, were mated with short-furred animals of rex variety, the normal fur length is dominant over the short fur. In an experiment by the author with a male of white giant variety which developed in the organism of a female of rex variety, mated with a female of rex variety, all four offspring obtained from mating the animals were short-furred. From his experiments the author concludes that the assimilation by fetuses of maternal plastic substances from a

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USSR / General Biology.  Genetics.                        B-5

Abs Jour: Ref Zhur-Biol., No 10, 1958, 42869.

Abstract: different variety exerts a considerable effect on
          heredity.

          Editor's note: The irregularity of results obtained
          and the appearance in the offspring under experiment
          of animals with ermine coloration show evidence of
          heterozygoticity of the animals in the experiment,
          which makes the general conclusions of the author
          hardly reliable.

Card 4/4

KURBATOV, A.D., kand. biol. nauk; KORBAN, N.V.

Treatment of hens and eggs with hormonal substances and the
sex of chicks. Agrobiologiia no.4:543-548 Jl-Ag '65.
(MIRA 18:11)

1. Pushkinskiye laboratorii razvedeniya sel'skokhozyaystvennykh
zhivotnykh g. Pushkin, Leningradskaya oblast'.

KURBATOV, A.I. (Leningrad, P-22, Bol'shoy pr., d.106, kv.38)

Tomographic study in osteo-articular tuberculosis.  Vest. rent. i
rad. 36 no.6:29-34 N-D '61.                                (MIRA 15:2)

1. Iz kafedry rentgenologii i radiologii Voyenno-meditsinskoy
ordena Lenina akademii imeni S.M.Kirova.
            (BONES—TUBERCULOSIS)    (JOINTS—TUBERCULOSIS)

KURBATOV, A.I., kand. med. nauk

Significance of tomography in osteomyelitis. Vest. rent. i rad. 39 no.4:
25-28 Jl-Ag '64.                                        (MIRA 18:7)

1. Kafedra rentgenologii i radiologii (nachal'nik - prof. V.S.Vakhtel')
i kafedra voyenno-polevoy khirurgii (nachal'nik - prof. A.N.Berkutov)
Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad.

KURBATOV,A.I., master

Automatic steam pressure control mechanism. Energetik 3
no.7:13  Jl '55.                              (MLRA 8:9)
    (Manometer) (Boilers--Safety appliances)

KUIBATOV, A.I.

With the railroad workers. Sov.profsoiuzy 16   no.5:18
Mr  '60.                                        (MIRA 13:3)
     (Lenin, Vladimir Il'ich, 1870-1924)
     (Railroads--Employees)

KURBATOV, A.I., priyemshchik

The 64/01.18 voltage stabilizers.  Elek.i tepl.tiaga  5  no.4:34-37
Ap '61.                                                 (MIRA 14:6)

1. Depo Leningrad-Baltiyskiy Oktyabr'skoy dorogi.
        (Diesel locomotives)  (Voltage regulators)

STREKOPYTOV, Viktor Vasil'yevich; KURBATOV, Anton Ivanovich;
YELSUKOV, V.A., inzh., retsenzent; NOVIKOV, A.V., inzh.,
red.; GROMOV, Yu.V., tekhn. red.

[Eelèctric drive of the VME1 diesel locomotive] Elektriche-
skaia peredacha teplovoza VME1. Moskva, Transzheldorizdat,
1962. 54 p.                                  (MIRA 15:6)
        (Diesel locomotives—Electric driving)

BOL'SHAKOV, Anatoliy Stepanovich; SARIN, Valeriy Ivanovich;
SHVAYNSHTEYN, Boris Simonovich; PONOMAREV, V.S., inzh.,
retsenzent; ZAZOVSKIY, D.G., inzh., retsenzent; MAKAROV,
M.S., inzh., retsenzent; POPOV, G.V., inzh., retsonzent;
KURBATOV, A.I., retsenzent; KITAYEVA, Z.A., inzh.,
retsenzent; SDOBNIKOV, Ye.F., retsonzent; KOVALEV, A.K.,
inzh., retsenzent; KESAREV, A.P., inzh., retsonzent;
KISELEVA, N.P., inzh., red.; GROMOV, S.A., kand. tekhn.
nauk, red.; SHCHERBACHEVICH, G.S., inzh., red.; USENKO, L.A.,
tekhn. red.

[Shunting diesel locomotives]Manevrovye teplovozy.  Moskva,
1962.  383 p.                              (MIRA 15:6)
                    (Diesel locomotives)