AID P - 2492

Met. i Gidro., 3, 8-15, My-Je 1955

Card 2/2 Pub. 71-a - 2/26

perature changes resulting from the vertical movement of air. Adiabatic heating and cooling, together with advection, affect the structure of the pressure field on different levels. Eight Russian references, 1940-1954.

Institution: None

Submitted : No date

124-58-9-10058

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 88 (USSR)

AUTHOR: Burtsev, A. I.

TITLE: Elements of the Moisture Cycle Above the European Territory of the USSR (Elementy vlagooborota na yevropeyskoy territorii SSSR)

PERIODICAL: Tr. Tsentr. in-ta prognozov, 1955, Nr 38, pp 3-60

ABSTRACT: Bibliographic entry

1. Atmosphere--Moisture content 2. Meteorology--USSR

Card 1/1

BURTSEV, A.I.

Evolution of precipitation in connection with the change of moisture content in the air and of vertical celocities in a cyclone. Meteor. i gidrol. no.1:9-12 Ja'56. (MLRA 9:6)
(Cyclones)

BURTSEV, A.I.

ASTAPENKO, P.D., kand.geograficheskikh nauk; BURTSEV, A.I., kand.fiziko-matematicheskikh nauk; GUROV, V.P., kand.fiziko-matematicheskikh nauk; ZVEREV, A.S., kand.fiziko-matematicheskikh nauk; ZUBYAN, G.D., doktor geograficheskikh nauk; MININA, L.S., kand.geograficheskikh nauk; MOROZKIN, A.A., inzhener-meteorolog; RUPPERT, L.L., kand.geograficheskikh nauk; SERGEYEV, B.M., inzhener-meteorolog; SAMOYLOV, A.I., kand.fiziko-matematicheskikh nauk; TURKETTI, Z.L., kand.geograficheskikh nauk; CHERNOVA, V.F., starshiy nauchnyy sotrudnik; CHISTYAKOV, A.D., kand.fiziko-matematicheskikh nauk; POGOSYAN, Kh.P., prof.,red.; YASNOGORODSKAYA, M.M., red.; BRAYNINA, M.P., tekhn.red.

[Synoptic study atlas] Uchebnyi sinopticheskii atlas. Leningrad, Gidrometeor. izd-vo. Pt.2. (Sost. P.D.Astapenko i dr.) 1957. 90 fold. maps (in portfolio)__ __ __ [Practical recommendations and assignments for students using the "Synoptic study atlas" Metodicheskie rkomendatsii i zadaniia dlia studentov k "Uchebnomu sinopticheskomu atlasu," chast' 2. Sost. A.S.Zverev. 1957. 87 p. (MIRA 11:3)

1. TSentral'nyy institut prognozov (for Chernova)
(Climatology--Charts, diagrams, etc.)

BURTSEV, A.I.

49 - 2 - 10/13

AUTHOR: Pogosyan, Kh.P. and Burtsev, A.I.

TITLE: Features in the evolution of the field of temperature, humidity and pressure of the air in developing cyclons. (Osobennosti evolyutsii poley temperatury, vlazhnosti i davleniya vozdukha v razvivayushchikhsya tsiklonakh).

PERIODICAL: Izvestiya Akademii Nauk, Seriya Geofizicheskaya, 1957, No.2, pp. 245-254.

ABSTRACT: It is shown that the distribution of the changes of these fields pass through three fundamental stages of development. Particular attention is paid to clarifying the means of advection and vertical movement in the change of the thermal field of the cyclons. It was established that, in addition to advection of cold air masses, adiabatic drop of the air temperature in the central and frontal parts of the cyclons plays an important role.

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TITLE: Features in the evolution of the field of temperature, humidity and pressure of the air in developing cyclons. (Osobennosti evolyutsii poley temperatury, vlazhnosti i davleniya vozdukha v razvivayushchikhsya tsiklonakh).

Calculation is based on the selection of thirteen fixed points, namely, the center of the cyclon and twelve points distributed symmetrically relative to the center at distances of 300 and 600 km respectively; for each of these points the advective and the adiabatic changes of the average temperature of the layer between the surfaces of 500 and 1000 mb were calculated for every twelve hours and the calculated values of the total changes of the average tempeature of the layer were compared with measured values. These values are summarized for all the three stages in tables 1 - 3, p.247. It is concluded that the schemes depicting the structure of the pressure and temperature fields, presented by N.L. Taborovskiy (1) for the various stages of the life of the cyclons, adequatley represents the entire process of cyclon development.

TITLE: Features in the evolution of the field of temperature, humidity and pressure of the air in developing cyclons. (Osobennosti evolyutsii poley temperatury, vlazhnosti i davleniya vozdukha v razvivayushchikhsya tsiklonakh).

The structure of the thermobaric field in the system of an extending cyclon is such that it brings about an approach of cold and warm air masses and lead to an increase in the horizontal temperature contrasts. With a degree in development of the cyclon, the advection of cold extends gradually to the front part of the cyclon but the drop in temperature takes place not only where the advection of cold has penetrated but in the entire system of the cyclon. The calculations of advective and the adiabatic changes of temperature given here indicate that adiabatic cooling of air, which is most pronounced in the front and central parts of the cyclon, plays an important role in filling the cyclon with cold air.

Card 3/5

TITLE: Features in the evolution of the field of temperature, humidity and pressure of the air in developing cyclons. (Osobennosti evolyutsii poley temperatury, vlazhnosti i davleniya vozdukha v razvivayushchikhsya tsiklonakh).

The general reduction in the air temperature takes place simultaneously in the entire system of the cyclon but the intensity of this distribution is unequal. For stages of maximum cyclon development, the cooling of air in the tail part is more intense than in other parts of the cyclon owing to advection of cold which exceeds adiabatic heating. In the front and the central parts, the temperature decrease is due to adiabatic cooling, the magnitude of which exceeds advective heating. This non uniform reduction of temperature brings about a conservation of a warm crest above the central part of the cyclon, although even there the absolute value of the temperature decreases. In addition to weakening and subsequently stopping the advection of cold in the tail of the cyclon and its penetration into the front part, a more intense break up of the warm crest above the central part of the cyclon takes place; in this process the adiabatic cooling of air plays an important role in addition to the advection of cold.

Card 4/5

49 - 2 - 10/13

TITLE: Features in the evolution of the field of temperature, humidity and pressure of the air in developing cyclons. (Osobennosti evolyutsii poley temperatury, vlazhnosti i davleniya vozdukha v razvivayushchikhsya tsiklonakh).

In a cyclon system the moisture field usually coincides satisfactorily with temperature field and is subject to analogous changes in its individual stages.

The text includes 3 tables and 11 diagrams. There are 7 references, all Slavic.

ASSOCIATION: Central Forecasting Institute (Tsentral'nyy institut prognozov)

PRESENTED BY:

SUBMITTED: 11/22/55

AVAILABLE: Library of Congress

Card 5/5

BURTSEV, A.I.

Considering the changes in vertical velocity with increasing altitude in the calculation of adiabatic temperature changes. Meteor. i gidrol. no.7:26-30 Jl '57. (MLRA 10:8)
(Atmospheric temperature)

BURTSEV, A.I.

POGOSYAN, Kh.P.; BURTSEV, A.I.

Conditions for the formation of considerable precipitations over the southern part of Western Siberia. Trudy TSIP no.60:51-64 '57. (MIRA 11:3)

(Siberia, Western--Precipitation (Meteorology))

BURTSEV, A.I.; POPOVA, T.P.

Comparative evalution of the accuracy of different methods used in computing vertical air velocities. Trudy TSIP no.77: 71-81 '58. (MIRA 12:5)
(Meteorology)

BURTSEV, A.I.

Method of computing vertical air velocities in calculating altitudinal variations of vertical temperature gradients. Trudy TSIP no.77:82-102 '58. (MIRA 12:5)
(Meteorology)

BURTSEV, A-1.

3(7) PHASE I BOOK EXPLOITATION SOV/3029

Moscow. Tsentral'nyy institut prognozov

Voprosy sinopticheskoy meteorologii (Problems in Synoptic Meteorology) Moscow, Gidrometeoizdat (otd.) 1959. 62 p. (Series: Its: Trudy, vyp. 79) 1,100 copies printed.

Sponsoring Agency: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Ed. (title page): B. D. Uspenskiy; Ed. (inside book): L. B. Blinnikov; Tech. Ed.: T. Ye. Zemtsova.

PURPOSE: This issue of the Institute's Transactions is intended for specialists in meteorology.

COVERAGE: This collection of articles discusses problems in synoptic meteorology. The first two articles deal with the formation and structure of frontal clouds in the Western Siberia and Ural Mountain area. Other articles discuss upper-level cyclonic and anticyclonic phenomena, the evolution of thermal fields, and thermal convection. References accompany each article.

Card 1/2

Problems in Synoptic Meteorology SOV/3029

TABLE OF CONTENTS:

AVAILABLE: Library of Congress

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12-29-59

S/050/60/000/05/02/020
B007/B014

AUTHORS: Burtsev, A. I., Leonov, N. G.

