BUDYKO, M. I.

"Thermal and Water Regimes of the Earth's Surface"

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

S/169/62/000/003/077/098
D228/D301

AUTHOR: Budyko, M. I.

TITLE: Heat balance of the ground surface

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1962, 49, abstract 3B366 (V sb. Teplovoy i vodn. rezhim zemn. poverkhnosti, L., Gidrometeoizdat, 1960, 5-13)

TEXT: The history of the development of research on the heat balance of the ground surface is briefly stated. The main forms of solar energy conversion on the land surface are considered. The present state of the study of the main components of the surface heat balance is described. Radiation balance. In all there are 700 stations in the world where actinometric observations are being made. The available data of observations are insufficient for the detailed investigation of the surface radiation balance in different geographic regions. Therefore, calculation methods for ascertaining the flow of short- and long-wave radiation are used to study the radiation balance regime. World maps of the mean radiation-

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balance values have been constructed for each month and year. Outlay of heat in evaporation. There have only been few direct observations on evaporation, so calculation methods are, on the whole, used to study the distribution of evaporation in space and time. A world map of the annual average magnitudes of evaporation has been constructed. Turbulent heat-exchange of the ground surface with the atmosphere. The mean values of terrestrial turbulent heat-exchange are determined as the residual term of the heat balance equation. A world map of the average annual values of turbulent heat exchange has been published. Investigations of the direct influence of energy factors on the hydrologic regime, the plant cover, the soil cover, and geographic zoning have emerged in connection with the gathering of data on the heat balance. In practice material on the heat-energy balance may be used in three chief directions: 1) To develop various methods of hydrometeorologic forecasting; 2) for the direct utilization of solar energy in industrial processes; and 3) to found different measures on the transformation of natural conditions and to estimate their effectiveness. 26 references. /Abstracter's note: Complete translation./

Card 2/2

S/010/60/000/003/001/001
A003/A029

AUTHORS: Budyko, M.I.; Tsitsenko, G.V.

TITLE: The Climatic Factors of the Heat Sensation in Man

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya geograficheskaya, 1960, No. 3, pp. 3 - 11

TEXT: The heat sensation is the factor which determines clothing, dwelling and in many cases also the working conditions of man. The body surface should have a temperature of 29 - 34°C to feel comfortable. Under stationary conditions the equation of the heat balance of the human body has the form: R + T = LE + P (1), where R is the radiation balance of the body surface; LE is the expenditure of heat for evaporation (L is the latent evaporation heat; E is the evaporation; P is the turbulent heat exchange of the body surface with the atmosphere; T is the heat pro duction determined by the average calorie value of food taken up during a given period). The authors arrive at the following final equation:

$$\left[Q \cdot \frac{\operatorname{ctg} h}{\pi} + \frac{1}{2} q + \frac{1}{2} (Q + q) \cdot \alpha_0\right] (1 - \alpha) - \frac{I_0}{2} + 2\varepsilon\sigma\theta^3 (\theta_0 - \theta) + T =$$

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The Climatic Factors of the Heat Sensation in Man S/010/60/000/003/001/001
A003/A029

of air at constant pressure; a is a coefficient designating how much the rate of evaporation from the body surface is lower than the rate of evaporation from an even moist surface; θ_w is the average temperature of the body surface depending on meteorological parameters; D' is the average coefficient of the heat conductivity of the clothing. The heat production of the human body is taken to be 40 - 59 kcal/m^2 hour. The formulae are used for calculating examples for the European part of the USSR under average conditions of July, at 13 hours. The temperature and the humidity of the air are taken from reference books. It is shown that the formulae can also be used for calculating the effect of various factors, like heat production or irradiation, on the heat sensation. It is pointed out that the calculations yield only approximate values. There are 5 figures and 10 references: 5 Soviet, 1 English, 1 German and 3 American.

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BUDYKO, M.I.; YUDIN, M.I.

Level fluctuations in landlocked lakes. Meteor.i gidrol. no.8: 15-19 Ag '60. (MIRA 13:8)

(Lakes)

BERLYAND, Tamara Grigor'yevna; BUDYKO, M.I., otv. red.; USHAKOVA, T.V., red.; YASNOGORODSKAYA, M.M., red.; BRAYNINA, M.I., tekhn. red.

[Distribution of solar radiation over continents] Raspredelenie solnechnoi radiatsii na kontinentakh. Leningrad, Gidrometeor. izd-vo, 1961. 255 p. maps. (MIRA 14:9)
(Solar radiation)

BUDYKO, M.I. (Leningrad)

"The radiation climate of the arid zones."

Report submitted in connection with the Symposium on Radiation.
Vienna, Austria 14-19 Aug 1961.

S/169/62/000/011/036/077
D228/D307

AUTHORS: Budyko, M.I., Gal'tsov, A.P., Dzerdzeyevskiy, B.L. and Sribnyy, M.F.

TITLE: Climatology and land hydrology section

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 11, 1962, 66-67, abstract 11B372 (In collection: XIX Mezhdunar. geogr. kongress v Stokgol'me, 1960, M., AN SSSR, 1961, 322-327)

TEXT: 6 section meetings, at which 26 papers were heard, were held at the 19th International Geographic Congress in Stockholm (1960). Alpert (USA) presented the paper "Cloud observations by means of satellites". The paper of Yosav (Iosav) (Japan) was devoted to "Cloud variability as a climatic factor". Oliver (Great Britain) considered the influence of the height of a place on the marine climate of Great Britain. Green (Great Britain) read the paper "Potential moisture deficit as an important climatic indicator in the example of north-western Europe". Kemer's (FRG) communication was entitled "Hydrologic observations on the Great Lakes in the last

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century". Al Halaf (Al'-Khalaf)(Irak) presented the paper "Basin of the Lower Tigris". The paper of Skribnyy (USSR) -- "Peculiarities of the genesis of floods, their bases of analysis and reckoning" -- proposes a hygenic classification of floods and states a theory for reckoning them. The Rumanian hydrologists Platagva and Uivari (Uyvari) presented a paper about the hydrologic conditions on Rumanian territory. Patterns of climatic variation in the Ukraine were discussed in Buchinskiy's (USSR) paper. Gal'tsov (USSR) came forward with a communication on the subject "Investigating patterns of world precipitation distribution in connection with the problem of genetic climatic classification". In the paper "Geographic analysis of precipitation" Gregory (Great Britain) reviewed climatic investigations, carried out from the data of 6000 stations of the British rain-measuring grid. The paper of Meideeh (USA) -- "Role of the water balance in the soil redistribution of strontium" -- elucidated the results of theoretical and experimental investigations of precipitation fallout and radioactive strontium migration in groundwaters. Thorntweisht (Torntueyt) (USA) in his paper "Water balance investigations carried out by the Climatology Laboratory" generally review-

ed the laboratory work that he directed for 20 years. In the paper "Unique curves of the general course of precipitation in inland regions of the USA" Treworth (Trevort) (USA) characterized the precipitation regime in Texas and Oklahoma and in the valley of the Upper Mississippi. Bailey (Beyli) (USA) gave the communication "Method of determining climatic warmth and moderation". Kerry (Kerri) (New Zealand) in his paper "Probability interpretation adapted to climatic conditions" touched on the question of the adaptation of vegetation, glaciers, the water regime, and other phenomena to climatic changes. Malmstrom (Mal'mstrem) (USA) considered "Harvest and climate in Iceland; role of the Arctic front". Budyko (USSR) stated the results of research, carried out in different scientific institutions of the USSR, on the heat and the water balances and their relation to various natural processes. The data of microclimatic observations, conducted on the streets of London by means of a specially equipped automatic machine, were cited in the paper of Chandler (Chendler) (Great Britain) -- "Climatic investigations of London". The paper of Vlon (Flon) (FRG) -- "Mechanism of the summer monsoon in south and east Asia" -- summed up multiyear investigations of tropical and

Climatology and land ...