TITLE: Slope of the Spatial Axis of Baric Systems

PERIODICAL: Meteorologiya i gidrologiya, 1960, No. 5, pp. 11-16

TEXT: Quantitative relations between the spatial axis slope of the baric center and the characteristics of the thermobaric field are derived in the paper under review. Formulas (1), (2), and (3) are written down for the spatial axis of the baric system, and therefrom, the differential equations (11) are obtained for the position of the axis of the baric system in the space. If there is fairly sufficient accuracy, the spatial axis of baric systems between two main isobaric planes can be assumed to be a straight line. Moreover, the symmetry axes can be regarded as the coordinate axes. Formula (13) is obtained. It follows therefrom that the shift of the center of baric systems at the upper level with respect to the system center at the lower level can be determined by the following 4 factors: the horizontal temperature gradients (T_x, T_y), the thickness

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of the isobaric layer ($p - p_0$), the quantities H_{xx}, H_{yy}, marking the curvature of the isobaric plane, and pressure. With equal temperature gradients, the slope of the axis will be the larger, the smaller the curvature of the isobaric plane in the center of the baric system. Also such factors are discussed as give rise to a reduction in the axial slope of baric systems at various periods of development of such systems. For an example, a description is given of the cyclone over the European part of the USSR in the time from June 21 to 25, 1959. This example shows that the most striking reduction in the axial slope occurred during the first stage of the cyclonic development, at the time, before occlusion, at which the temperature contrasts did not change appreciably in the cyclonic center. Mention is made of the part played by curvature as one of the factors determining the axial slope of baric systems, and an example is offered to demonstrate this role with the comparison of the inclination angles of cyclonic and anticyclonic axes. Moreover, the axial slope of a baric system depends to a large extent on the pressure at the isobaric planes investigated. Formula (14) for the tangent of this inclination angle is written down in this connection. It is shown that the shift of

the baric center with height does not rigorously proceed along the horizontal temperature gradient, but may also run to the right or to the left thereof: formula (15). It follows from this formula that there are two cases only, in which the shift of the upper center with respect to the lower occurs precisely along the horizontal temperature gradient. These cases are (1) if $H_{xx} = H_{yy}$, i.e. in the case of steep isobars, and (2) if $\tan\psi = \tan\psi'$, i.e. if the direction of the isothermal lines coincides with the direction of one of the symmetry axes of the baric system. Magnitude and sign of the deviation of the axis of the baric center from the direction of the horizontal temperature gradient are determined by the direction of the isothermal lines and by the H_{xx}-to-H_{yy} ratio. There is 1 figure.

Card 3/3

BURTSEV, A.I.

The system of numerical wind and geopotential forecasting in the lower part of the troposphere. Trudy TSIP no.110:32-41 '61. (MIRA 14:6)

(Weather forecasting)

BURTSEV, A.I.; LEONOV, N.G.

Calculation of cyclone movements based on the initial fields of pressure and winds. Trudy TSIP no.110:42-50 '61. (MIRA 14:6)
(Cyclones)

BURTSEV, A.I ; VETLOV, I.P.

Restoration of the geopotential field according to the wind field and of the wind field according to the vortex and divergence. Meteor. i gidrol. no.5:8-16 My '62. (MIRA 15:6)
(Atmospheric pressure) (Winds)

BURTSEV, A.I.; VETLOV, I.P.

Map of numerical prediction of wind in the free atmosphere.
Meteor.i gidrol. no.11:3-11 N '62. (MIRA 15:12)

1. TSentral'nyy institut prognozov.
(Winds)

BELOV, Pavel Nikolayevich. Prinimali uchastiye: BELSKAYA, N.N.; VETLOV, I.P.; BURTSEV, A.I.; BELEN'KAYA, L.L., red.; BRAYNINA, M.I., tekhn. red.

[Practical methods for numerical weather forecasting] Prakticheskie metody chislennogo prognoza pogody. Leningrad, Gidrometeoizdat, 1963. 257 p. (MIRA 16:12)
(Numerical weather forecasting)

ACCESSION NR: AT4017170 S/2546/63/000/128/0046/0055

AUTHOR: Burtsev, A. I.; Vetlov, I. P.

TITLE: Determination of the paths of air particles using electronic computers

SOURCE: Moscow. Tsentral'ny*y institut prognozov. Trudy*, no. 128, 1963. Voprosy* kratkosrochny*kh prognozov pogody* (Problems of short-range weather forecasting). 46-55

TOPIC TAGS: meteorology, weather forecasting, wind, short-range forecasting, air particle, air particle path

ABSTRACT: The synoptic method for determination of the paths of air particles, used currently by the Soviet meteorological service and described in full in the Manual on Short-Range Weather Forecasting, is reviewed concisely, with emphasis on the shortcomings of the method. It involves only an approximate allowance for changes of the wind and geopotential fields with time, provides only a rough idea of the actual movement of a particle and the error, significant at best, is the greater the longer the period for which the particle path is determined and the more rapid is the change of the wind field with time. Improvements were not feasible while manual computations were necessary; electronic computers now make

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ACCESSION NR: AT4017170

it possible to obtain a relatively precise determination and forecast. A computer of small capacity can calculate the movement of a relatively large number of particles for a period of several days in a few minutes. The formulas used in the old method are given, with necessary modifications. A "Ural-II" computer was used in determining air particle paths at the 700-mb surface; data for a 12-hour period of observations was used, with air particle position determined in geographic coordinates. A total of 96 particles were traced. The data fed to the computer included u and v wind data at 510 points in a grid or geopotential data at 612 points. Fig. 1 of Enclosure shows a chart of air particle paths for a 24-hour period computed from geopotential data for three successive periods of observation. Air particle paths can be predicted by this method provided there already is a wind or geopotential forecast. An experimental forecast is described. Orig. art. has: 16 formulas, 3 figures and 1 table.

ASSOCIATION: Tsentral'nyy institut prognozov (Central Institute of Forecasts)

SUBMITTED: 00 DATE ACQ: 24Feb64 ENCL: 01

SUB CODE: AS NO REF SOV: 001 OTHER: 000

Card 2/3 2

ACCESSION NR: AT4017171 S/2546/63/000/128/0056/0063

AUTHOR: Burtsev, A. I.; Vetlov, I. P.

TITLE: Computation of components of wind divergence from the geostrophic

SOURCE: Moscow. Tsentral'ny*y institut prognozov. Trudy*, no. 128, 1963. Voprosy* kratkosrochny*kh prognozov pogody* (Problems of short-range weather forecasting), 56-63.

TOPIC TAGS: meteorology, geostrophic wind, wind, atmospheric geopotential, atmospheric pressure field, weather forecasting, short-range weather forecasting, wind divergence

ABSTRACT: Formulas have been derived for calculation of the components of wind divergence from the geostrophic. For computations with these formulas it is necessary to have data on wind only for the isobaric surface for which the computations are made. The values of wind divergence from the geostrophic, computed by the method proposed in the article, agree with theoretical estimates in order of value and with the actual diurnal wind variability. The method is simple and electronic computers of relatively small capacity can be used. The following are the equations for computation of the components of wind

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divergence from the geostrophic. The horizontal components of the wind vector are represented in the form

$$\left.\begin{aligned} u &= -\frac{g}{l}\frac{\partial H}{\partial y} + u' \\ v &= \frac{g}{l}\frac{\partial H}{\partial x} + v' \end{aligned}\right\} \qquad (1)$$

where $\frac{g}{l}\frac{\partial H}{\partial y}$ and $\frac{g}{l}\frac{\partial H}{\partial x}$ are the horizontal components of the geostrophic wind and u' and v' are the components of wind divergence from the geostrophic. Then u' and v' at each moment of time can be determined from the system of equations

$$\left.\begin{aligned} \frac{\partial u'}{\partial x} + \frac{\partial v'}{\partial y} &= \frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} + \frac{g}{n}(H,l) \\ \frac{\partial v'}{\partial x} - \frac{\partial u'}{\partial y} &= \Omega' \end{aligned}\right\} \qquad (2)$$

The first of these equations is derived if u and v are replaced in the expression for horizontal divergence by their values from (1). The second equation of system (2) is the

balance equation, written in somewhat different form. If u' and v' are represented in the form of the sum of the potential and solenoidal components, that is, if it is assumed

$$\left.\begin{aligned} u' &= -\frac{\partial \psi'}{\partial y} + \frac{\partial \varphi}{\partial x} \\ v' &= \frac{\partial \psi'}{\partial x} + \frac{\partial \varphi}{\partial y} \end{aligned}\right\} \qquad (3)$$

by solving the equations

$$\Delta\varphi = D + \frac{g}{f^2}\left(\frac{\partial f}{\partial y}\frac{\partial H}{\partial x} - \frac{\partial f}{\partial x}\frac{\partial H}{\partial y}\right);$$

$$\Delta\psi' = \frac{1}{f}\left[\left(\frac{\partial u}{\partial x}\right)^2 + \left(\frac{\partial v}{\partial y}\right)^2 + 2\frac{\partial u}{\partial y}\frac{\partial v}{\partial x}\right] = \Omega', \qquad (4) - (5)$$

it is possible to determine φ and ψ', and therefore u' and v' from given values of the horizontal components of wind and geopotential. Formulas (3), (4) and (5) were used to compute the values u' and v' at the 700-mb level at 0300 hours on 1, 2, 3, 4 and 5 February at 285 points of a square grid; points were spaced 300 km apart. Computations were made

ACCESSION NR: AT4017171

on a "Ural-1" electronic computer at the Institute of Physics of the Atmosphere. The components u' and v' of wind divergence from the geostrophic computed using formulas (3) - (5) are smaller than the corresponding values determined by subtraction from the components of the actual wind of the components of its geostrophic approximation and correspond to theoretical estimates of the order of their value and actual wind variability. Orig. art. has: 9 formulas, 1 table and 3 figures.