and subtropical monsoons. The paper of Okołowicz (Okolovich) (Poland) was called "Macro-, meso- and microclimates, their correlation and methods". The paper of Paszyński (Pashinskiy) (Poland) was devoted to the topic "Atmospheric turbidity as a factor in the local climate of industrial areas". Dzerdzeyevskiy (USSR) examined the question of multiyear fluctuations of climatic elements at different points in the northern hemisphere. The communication of Shatier (Shat'ye) (France) considered the influence of urban water research on the discharge of the R. Seine at Paris.
[Abstracter's note: Complete translation]

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29709
S/169/61/000/008/021/053
A006/A101

3.5000

AUTHORS: Budyko, M. I., Yefimova, N. A., Mukhenberg, V. V., Strokina, L. A.

TITLE: The radiation balance of the northern hemisphere

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 8, 1961, 26, abstract 8B191 ("Izv. AN SSSR, Ser. geogr.", 1961, no. 1, 3 - 13)

TEXT: The authors propose a method of the indirect climatological calculation of the radiation balance, which makes it possible to obtain its values from data of basic meteorological observations on the land and in the ocean. Results are submitted of mapping the radiation balance for the northern hemisphere with the aid of formulae presented. The effective radiation of the land is calculated with the aid of specified formulae. If there are no observation data available on the temperature of the soil surface, it is suggested to use the calculations of the heat balance components. To specify the mean values of the earth surface albedo, materials were processed which had been obtained from systematical observations on a number of meteorological stations. To calculate the radiation balance of the land it is recommended to employ data on cloudiness, air temperature and moisture, heat consumption for evaporation and heat exchange in the

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S/169/61/000/008/021/053
A006/A101

The radiation balance of the northern hemisphere

ground. The radiation balance of the water surface can be calculated on the basis of observations of cloudiness, air temperature and moisture, and the temperature of the water surface. Maps on the radiation balance of the northern hemisphere are plotted on the basis of data obtained from 1200 ground and 250 marine meteorological stations for average conditions for every month and year, (excepted mountainous regions with over 2 km heights). The values of radiation balance calculated are compared with actual measurements for a number of points. Here a noticeable deviation of values is observed for regions with a non-homogeneous basement surface, due to the rather high variability of the radiation balance. It is mentioned that the mean value of deviation is 2.9 kcal/cm^{2}year for the annual values of the radiation balance, and 0.54 kcal/cm^{2}year for the monthly values; this is not over 5% of the maximum mean values of the radiation balance. Maps of the radiation balance for the northern hemisphere are presented for the mean annual period and also for June and December. A general coincidence is noted in the regularity of the radiation balance distribution in the northern hemisphere with the charts of the "Heat balance maps". Simultaneously the author points to some differences due to the most detailed and precise calculation method of the former.

Ye. V.

[Abstracter's note: Complete translation]

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BUDYKO, M.I.; ZUBENOK, L.I.

Determining the evaporation from the surface of the soil. Izv. AN SSSR. Ser. geog. no.6:3-17 N-D '61. (MIRA 14:12)

1. Glavnaya geofizicheskaya observatoriya im. A.I. Voyeykova.
(Evaporation)

BUDYKO, M.I.

Third session of the Commission for Climatology of the World Meteorological Organization. Meteor.i gidrol. no.6:62-63 Je '61. (MIRA 14:5)

(Climatology--Congresses)

BUDYKO, M.I.

Thermal zonality of the earth. Meteor.i gidrol. no.11:7-14 N '61.
(MIRA 14:10)
(Climatology)

BUDYKO, M.I.; YEFIMOVA, N.A.; ZUBENOK, L.I.; STRCKINA, L.A.

The heat balance of the earth's surface. Izv. AN SSSR. Ser. geog no.1:6-16 Ja-F '62. (MIRA 15:2)

1. Glavnaya geofizicheskaya observatoriya im. A.I.Voyeykova.
(Earth temperature)

BUDYKO, M.I.

Conference on radiation in Vienna. Meteor. i gidrol. no.1:65-66 Ja '62. (MIRA 15:1)
(Solar radiation--Congresses)

BUDYKO, M.I.

Some ways of influencing the climate. Meteor. i gidrol. no.2:3-8 F '62. (MIRA 15:2)
(Climatology)

BUDYKO, M.I.