ASSOCIATION: Tsentral'nyy institut prognozov (Central Institute of Forecasts)

SUBMITTED: 00 DATE ACQ: 24Feb64 ENCL: 00

SUB CODE: AS NO REF SOV: 015 OTHER: 001

Card 4/4

L 63646-65 EWT(1)/FCC GW

ACCESSION NR: [illegible]

AUTHOR: [illegible]

TITLE: Procedure for calculating vertical air velocities, taking into account the [illegible]

SOURCE: Mirovoy meteorologicheskiy tsentr. Trudy, no. [illegible] kovoy meteorologii (Problems in satellite meteorology), 3-14

TOPIC TAGS: [illegible]

[illegible]

Card 1/2

L 65[illegible]-[illegible]
ACCESSION NR: AT5017519

the initial system of equations to a single equation for the [illegible]
[illegible] successive approximation

ASSOCIATION: Mirovoy meteorologicheskiy tsentr (World Meteorological Center)

NO REF SOV: 014 OTHER: 000 ATD PRESS: 4055

Card [illegible]

L 14063-66 EWT(1)/FCC GW

ACC NR: AT5024834 UR/3118/65/000/006/0041/0045

AUTHOR: Burtsev, A.I.

ORG: World meteorological center (Mirovoy meteorologicheskiy tsentr)

38
B+1

TITLE: On the prediction of wind and temperature

SOURCE: Mirovoy meteorologicheskiy tsentr. Trudy, no. 6, 1965, Voprosy gidrodinamicheskogo kratkosrochnogo prgnoza pogody i mezometeorologii (Problems in hydrodynamic short-range weather forecasting and mesometeorology), 41-45

TOPIC TAGS: weather forecasting, hydrodynamic theory, wind, atmospheric temperature, computer

ABSTRACT: Author notes present preoccupation with geopotential and wind prediction methods, and difficulties in computer processing of massive simultaneous fields of the above parameters plus temperature. He therefore develops a prediction method for winds and temperature, avoiding consideration of geopotential as the predicted parameter. By substituting, in the hydrodynamic equations of motion and heat inflow, finite differences for the time derivatives, three equations are obtained - the pairs: (1),(4); (2), (5); and (3), (6). Addition of the continuity equation (7) and the statics equation (8) completes his first round in the construction of a system of 5 equations for the determination of the 5 unknown functions u, v, τ, H, & T. Here we denote $k_1=1\delta t$; $k_2=g\delta t$; 1 - Coriolis parameter δt - time step; u^o, v^o, T^o & u,v,T-magnitu-

Card 1/3 UDC: None

des of horisontal wind components and temperature at the time moments t and t $+\delta t$; als also, γ_a and γ - dry adiabatic and actual adiabatic vertical temperature gradients, and R - the gas constant. With

$$k_3 = \frac{m^2 l^2}{RP\zeta}, \quad m^2 = \frac{R^2 T(\gamma_a - \gamma)}{g^2 l^2}, \quad \zeta = \frac{p}{P},$$

the equations are:

$$u - k_1 v + k_2 \frac{\partial H}{\partial x} = u_a, \tag{1}$$

$$v + k_1 u + k_2 \frac{\partial H}{\partial y} = v_a, \tag{2}$$

$$T - k_3 \tau = T_a, \tag{3}$$

$$u_a = u^0 - \left(u^0 \frac{\partial u^0}{\partial x} + v^0 \frac{\partial u^0}{\partial y} + \tau^0 \frac{\partial u^0}{\partial p}\right)\delta t, \tag{4}$$

$$v_a = v^0 - \left(u^0 \frac{\partial v^0}{\partial x} + v^0 \frac{\partial v^0}{\partial y} + \tau^0 \frac{\partial v^0}{\partial p}\right)\delta t, \tag{5}$$

$$T_a = T^0 - \left(u^0 \frac{\partial T^0}{\partial x} + v^0 \frac{\partial T^0}{\partial y}\right)\delta t, \tag{6}$$

$$\frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} = -\frac{1}{P}\frac{\partial \tau}{\partial \zeta} \tag{7}$$

$$T = -\frac{g}{R}\zeta \frac{\partial H}{\partial \zeta}, \tag{8}$$

By a series of differentiation, eliminations, integrations and substitutions, three final equations of a mutually related structure and of the same type are obtained for the determination of intermidiate parameters $\bar{u}$, $\bar{v}$, and , equations (14); (15) and the pair (20) & (21). The intermediate parameters are simply related to wind velocities and to temperature by the equation (11), below, and (3). The combination of the (20) plus (21) pair (one equation) and ecuation (3) provides the final sytem for the determination of T in the next time step.. Methods for the solution of the equations of the type of (14) are well developed. Orig. art. has 21 formulas.

$$\zeta^2 \frac{\partial^2 \bar{u}}{\partial \zeta^2} + m_1^2 \Delta \bar{u} = F_u, \tag{14}$$

$$F_u = \frac{\zeta^2}{1+k_1^2} \frac{\partial}{\partial \zeta}(u_a + k_1 v_a) - m_1^2 \frac{\partial \bar{\Omega}_a}{\partial y} + \frac{R\zeta\bar{\alpha}}{1+k_1^2}\left(\frac{\partial T_a}{\partial x} + k_1 \frac{\partial T_a}{\partial y}\right), \qquad m_1^2 = \frac{k_1^2}{1+k_1^2} m^2.$$

$$\zeta^2 \frac{\partial^2 \bar{v}}{\partial \zeta^2} + m_1^2 \Delta \bar{v} = F_v, \tag{15}$$

$$F_v = \frac{\zeta^2}{1+k_1^2} \frac{\partial}{\partial \zeta}(v_a - k_1 u_a) + m_1^2 \frac{\partial \bar{\Omega}_a}{\partial x} + \frac{R\zeta\bar{\alpha}}{1+k_1^2}\left(\frac{\partial T_a}{\partial y} - k_1 \frac{\partial T_a}{\partial x}\right).$$

$$\zeta^2 \frac{\partial^2 \tau}{\partial \zeta^2} + m_1^2 \Delta \tau = F_\tau, \tag{20}$$

$$F_\tau = \frac{\zeta^2}{1+k_1^2} \frac{\partial}{\partial \zeta}\left[\frac{\partial u_a}{\partial x} + \frac{\partial v_a}{\partial y} + k_1 \Omega_a\right] + \frac{R\zeta\bar{\alpha}}{1+k_1^2} \Delta T_a. \tag{21}$$

SUB CODE: 04/ SUBM DATE: none ORIG REF: 015/

Card 3/3 BK

ACC NR: AP7002137 SOURCE CODE: UR/0050/66/000/012/0003/0009

AUTHORS: Burtsev, A. I. (Candidate of physico-mathematical sciences); Vetlov, I. P. (Candidate of physico-mathematical sciences); Dudnikov, V. N.; Sonechkin, D.M. (Candidate of physico-mathematical sciences)

ORG: Hydrometeorological Scientific Research Center of the SSSR (Gidrometeorologicheskiy nauchno-issledovatel'skiy tsentr SSSR)

TITLE: "Molniya-I" transmits images of the earth from outer space

SOURCE: Meteorologiya i gidrologiya, no. 12, 1966, 3-9

TOPIC TAGS: meteorologic satellite, tv camera, cloud formation, earth planet, weather map / Molniya-I meteorologic satellite

ABSTRACT: The authors discuss the television images of the earth, transmitted from the Molniya-I satellite. The cameras were mounted on the outside of the housing of the satellite and had interchangeable objectives. These television cameras permitted photographing in the yellow-red region of the spectrum, which increased the quality of the images of clouds and the earth's surface. Photographs taken at 1500 hrs Moscow time on 30 May 1966 at an altitude of 30 000—40 000 km are shown. Analysis of the television photographs shows a number of structural peculiarities of large cloud formations that determine the weather over a large territory. Orig. art. has: 2 photographs and 1 map.

SUB CODE: 0', / SUBM DATE: 19Aug66

Card 1/1

UDC: 629.195.1:551.5

BURTSEV, A.I., starshiy prepodavatel'

Interaction of loose rocks and fencing supports. Izv. vys. ucheb. zav.; gor. zhur. no.11:36-42 '61. (MIRA 15:1)

1. Kemerovskiy gornyy institut. Rekomendovana kafedroy razrabotki poleznykh iskopayemykh.

(Mine timbering) (Rock pressure)

BURTSEV, A.I., aspirant

Loads of rubbish on the suspension supports in pitching seams.
Nauch. trudy MGI no.38:119-126 '61. (MIRA 15:10)
(Mine timbering)

BURTSEV, A.I., aspirant

Theory of the movement of loose rocks in a mined-out area of pitching seams and the interaction of them with flexible movable supports. Nauch. trudy MGI no.38:191-201 '61. (MIRA 15:10)

BURTSEV, A.I., inzh.