Polar ice and climate. Izv. AN SSSR. Ser. geog. no.6:3-10 N-D '62. (MIRA 15:12)

1. Glavnaya geofizicheskaya observatoriya im. A.I. Voyeykova.
(Arctic regions—Climate) (North Atlantic Ocean—Ice)

BUDYKO, M.I., doktor fiziko-matem.nauk

Change of climate and ways of its transformation. Vest.AN SSSR 32 no.7:33-37 Jl '62. (MIRA 15:7)
(Climatology)

BUDYKO, M.I., prof.

Thermal state of the earth. Priroda 51 no.8:55-59 Ag '62.
(MIRA 15:9)

1. Glavnaya geofizicheskaya observatoriya im. A.I. Voyeykova (Leningrad).

(Climatology)

GRIGOR'YEV, A.A., akademik; BUDYKO, M.I.

Seasonal variations in the climatic factors of geographical zonality. Dokl. AN SSSR 143 no.2:391-393 Mr '62. (MIRA 15:3)

(Climatology)

KONDRATYEV, K.I., BUDYKO, M.I.

"Atmospheric heat balance."

Report submitted to the Symposium on Results of the IGY-IGC (Intl. Geophysical Year), Los Angeles, California 12-16 Aug 1963

GAVRILOVA, Mariya Kuz'minichna; BUDYKO, M.I., doktor fiz.-mat. nauk, red.; RUSAKOVA, G.Ya., red.; BRAYNINA, M.I., tekhn. red.

[Radiation climate of the Arctic] Radiatsionnyi klimat Arktiki. Pod red. M.I.Budyko. Leningrad, Gidrometeoizdat, 1963. 225 p. (MIRA 16:11)
(Arctic regions--Climate)
(Arctic regions--Radiation)

AVSYUK, G.A.; BUDYKO, M.I.; GERASIMOV, I.P.; GRIGOR'YEV, A.A.; DAVITAYA, F.F.; KOLESNIK, S.V.; SOCHAVA, V.G.

Geography in the system of science studying the earth. Izv. AN SSSR. Ser. geog. no.4:102-111 Jl-Ag '63. (MIRA 16:8)
(Geography)

GERASIMOV, I.P., akademik; GRIGOR'YEV, A.A., akademik; DAVITAYA, F.F., akademik; AVSYUK, G.A.; KALESNIK, S.V.; BUDYKO, M.I., doktor fiz.-matem. nauk

Physical geography and its position in the system of sciences of the earth. Vest. AN SSSR 33 no.10:24-28 O '63. (MIRA 16:11)

1. AN Gruzinskoy SSR (for Davitaya). 2. Chlen-korrespondent AN SSSR (for Avsyuk).

L 32107-65 EWT(1)/EWG(v) Pe-5/Pae-2 GW

ACCESSION NR: AR5005749 S/0169/64/000/012/B089/B089

SOURCE: Ref. zh. Geofiz., Abs. 12B450

AUTHORS: Budyko, M. I.

TITLE: Atlas of heat balance of the earth's sphere

CITED SOURCE: Mezhduved. geofiz. kom-t pri Prezidiume AN SSSR. Gl. geofiz. observ. M., 1963, 6 l., 69 l., kart.

TOPIC TAGS: climatology, solar radiation, earth radiation balance, monthly variation, annual variation

TRANSLATION: The atlas consists of a short introduction and 69 world maps, grouped in the following seven series: 1) Summary solar radiation; 2) radiation balance of the earth's surface; 3) heat lost to evaporation; 4) turbulent heat exchange between the earth's surface and the atmosphere; 5) heat exchange between the surface of oceans and the low-lying layer; 6) evaporation; 7) heat balance of the earth-atmosphere system. The first four series, and the sixth have 13 maps each (for each month and for the year). Only the annual map was constructed for

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the fifth series, and the seventh series consists of three annual maps characterizing the radiation balance of the earth-atmosphere system, the influx of heat from condensation, and the heat redistribution connected with the horizontal motions in the atmosphere. The maps of summary radiation are based on the use of observational data from 300 actinometric stations. The results of the calculations of the average monthly sums of the summary radiation, determined with an empirical formula that takes into account the nonlinear dependence of the summary radiation on the degree of cloudiness, are also used. Estimates have shown that the calculation errors do not exceed 8--10% for the monthly sums and 3--4% for the annual ones. Calculated values were obtained for 2,100 points on continents and 280 points on oceans. An appreciable rise in the summary radiation in the summer, from the polar circle to the pole, was observed. The geographical distribution of the mean annual radiation sums is characterized by a zone structure which is violated essentially only in the tropical zone. In the summer there are very small gradients of the radiation sums over large areas. Thus, for example, the summer radiation sums in the Arctic (16--20 kcal/cm^2 month) are close to the values corresponding to the regions of the tropical deserts during that time of the year. The maximum influx of summary radiation in the summer is observed on the low-cloudiness central plateau of the Antarctic, where the December radiation sums vary from 20

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to 30 kcal/cm^2 month. During that time of the year, the equatorial regions receive from 2--3 times less solar heat than the polar regions. The radiation-balance maps have been constructed from the calculated data, based on information on such meteorological elements as cloudiness, air temperature and humidity, characteristics of the snow cover, etc. The calculations were made for 1,460 points on land and 280 on sea. The meteorological data for the ocean surface were borrowed predominantly from the American marine climatic atlas. On the maps of the radiation balance one can see a discontinuity in the isolines of the balance on land--sea shore line, and a non-zonal distribution of the balance in the tropical and equatorial latitudes, where the annual radiation-balance sums vary from 60 to 90 kcal/cm^2 year, depending on the humidity conditions. The largest annual radiation-balance sums for dry land (80--90 kcal/cm^2 year) are observed in low-cloudiness but relatively humid regions of tropical forests and savannas, where the influx of radiation is large, and the albedo and the effective radiation is considerably smaller than in deserts. On oceans, the annual radiation-balance sums range from 30 kcal/cm^2 year at the boundaries of floating ice packs to values larger than 140 kcal/cm^2 year in tropical latitudes. The series of maps showing the evaporation and heat lost to evaporation contain data obtained for the first time on the planetary geographical distribution of the monthly values of evaporation, and heat lost to evaporation, for continental

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surfaces (the data are calculations pertaining to 280 points on the ocean surface and 1,460 points on all the continents except the Antarctic). A determination of the evaporation from the surface of dry land was made by a method based on simultaneous solution of the equations of water and heat balance, proposed by Budyko and Zubenok. The starting point for the calculations is information concerning precipitation and air temperature and humidity, taken from different climatic handbooks. The average relative error of calculation of the annual sums of evaporation amounts to approximately 5%, and that of the monthly values less than 15%. The decisive factors of evaporation from land are the heat and moisture resources. At tropical latitudes the humidity conditions are of principal significance. One observes here the maximum annual values of evaporation from the surface of dry land, exceeding 1000 mm, and the maximum monthly sums, exceeding 100 mm. Evaporation from the ocean surface greatly exceeds evaporation from dry land, since the radiation balance of the oceans (at the same latitude) is larger. The distribution of evaporation from oceans is subject to the influence of the sea currents and atmospheric circulation. The maximum annual sums from oceans reaches 3000 mm. The noted singularities of the geographic distribution of evaporation are characteristic of the heat lost to evaporation. The values of the turbulent heat exchange for land were determined as the remainder term of the heat-balance equation. The annual magnitude of the tur-