Load from loose rocks on suspension supports in steep seams. Izv. vys. ucheb. zav.; gor. zhur. 5 no.3:40-45 '62. (MIRA 15:7)

1. Kemerovskiy gornyy institut. Rekomendovana kafedroy razrabotki mestorozhdeniy poleznykh iskopayemykh Kemerovskogo gornogo instituta.

(Mine timbering)

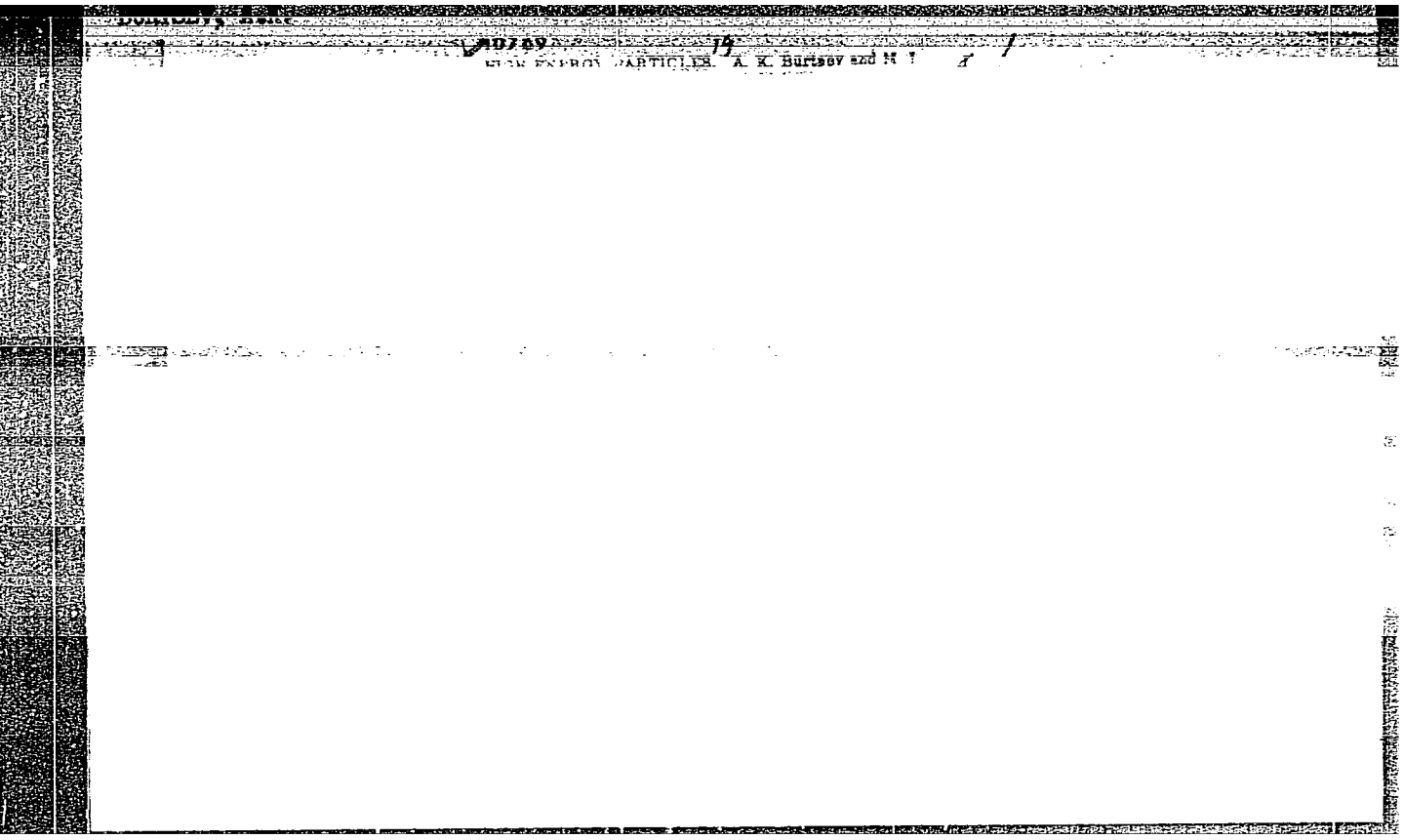
OREKHOVSKIY, A.A., kand. tekhn. nauk; BURTSEV, A.I., kand. tekhn. nauk

Ways of raising labor safety in the shield system of mining.
Bezop. truda v prom. 8 no.11:3-6 N '64. (MIRA 18:2)

BURTSEV, A.K., nauchnyy sotrudnik; SHABANSKIY, V.P., kandidat fiziko-matematicheskikh nauk.

Into the depth of the atomic nucleus. Nauka i zhizn' 23 no.8:1-4 Ag '56. (MLRA 9:9)

1.Fizicheskiy institut Akademii nauk SSSR (for Burtsev)
(Nuclear physics)



BURTSEV, A.K.

AUTHOR: Burtsev, A. K. and Kolomenskiy, A. A. 120-2-2/37

TITLE: On the Theory of a Circular Phasotron. (K Teorii Kol'tsevogo Fazotrona.)

PERIODICAL: Pribory i Tekhnika Eksperimenta. 1957, No.2, pp. 11 - 15 (USSR).

ABSTRACT: The strongly focussing accelerator with a magnetic field constant in time (the circular phasotron) was first suggested in 1953 by A. A. Kolomenskiy, V. A. Petukhov and M. S. Rabinovich, (Refs. 1 and 2) then by K. R. Symon in 1955 (Ref. 3). The particle dynamics in the circular phasotron as compared with the well known strongly focussing synchrophasotron (Ref. 4) exhibit several pecularities. In the present article an analysis is made of certain problems associated with the linear theory of betatron oscillations in the circular phasotron. From the analysis of the magnetic field of the phasotron the so called "similarity condition" (Refs. 1 and 2) is defined as $R_2/R_1 = n_2/n_1$ (equation 4). This condition is met only for a certain set of parameters, e.g. for $\sigma = \sqrt{s}$. It is shown that the "similarity condition" restricts the choice of the working point in the stable region, for given accelerator parameters. The peculiarity of the circular

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phasotron is the fact that conditions for r-(radial) and z-(vertical) oscillations are not equally important, which is due to the fact that the sector angles should not be equal to each other. The mean radius of the magnetic toroid increases to infinity for $\nu_1 \approx \nu_2$ and in general the stability region is assymmetrical with respect to the bisector of the coordinate angle in the σ_1, σ_2 plane.

The amplitude of the betatron particle oscillations is characterised by the modulus of Flocquet function. It can be seen from equations 7 and 8 that this amplitude increases sharply when the working point approaches the limit of the stability region $|\cos \mu_{r,z}| \sim 1$. The number of the periodicity elements N and the index of the field n_1 can be inter-related by equation 9 where σ_1^0 is the co-ordinate of the working point in the σ_1 σ_2 plane.

Only the case of parametric resonances is analysed. The equation for the allowable mean-square values of the field index n change, which leads to a resonant increase of the amplitude is given, (equation 10), and their numerical values computed for N = 70 and n = 50. The relative

On the Theory of a Circular Phasotron. 120-2-2/37

influence of "fringe" focussing and the influence of the use of linear gaps and fringes is discussed. The shape of the magnetic field is considered and means of obtaining the necessary configuration are discussed. One diagram and two graphs are given. There are six references, four of which are Slavic.

SUBMITTED: October, 27, 1956.

ASSOCIATION: Institute of Physics imeni P. N. Lebedev of the Academy of Sciences of USSR. (Fizicheskiy Institut im. P. N. Lebedeva AN SSSR).

AVAILABLE: Library of Congress.

Card 3/3

BURTSEV, A.K.

LEYKIN, Ye.M.; BURTSEV, A.K.; DANILKIN, I.S.; LEBEDEV, A.N.; OKUN', L.B.

Conference on the physics of high-energy particles. Usp.fiz.nauk 61 no.1:103-128 Ja '57. (MLRA 10:2)
(Particles, Elementary)

BAYER, V.N.[translator].; SYROVATSKIY, S.I., red.; BURTSEV, A.K., red.; SOKOLOVA, T.S., tekhn. red.

[Electromagnetic structure of atoms and nucleons; a collection of articles][translated from the English] Elektromagnitnaia struktura iader i nuklonov; sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1958. 204 p. (MIRA 11:11)

(Nuclear physics)

PILIYA, A.D. [translator]; ZEL'TSER, G.I. [translator]; LEMBERG, I.Kh. [translator]; KONSTANTINOV, O.V. [translator]; SHUT'KO,A.V. [translator]; SLIVA,L.A., red.; BURTSEV,A.K., red.; SOKOLOVA,T.S., tekhn.red.

[Deformation of atomic nuclei; generalized nucleus model and the Coulomb excitation method. Articles translated from the English] Deformatsiia atomnykh iader; obobshchennaia model' iadra i metod kulonovskogo vozbuzhdeniia. Sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1958. 383 p. (MIRA 14:5)

(Nuclear shell theory) (Nuclei, Atomic)

MET'YUS, P. [Matthews, P.T.]; RITUS, V.I. [translator]; USACHEV, Yu.D. [translator]; BURTSEV, A.K., red.; REZOUKHOVA, A.G., tekhn.red.

[The relativistic quantum theory of elementary particle interactions] Reliativistskaia kvantovaia teoriia vzaimodeistvii elementarnykh chastits. Moskva, Izd-vo inostr.lit-ry, 1959. 184 p. (Translated from the English) (MIRA 12:11)
(Particles, Elementary) (Quantum theory)

IOFFE, V.A. [translator]; SMOLENSKIY, G.A., red.; BURTSEV, A.K., red.; KORNILOV, B.I., tekhn.red.; POTAPENKOVA, Ye.S., tekhn.red.

[Dielectric spectroscopy; recent studies on the properties of certain ferromagnetic semiconductors and dielectrics: relaxation processes, electric conductance, losses, and the role of structural defects. Translated articles] Dielektricheskaia spektroskopiia; noveishie issledovaniia svoistv nekotorykh ferromagnitnykh poluprovodnikov i dielektrikov: relaksatsionnye protsessy, elektroprovodnost', poteri i rol' defektov struktury. Sbornik statei. Pod red. G.A.Smolenskogo. Moskva, Izd-vo inostr.lit-ry, 1960. 362 p. (MIRA 14:4)

(Spectrum analysis) (Dielectrics) (Semiconductors)

KOVRIZHNYKH, L.M.[translator]; RAYZER, M.D.[translator]; SHPIGEL', I.S.[translator]; RABINOVICH, M.S., red.; BURTSEV, A.K., red.; POTAPENKOVA, Ye.S., tekhn. red.

[Plasma physics and magnetohydrodynamics] Fizika plazmy i magnitnaia gidrodinamika; sbornik statei. Moskva, Izd-vo inostr. lit-ry, 1961. 302 p. Translated articles. (MIRA 15:3)
(Plasma (Ionized gases)) (Magnetohydrodynamics)

NOVAKU, V.[Novacu, Valer], prof.; OCTIANU, N.M.[translator]; ROZMAN,R., red.; BURTSEV, A.K., red.; GRUSHIN, A.V., tekhn. red.

[Introduction to electrodynamics] Vvedenie v elektrodinamiku. Moskva, Izd-vo inostr. lit-ry, 1963. 303 p. (MIRA 17:1)

1. Chlen-korrespondent AN Rumynskoy SSR (for Novaku).

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ACC NR: AP5025288 SOURCE CODE: UR/0051/65/019/004/0469/0473

46
45
B

AUTHOR: Bolotovskiy, B. M.; Burtsev, A. K.

ORG: none

TITLE: Radiation of charge passing over diffraction grating

SOURCE: Optika i spektroskopiya, v. 19, no. 4, 1965, 469-473

TOPIC TAGS: diffraction grating, electron radiation, electromagnetic radiation

21,44,55

ABSTRACT: When a uniformly moving electron passes over any periodic structure such as a diffraction grating, an oriented electromagnetic radiation is emitted. This phenomenon has practical applications in the generation of electromagnetic radiation over a wide frequency range that is difficult to attain by other methods. To explain this radiation, the authors consider a three-dimensional problem in the approximation of the scalar theory of diffraction. Formulas are derived for the field and intensity of radiation of a point discharge and a planar modulated electron flux. It is shown that at small distances of the moving source from the diffraction grating, the radiation during passage over an inhomogeneous surface is identical to the radiation of a charge which moves in a vacuum and whose

Card 1/2 UDC: 535.23:539.124

L 11619-66
ACC NR: AP5025288

velocity changes in accordance with the periodic law. Authors express their gratitude to V. N. Parygin for a useful discussion. Orig. art. has: 2 figures and 13 formulas.

SUB CODE: 20 / SUBM DATE: 13Jul64 / ORIG REF: 003 / OTH REF: 005

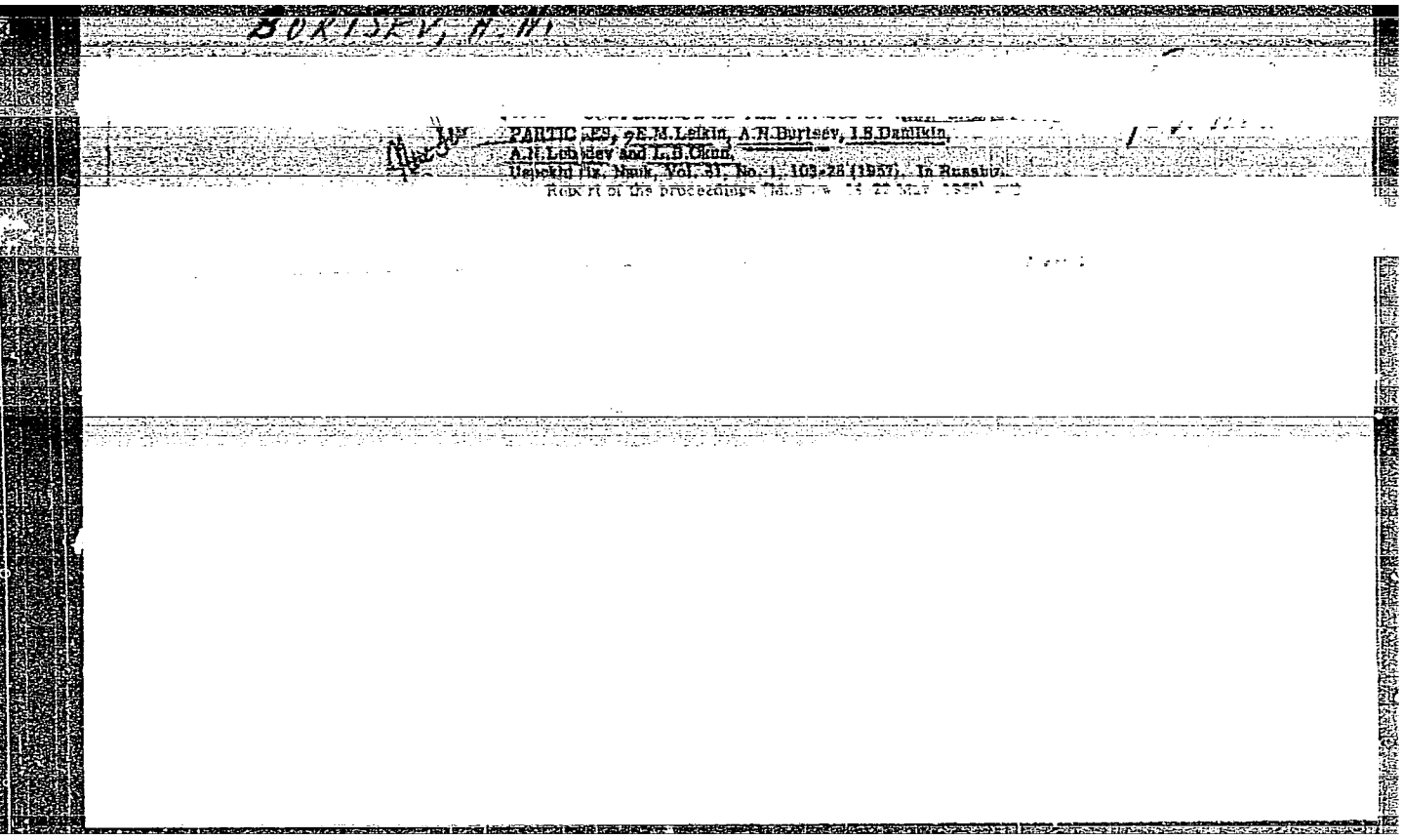
TS

Card 2/2

BURTSEV, A.M.

Experience in decreasing industrial traumatism at the Syas' Paper and Pulp Combine. Zdrav. Ros. Feder. 8 no.2:5-8 F'63 (MIRA 17:3)

1. Institut organizatsii zdravookhraneniya i istorii meditsiny imeni N.A. Semashko (dir. P.I.Kal'yu).



BURTSEV, A.N., akand.med.nauk; PAPAZOV, F.K.

Multiple giant cell xanthomatous granulomas of the tendons. Ortop. travm. i protez. 18 no.6:47-48 N-D '57. (MIRA 11:4)

1. Iz gospital'noy khirurgicheskoy kliniki imeni prof. V.M.Bogoslavskogo (zav. - prof. R.V.Bogoslavskiy) Stalinskogo meditsinskogo instituta (dir. - dotsent A.M.Ganichkin)

(TENDONS, dis.
giant-cell xanthomatous granuloma)
(GRANULOMA
giant-cell xanthomatous granuloma of tendons)

BURTSEV, A.N., kand.med.nauk; PAPAZOV, F.K.