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bulent heat exchange between the surfaces of oceans and the atmosphere was calculated as the remainder term of the heat balance of the ocean surface. Turbulent heat exchange between dry land and the atmosphere is due to radiation humidification conditions. Therefore, the maximum values of turbulent heat exchange occur in hot regions with insufficient humidity. In tropical deserts, the annual sums of turbulent heat transfer exceed 60 kcal/cm^2 year. The main laws governing the annual course of turbulent heat exchange between dry land and the atmosphere consist in the fact that the continental surfaces, from the equator to 40° north and south latitude, give up heat to the atmosphere during the entire year. At north and south latitudes larger than 40°, heat from the atmosphere is directed towards the earth's surface in the winter months, its magnitude not exceeding 1 kcal/cm^2 month. Anomalous conditions occur in the Antarctic where, averaged over the year, the turbulent heat exchange is directed from the atmosphere to the earth's surface. In most cases, turbulent heat exchange on the oceans is small. The maximum values (more than 40 kcal/cm^2 year) are observed at high latitudes in regions of sea currents, where appreciable temperature contrasts exist between the water and the air. Averaged over the year, the bulk of the ocean surface loses heat by turbulent heat transfer. The maximum heat exchange between the ocean surface and the underlying layers is determined by the influence of the sea currents and the conditions of

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thermal interaction between the ocean and the atmosphere. The influx of heat to the ocean surface is most appreciable in regions of warm sea currents (- 80, - 120 kcal/cm^2 year). In lower latitudes (10--20° north), heat loss is observed, reaching 20--60 kcal/cm^2 year. In the southern hemisphere, where the differences between the temperatures of the water and the air are considerably lower, the heat carried by the currents from the low latitudes to the moderate ones is weakly pronounced. The annual radiation-balance map of the earth-atmosphere system is constructed on the basis of calculations for 260 points uniformly distributed over the earth's sphere. The map of heat influx due to condensation in the atmosphere is calculated under the assumption that in each geographic region these quantities averaged over the year are equal to the product of the sum of the precipitation by the latent heat of evaporation. The heat redistribution connected with the horizontal movements in the atmosphere is mapped on the basis of data on the heat lost to evaporation and on the influx of heat due to condensation, the radiation balance of the earth-atmosphere system, and also data on heat influx or outflow connected with horizontal movements in the hydrosphere for the determination of the sought quantity as the remainder term of the equation of heat balance of the earth-atmosphere system. The maps of the atlas were used to determine the average latitudinal components of the heat balance, and also to calculate the average indices

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of heat balance of the earth's surface. The total solar radiation absorbed by the earth's surface is 43% of the solar radiation arriving at the outer boundary of the atmosphere. The effective radiation of the earth's atmosphere is 15% of this quantity, the radiation balance 28%, the heat loss to evaporation 23%, and the turbulent heat transfer 5%. The average evaporation for the earth's sphere is 100 cm. The average values of the components of the heat balance for individual continents and oceans are given, as well as data on the water balance for the continents, oceans, and the earth as a whole. T. Terent'yeva.

SUB CODE: ES ENCL: 00

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BUDYKO, M. I.; BERLYAND, T. G.; YEFIMOVA, N. A.

"Study of the solar radiation regime on the surface of the earth."

paper presented at the Atmospheric Radiation Symp, Leningrad, 5-12 Aug 64.

BUDYKO, M.I.

Climatology of heat balance; in reference to A.S.Monin's article "On the climatology of heat balance," published in the Izvestiia AN SSSR geographical series, No. 5, 1963. Izv. AN SSSR. Ser. geog. no.1: 101-112 Ja-F '64. (MIRA 17:3)

ACCESSION NR: AP4026236 S/0293/64/002/001/0071/0097

AUTHOR: Budy*ko, M. I.; Kondrat'yev, K. Ya.

TITLE: Heat balance of the earth

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 1, 1964, 71-97

TOPIC TAGS: meteorology, atmospheric heat balance, evaporation, radiation balance, climate

ABSTRACT: The use of new observational data and the development of new computational methods has made it possible for the Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory) to compile a new atlas of the heat balance of the earth. The atlas contains 69 world maps. Among the series are maps of the mean long-term values of total radiation incident on the earth's surface, the radiation balance of the earth's surface, expenditures of heat on evaporation, evaporation and turbulent heat exchange of the earth's surface. Each of the series consists of 13 maps, 12 monthly and 1 annual. Also included are maps of mean annual conditions of redistribution of heat in the oceans by sea currents, the radiation balance of the system "earth's surface - atmosphere", the increment of heat from condensation and the redistribution of heat in the atmosphere by air currents. The maps in the new atlas are much more detailed and accurate than the maps prepared