Neurinoma of the retroperitoneal space compressing the ureter.
Urologiia 22 no.6:56-57 N-D '57. (MIRA 11:2)

1. Iz gospital'noy khirurgicheskoy kliniki imeni V.M.Bogoslavskogo (zav. - prof. P.V.Bogoslavskiy) Stalinskogo meditsinskogo instituta
(RETROPERITONEAL SPACE, neoplasms
neurilemmoma, causing compression of ureter)
(NEURILEMMOMA
retroperitoneal space, causing compression of ureter)
(URETERS, dis.
compression by neurilemmoma of retroperitoneal space)

BURTSEV, A.N., kand.med.nauk (Stalino, ul. Artema, d.84b, kv.16)

Two operations for removing needles from heart muscles. Nov.khir. arkh. no.2:89 Mr-Ap '58 (MIRA 11:6)

1. Gospital'naya khirurgicheskaya klinika (zav. - prof. R.P. Bogoslavskiy) Stanlinskogo meditsinskogo instituta.
(HEART--FOREIGN BODIES)

BURTSEV, A.N., kand.med.nauk

Plastic surgery for defect of the cranial vault after excision of an osteoma. Ortop., trav.i protez. 20 no.10:75-76 O '59. (MIRA 13:2)

1. Iz gospital'noy khirurgicheskoy kliniki im. V.M. Bogoslavskogo (zav. - doktor med.nauk prof. R.V. Bogoslavskiy) Stalinskogo meditsinskogo instituta (dir. - dots. A.M. Ganichkin).
(SKULL neoplasms)
(OSTEOMA surgery)

BURTSEV, A.N., kand.med.nauk

Decubitus ulcers of the small intestine caused by a catheter used in feeding the patient following gastrectomy. Vest.khir. 87 no.11:111-112 N '61. (MIRA 15:11)

1. Iz gospital'noy khirurgicheskoy kliniki im. prof. V.M. Bogoslavskogo (zav. - prof. R.V. Bogoslavskiy) na baze klinicheskoy bol'nitsy Stalinskogo meditsinskogo instituta.
(STOMACH--SURGERY) (INTESTINES--ULCERS)

BURTSEV, A.N., kand. med. nauk (Donetsk, ul. Artema, d.84,kv.16)

Apparatus for the formation of esophageal anastomoses by means of a mechanical two-row suture. Klin. khir. no.10:80-81 O '62. (MIRA 16:7)

1. Gospital'naya khirurgicheskaya klinika imeni prof. V.M. Bogoslavskogo (zav.- prof. R.V. Bogoslavskiy) Donetskogo meditsinskogo instituta.

(SURGICAL INSTRUMENTS AND APPARATUS)
(ESOPHAGUS—SURGERY)

Burtsev, A.P.

BOBORITSKIY, F.M.; MISHLE, P.P.; BURTSEV, A.P.

Discussion of the article "Ways of mechanizing line work". Avtom., telem. i sviaz' no.3:40 Mr '57. (MLRA 10:4)

1. Nachal'nik otdela sluzhby signalizatsii i svyazi Yugo-Zapadnoy dorogi (for Boboritskiy). 2. Elektromekhanik Moskovskoy distantsii signalizatsii i svyazi Moskovsko-Kursko-Donbasskoy dorigi (Mishle). 3. Starshiy inzhener Moskovsko-Smolenskoy distantsii signalizatsii i svyazi Kalininskoy dorogi (for Burtsev).
(Electric lines)

KULAYEV, V.M.; GRIGOR'YEV, Ye.A.; BURTSEV, B.V.

Founding the profiled part of turbocompressor rotors. List.proizv. no.11:39-40 N '62. (MIRA 15:12)
(Impellers) (Founding)

BURTSEV, D.A.; GOL'DIN, B.M.

Work of the Simferopol' Hydrometeorological Bureau. Metecr. i gidrol. no.12:44 D '56. (MIRA 10:1)
(Simferopol'--Meteorology)(Simferopol'--Hydrology)

SOV/169-59-7-7447

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 7, p 140 (USSR)

AUTHOR: Burtsev, D.A.

TITLE: Aurora Polaris in the Crimea

PERIODICAL: Izv. Krymsk. otd. Geogr. o-va USSR, 1958, Nr 5, pp 273 - 274

ABSTRACT: The author reports on the observations of intense aurora polaris in 1957 in the night from 21 to 22 January in the Yevpatoriya region and on September 29 in the Kerch' region. During the appearance of phenomenon of aurora polaris, a sharp deterioration of the radio communications was recorded.

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BURTSEV, D.A.; STRIZHKOVA, Ye.M.

Some characteristics of and synoptic conditions for the formation and disappearance of the snow cover in the Crimean Mountains. Trudy UkrNIGMI no.12:110-122 '58. (MIRA 11:12)
(Crimean Mountains--Snow)

3 (7)

AUTHOR: Burtsev, D. A. SOV/50-59-3-10/24

TITLE: Unusual Frosts on Crimea (Neobychnyye zamorozki v Krymu)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 3, p 40 (USSR)

ABSTRACT: On June 7 - 9, 1958 the weather became considerably colder on Crimea. On June 7, the air temperature dropped by 10 to 12° compared to the preceding day. In the following days it became still colder. During the night to June 8 frosts were observed in the mountains at altitudes of 900 - 1200 m, and on June 9, frosts occurred also in a number of steppe- and promontory areas. The strongest frosts were observed during the night to June 9. In Voronki (steppe area) temperatures dropped to -0.2° during that night, in Belogorsk (promontory area) to 0° and on the Ay-Petri mountain to -2.0°. In a number of districts the frosts caused considerable damage to agriculture (corn, grapes).

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3 (7)

AUTHORS: Burtsev, D. A., Belashchenko, N. A. SOV/50-59-8-9/19

TITLE: Thunderstorm With Snow in the Crimea (Groza so snegom v Krymu)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 8, p 32 (USSR)

ABSTRACT: On January 12, 1959, the formation of cumulo-nimbus clouds accompanied by snowfall, which at times limited visibility to 200-500 m, was observed for some hours in Simferopol'. The shower clouds originated rapidly, and were destroyed just as rapidly. The interval between individual "charges" amounted to 30-35 minutes at the most. Thunder was heard some times at midday. Precipitation fell in the form of a downpour-snowfall and frozen-fog grains. Since the beginning of regular meteorological observations in Simferopol' in 1891, a thunderstorm in January was recorded only 3 times. The winter thunderstorms in the Crimea were only observed at the polar fronts at the outlet of southern cyclones, and were accompanied by downpours. On January 12, 1959, the Crimea and the adjoining area were in the rear of the depression, in forced-in masses of former arctic air. The data of the radio sounding in Simferopol' at 9.15 hours on that day showed a moist-labile state of the atmosphere in the layer of from 1090 to 3200 m. The pilot-

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balloon data showed at 15 hours a "gap" on the wind vector in the layer up to 1000 m; at an altitude of 400 m, the direction was recorded with 332°, and the velocity with 6 m/sec, whereas at an altitude of 1000 m the direction was determined with 261° and the velocity with 17 m/sec. Higher up, the wind changed little with the altitude. To clarify the possibility of a formation of a turbulent mixture in the lower layers in the kind shown in paper (Ref 1), the thermal equivalent of the vertical gradient of the wind vector was calculated, and the "thermodynamic" curve was plotted. The result showed a dry-labile state of the atmosphere in the layer of 0-700 m with a condensation level at an altitude of 550 m, a moisture-neutral state in the layer of 700-1090 m, and a moisture-labile state in the layer from 1090 to 3200 m. Consequently, the great dynamic turbulence in the lower kilometer could form a thrust sufficient to overcome the labile state and to form the cumulo-nimbus clouds. The intrusion of cold air disturbed the day-temperature course, but the moving air itself was heated in the day-hours which also favored the formation of convection. South of Simferopol, there are the Mountains, and the current coming from north had to undergo a rising motion which also intensified convection. There is 1 Soviet reference.

VAZHOV, Vasiliy Ivanovich, kand.geograf.nauk; BURTSEV, Dmitriy Antonovich; ZHILYAKOVA, O., red.; ISUPOVA, N., tekhn.red.

[Unseasonable frosts and their control] Zamorozki i bor'ba s nimi. Simferopol', Krymizdat, 1960. 79 p. (MIRA 13:12)
(Crimea--Crops and climate)
(Crimea--Frost protection)

S/169/62/000/007/107/149
D228/D307

AUTHOR: Burtsev, D. A.

TITLE: A thunderstorm with snow

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 47, abstract 7B249 (Izv. Krymsk. otd. Geogr. o-va SSSR, no. 7, 1961, 217-220)

TEXT: An intramass thunderstorm, accompanied by showery snow and soft hail, was observed on January 12, 1959, at Simferopol' from 1306 hrs to 1316 hrs. The upper cloud boundary did not exceed 3 - 3.5 km during the thunderstorm. Intense Cb formation and destruction and snow charges, recurring every 30 - 35 minutes were noted before the thunderstorm, in masses of fresh Arctic air coming from the north-west. The vertical temperature gradient in the layer 1 - 3 km, according to the data of sounding at Simferopol' at 09 and 15 hrs, reached 0.75 - 0.78 deg/100 m. The thermodynamic stratification curve, constructed with allowance for the thermal equivalent of the wind velocity's vertical gradient, was charac-

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S/169/62/000/007/107/149
D228/D307

A thunderstorm with snow

terized by dry instability to a height of 700 m, by moist indifferent stratification in the layer 700 - 1090 m, and by moist instability to a height of 3200 m. The wind velocity was maximal (17 m/sec) at a height of 1 km, and the wind direction changed from 332° at a height of 400 m to 250° at a height of 1500 m and more. The intensity of Cb formation and of the thunderstorm near Simferopol' increased in connection with the genesis of orographic vertical movements in the airstream directed parallel to the main ridge of the Crimean Mountains. 2 references. [Abstracter's note: Complete translation.]

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GRECHISHNIKOV, Nikolay Pavlovich; BURTSEV, D.N., retsenzent;
AMMOSOV, I.I., doktor geol.-miner. nauk, prof., otv. red.

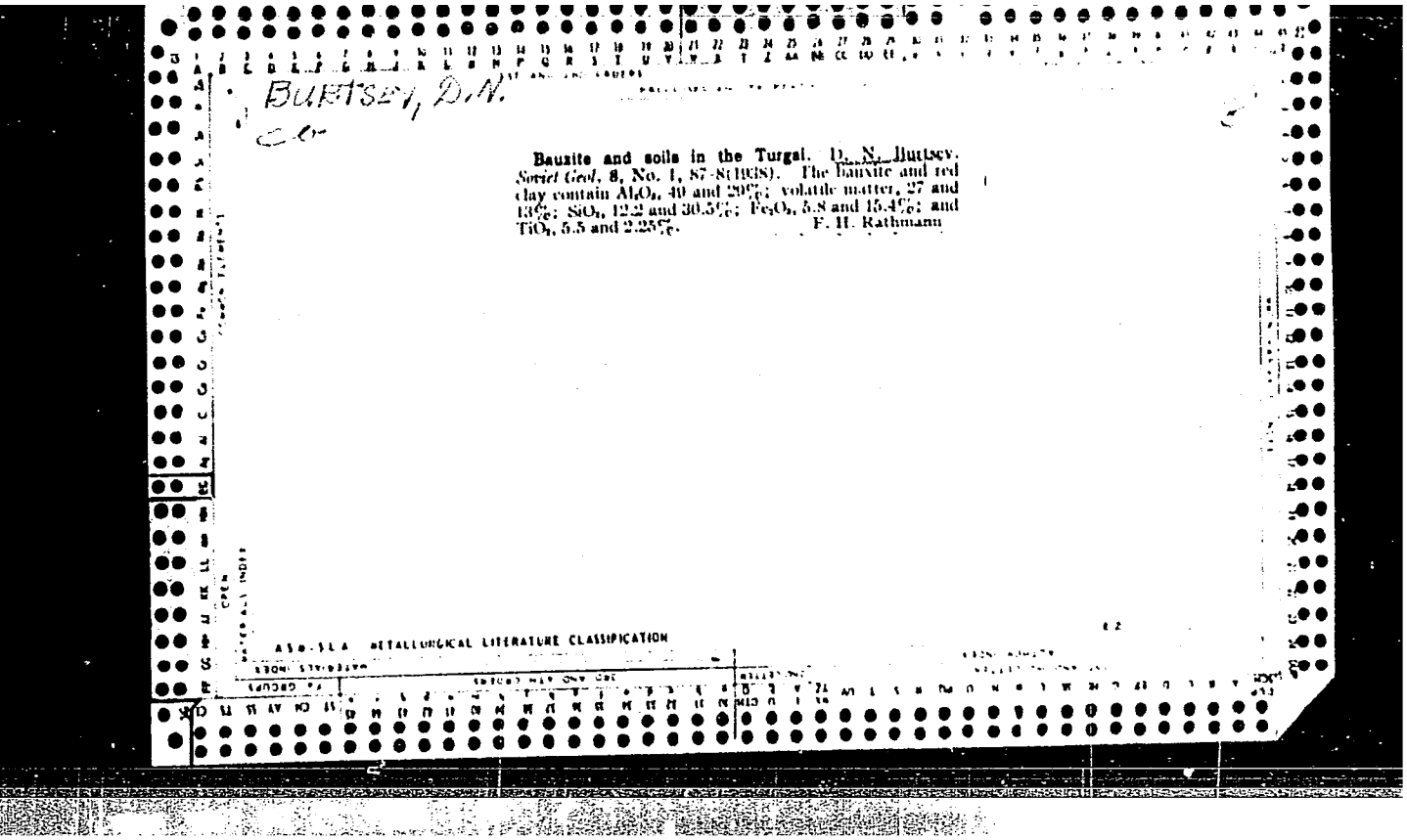
[Methods of studying the material composition of solid fuel minerals] Metody issledovaniia veshchestvennogo sostava tverdykh goriuchikh iskopaemykh. Moskva, Izd-vo "Nedra," 1964. 214 p. (MIRA 17:5)

AMMOSOV, I.I., red.; BURTSEV, D.N., red.; GORYUNOV, S.V., red.; GUSEV, A.I., red.; KOROTKOV, G.V., red.; KOTLUKOV, V.A., red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., red.; MOLCHANOV, I.I., red.; NEKIPELOV, V.Ye., red.; PONOMAREV, T.N., red.; POPOV, V.P., red.; PROKHOROV, S.P., red; SKROBOV, S.A., red.; TYZHNOV, A.V., red.; SHABAROV, N.V., red.; YAVORSKIY, V.I., red.; BOBRYSHEV, A.T., red. toma; VINOGRADOV, B.G., red. toma; VOLKOV, K.Yu., zam. red. toma; LUGOVOY, G.I., zam. red. toma; OGARKOV, V.S., red. toma; SIMONOV, A.V., red. toma; IZRAILEVA, G.A., red.izd-va; IVANOVA, A.G., tekhn. red.

[Geology of coal and combustible shale deposits in the U.S.S.R.]Geologiia mestorozhdenii uglia i goriuchikh slantsev SSSR. Glav.red.I.I.Ammosov i dr. Moskva, Gosgeoltekhizdat. Vol.2. [Moscow Basin and other coal deposits in central and eastern provinces of the European part of the U.S.S.R.]Podmoskovnyi bassein i drugie mestorozhdeniia uglia tsentral'nykh i vostochnykh oblastei Evropeiskoi chasti RSFSR. 1962. 569 p. maps. (MIRA 15:9)

1. Russia (1923- U.S.S.R.)Ministerstvo geologii i okhrany nedr.

(Coal geology)



BURTSEV, D.N.

Bauxite and soils in the Turgai. D. N. Burtsev. *Soviet Geol.*, 8, No. 1, 87–8 (1938). The bauxite and red clay contain Al_2O_3, 40 and 20%; volatile matter, 27 and 13%; SiO_2, 12.2 and 30.5%; Fe_2O_3, 5.8 and 15.4%; and TiO_2, 5.5 and 2.25%. F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR: Burtsev, D.N.; Molchanov, I.I. 132-58-5-14/14

TITLE: Conference of Coal-prospecting Geologists and Coal Chemists (Soveshchaniye geologov-uglerazvedchikov i uglekhimikov)

PERIODICAL: Razvedka i Okhrana Nedr, 1958, Nr 5, pp 63-64 (USSR)

ABSTRACT: From 26 to 29 March 1958, a conference of Soviet coal-prospecting geologists and coal chemists took place at VSEGEI in Leningrad by order of the Minister of Geology and Conservation of Mineral Resources of the USSR. Among the 200 specialists, there were 32 members of the Ekspertno-Geologicheskiy Sovet (Council of Geological Experts) and representatives of the All-Union, RSFSR and UkrSSR State Plans, the USSR AS, research institutes and universities. The conference was devoted to two main themes: 1) The results of studies of the coal basins and deposits in the USSR, and the further direction of geological prospecting from 1959 to 1965 and 2) The results and methods of studies for their complex utilization. S.A. Skrobov of the Ministerstvo geologii i okhrany nedr SSSR (USSR Ministry of the Geology and Conservation of Mineral Resources) and N.V. Shabarov of VSEGEI spoke on the first theme. They pointed out that the USSR has 58% of the world's coal deposits, and that the presently un-

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developed coal reserves exceed those to be opened between 1959 and 1965 by 3 times. The insufficient capacity of concentration plants makes the lack of ash coal for coking still more acute. Increased prospecting for coking coal, mainly in the Donets, Kuznetsk and Karaganda basins, will go on in the new 7-year period. The second theme was introduced by I.I. Ammosov of IGI of the AS USSR who stressed the need for a practical knowledge of petrology in coal prospecting. Additional reports were presented by F.Ya. Saprykin of VSEGEI, I.V. Shmanenkov of VIMS and V.M. Ratynskiy of IGI of the AS SSSR. Critical remarks on faulty planning and errors in methods were delivered by the Deputy President of GKZ, K.V. Mironov. The editors of the individual volumes of "Geologiya ugol'nykh mestorozhdeniy" (Geology of Coal Deposits) made brief statements. Volumes I - IV will be published by 1 December 1958, V - VII by 1 March 1959 and VIII by 1 June 1959.

Conference of Coal-prospecting Geologists and Coal Chemists 132-58-4-14/14

ASSOCIATION: Ministerstvo geologii i okhrany nedr SSSR (Ministry of Geology and Conservation of Mineral Resources of the USSR) Glavgeologiya pri Sovete Ministrov RSFSR (Main Geological-Prospecting Administration of the Council of Ministers of the RSFSR)

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Card 3/3 1. Geochemistry-Conference

USCOMM-DC-54817

BURTSEV, D.N.; MOLCHANOV, I.I.; SKROBOV, S.A.; TYZHNOV, A.V.

"Coal" by P.V.Vasil'ev. Reviewed by D.N.Burtsev and others.
Sov.geol. 5 no.3:157-160 Mr '62. (MIRA 15:4)
(Coal) (Vasil'ev, P.V.)

SKROBOV, S.A., glav. red.; TYZHNOV, A.V., zam. glav. red.; SHABAROV, N.V., zam. glav. red.; AMMOSOV, I.I., redaktor; red.; BURTSEV, D.N., red.; IVANOV, G.A., red.; KOROTKOV, G.V., red.; KOTLUKOV, V.A., red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., redaktor; MOLCHANOV, I.I., redaktor; NEKIPELOV, V.Ye., red.; PONOMAREV, T.N., red.; POPOV, V.S., red.; PROKHOROV, S.P., red.; YAVORSKIY, V.I., red.; LAGUTINA, V.V., red. toma; LEVENSHTEYN, M.L., red. toma; SHIROKOV, A.Z., red. toma; IZRAILEVA, G.A., red.izd-va; KROTOVA, I.Ye., red. izd-va; IVANOVA, A.G., tekhn. red.

[Geology of coal and combustible shale in the U.S.S.R.]Geologiia mestorozhdenii uglia i goriuchikh slantsev SSSR. Glav. red. I.I. Ammosov i dr. Moskva, Gosgeoltekhizdat. Vol.1.[Coal basins and deposits in the south of the European part of the U.S.S.R.;;Donets Basin, Dnieper Basin, Lvov-Volyn' Basin, deposits of the western provinces of Moldavia and the Ukraine, White Russia, Transcaucasia and the Northern Caucasus] Ugol'nye basseiny i mestorozhdeniia iuga Evropeiskoi chasti SSSR; Donetskii bassein, Dneprovskii bassein, L'vovsko-Volynskii bassein, mestorozhdeniia zapadnykh oblastei Ukrainy i Moldavii, Belorussii, Severnogo Kavkaza i Zakavkaz'ia. 1963. 1210 p. (MIRA 17:3)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy geologicheskiy komitet.

BURTSEV, D.N.

Condensing K.V. Mironov's book "Geological and industrial evaluation of coal deposits". Razved. i okh. nedr 29 no.11:63-64 N '63. (MIRA 17:12)

1. Gosudarstvennyy geologicheskiy komitet SSSR.

AUTHOR: Burtsev, G.A. Sov/106-58-2-11/16

TITLE: Propagation of Pulses in Infinite Lines (Rasprostraneniye impul'sov v beskonechnykh liniyakh)

PERIODICAL: Elektrosvyaz', 1958, Nr 2, p 74 (USSR)

ABSTRACT: If the frequency characteristics of a communication line are approximated by the expressions:

$$\beta = \beta_o + b\sqrt{\omega} \qquad (1)$$

$$\alpha = a\omega + b\sqrt{\omega} \qquad (2)$$

then, as has been shown by L.A. Zhekulin in his paper "Propagation of signals by coaxial cable" (Ref 1), the voltage produced in an infinite line when a unit step of voltage is applied to it can be represented as:

$$U(t', l) = e^{-\beta_o l}\left[1 - \Phi(x)\right],$$

where $t' = t - l/v$ is the distance up to the point in the line;

Cardl/3 v is the velocity of propagation of the signal;

$$x = bl / \sqrt{2t'} \quad ;$$

$$\phi(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-z^2} dz$$

is the Gaussian integral, the value of which can be found from tables (e.g.Ref 2).

The approximating expressions (1) and (2) reproduce comparatively well the shape of the frequency characteristics of aerial lines of copper (Figure 1) and of steel (Figure 2)(wire diameter 4 mm; separation between wires 60 cm; conditions: "summer - dry"; $t^0 = +20\ ^0C$). as well as symmetrical cable with styroflex-cord insulation (conductor diameter 1.2 mm) (Figure 3). In the diagrams, the solid lines show the actual characteristics constructed from data in Ref 3 and the dashed lines represent the approximate expressions. The phase-frequency characteristics have not been given for the present scale.

Therefore, the results of L.A. Zhekulin can be applied to the

investigation of signal propagation not only in a coaxial cable. Figures 1, 2 and 3 also show the shape of a rectangular pulse 20 μsec long at various points in the lines. There are 3 figures and 3 Soviet references.

SUBMITTED: December 7, 1956

Card 3/3 1. Pulses--Propagation 2. Pulses--Mathematical analysis

BURTSEV, G.A.

Multiple unit magnetic probes. Defektoskopiia 1 no.4:23-32 '65. (MIRA 18:12)

1. Institut fiziki metallov AN SSSR.

L 60125-65 EWP(c)/EWP(k)/EWT(d)/EWT(m)/EWC(m)/T/EWA(d)/EWP(1)/EWP(v)/EWP(t)/EWP(i)/
EWP(b) Pf-4 WW/JD

ACCESSION NR: AP5011238 UR/0381/65/000/003/0037/0043
620.179.14

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25
B

AUTHOR: Zatsepin, N. N.; Burtsev, G. A.; Shcherbinin, V. Ye.

TITLE: Increasing the selectivity of the ferroprobe examination of ferromagnetic products for extended surface defects

SOURCE: [illegible]

TOPIC TAGS: ferroprobe selectivity, multielement ferroprobe, [illegible] indicator, magnetic inhomogeneity, ferromagnetic [illegible] crack detection

ABSTRACT: Three methods are described for increasing the sele[illegible] ferroprobe surface-defect control of ferromagnetic [illegible] [illegible]

Card 1/2

L 60125-65

ACCESSION NR: AP5018238

2) the reading of a series of signals by means of [illegible] sensing device [illegible] allows the separation of [illegible] device which significantly reduces the overall level of [illegible] random inhomogeneities [illegible] have opposite phases. The operating characteristics of a [illegible] tal ferroprobe are also given. Orig. art. has [illegible] fig.

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute [illegible] AN SSSR)

SUBMITTED: 02Apr65	ENCL: 00	SUB CODE: MM, IE	
NO REF SOV: 002	OTHER: 000		

Card 2/2

BURTSEV, G.A.

Quality critera of large-scale flaw detection. Defektoskopiia no. 5:74-83 '65 (MIRA 19:1)

1. Institut fiziki metallov AN SSSR.

BURTSEV, I.A.

Reproductive ability of the hybrid between sturgeon and sterlet. Dokl. AN SSSR. 144 no.6:1377-1379 Je '62. (MIRA 15:6)

1. Saragovskoye otdeleniye Gosudarstvennogo nauchno-issledovatel'skogo instituta ozernogo i rechnogo rybnogo khozyaystva. Predstavleno akad. Ye.N.Pavlovskim.
(Hybridization) (Sturgeons) (Reproduction)

BURTSEV, I.B.

Experimental study of oil recovery in water flood operations.
Trudy VNII no.24:11-21 '59. (MIRA 13:5)
(Oil field flooding)

BUKTSEV, I. D., Cand Tech Sci -- (diss) "Investigation of oil passage during the displacement of oil by water," Moscow, 1960, 16 pp (Moscow Institute of the Petrochemical and Gas Industry im I. M. Gubkin) (KL, 35-60, 124)

BURTSEV, I.B.

Recovery of oil flooded from a porous medium. Neft. khoz. 39 no.3:51-54 Mr '61. (MIRA 16:7)

(Oil field flooding)

BURTSEV, I.B.

Flowing oil production in flooding oil from a porous medium under laboratory conditions. Neft. khoz. 39 no.11:50-55 N '61.
(MIRA 14:12)

(Oil reservoir engineering)

BURTSEV, I.B.

Experimental investigation of the oil yield and phase permeabilities in water drive in a porous media. Izv.vys.ucheb.zav.; neft' i gaz 7 no.4:47-50 '64. (MIRA 17:5)

1. Filial Ufimskogo neftyanogo instituta v gorode Oktyabr'skom.

BURTSEV, I.B.

Solution of the unidimensional problem of flooding petroleum from a porous medium. Izv. vys.ucheb.zav.; neft' i gaz 6 no.11:67-70 '63. (MIRA 17:9)

1. Filial Ufimskogo neftyanogo instituta, g. Oktyabr'skiy, Bashkirskoy ASSR.

BURTSEV, I.B.; TELKOV, A.P.

Hydraulic resistance in fluid flow through pipelines. Izv. vys. ucheb. zav.; neft' i gaz 7 no.5:85-88 '64. (MIRA 17:9)

1. Ufimskiy neftyanoy institut.

TELKOV, A.P.; BURTSEV, I.B.

Calculating the waterless period of the exploitation of oil wells with bottom water. Izv. vys. ucheb. zav.; neft' i gaz 7 no.8:47-52 '64. (MIRA 17:10)

1. Ufimskiy neftyanoy institut.

BURTSEV, I.B.; TELKOV, A.P.

Determining the coefficient of hydraulic resistance in case of fluid flow in pipelines. Izv. vys. ucheb. zav.; neft' i gaz 8 no.3:81-84 '65. (MIRA 18:5)

1. Ufimskiy neftyanoy institut.

BURTSEV, I.F.

The KR-2 coal mining combine. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. no.3:14-16 '62. (MIRA 15:5)
(Coal mining machinery)