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by the Main Geophysical Observatory in the early 1950's. Examples of the maps are shown in the Enclosure. Fig. 1 shows total solar radiation (Cal/cm^2·month) incident on the earth's surface. It can be seen that the total radiation in the high latitudes in the summer months is very great. This fact indicates that the low summer temperatures in the high latitudes are not the result of a small quantity of incident radiation; the ice and snow cover with its high albedo is the responsible factor. Fig. 2, a map of the radiation balance of the earth's surface (Cal/cm^2 month) shows that the mean monthly values of the radiation balance over the greater part of the earth's surface are positive as a result of the greenhouse effect. Fig. 3 shows the heat balance losses (Cal/cm^2·month); for the greater part of the earth's surface the principal loss is on heat expenditure on evaporation, which varies in wide limits on both the oceans and continents. The mean losses of heat on evaporation usually are far greater than the increment from heat of condensation. Fig. 4 shows turbulent heat exchange between the earth's surface and the atmosphere (Cal/cm^2·month) and confirms that turbulent flux of heat from the earth's surface to the atmosphere usually is far greater than the flux from the atmosphere to the earth. Maps of the mean latitudinal values of the radiation balance of the system "earth's surface - atmosphere" show that the earth accumulates radiated heat in the low latitudes, approximately to 45° N. and S. In this zone the excess is transformed into energy which is transported by air and sea currents into the higher latitudes. Meridional transport of heat in the hydrosphere con-

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ACCESSION NR: AP4026236

stitutes about 60% of the heat transport in the atmosphere, indicating that in the theory of climate it is impossible to neglect heat exchange in the hydrosphere. Discussion of the atlas maps is accompanied by a review of the literature containing the results of determinations of the radiation balance of the earth and its components; it is shown that much observational work must be done to determine precisely the values mentioned for the system "earth's surface - atmosphere". Orig. art. has: 13 figures and 6 tables.

ASSOCIATION: none

SUBMITTED: 11Jul63 DATE ACQ: 16Apr64 ENCL: 04

SUB CODE: AS NO REF SOV: 017 OTHER: 003

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BUDYKO, M.I.

A.A.Grigor'ev's studies and the paths of developing physical geography. Izv. AN SSSR. Ser. geog. no. 2:6-11 Mr-Ap '64. (MIRA 17:5)

BUDYKO, M. I., doktor fiz.-mat.nauk, prof.; YEFIMOVA, N. A., kand.geograf. nauk

Variation in the radiational factors of the heat budget of the earth's surface. Meteor.i gidrol. no. 4:9-15 Ap '64. (MIRA 17:5)

1. Glavnaya geofizicheskaya observatoriya.

BUDYKO, M.I.; GANDIN, L.S., doktor fiz.-mat. nauk

Calculation of regularities of atmospheric physics in agrometeorological research. Meteor. i gidrol. no.11:3-11 N '64.

(MIRA 17:12)

1. Glavnaya geofizicheskaya observatoriya, Leningrad. 2. Chlen-korrespondent AN SSSR (for Budyko).

BUDYKO, M.I.; KONDRAT'YEV, K. Ya., prof.

Symposium on radiation. Vest. AN SSSR 34 no.12:65 D '64
(MIRA 18:1)

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

L 16146-65 EWG(j)/EWG(r)/EWT(l)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Pb-4/
Pe-5/Pa-4 DD
ACCESSION NR: AP4045631 S/0020/64/158/002/0331/0334

AUTHOR: Budy*ko, M. I.

TITLE: Concerning the effect of climatic conditions on photosynthesis B

SOURCE: AN SSSR. Doklady*, v. 158, no. 2, 1964, 331-334

TOPIC TAGS: photosynthesis kinetics, climatic conditions, plant growth, CO_2 assimilation, plant

ABSTRACT: Starting with the expression for the dependence of the rate of CO_2 assimilation A by the plant leaves on the active radiation (see E. Rabinovitch, Photosynthesis and Related Processes 2, N. Y. 1951), the author derives a non-linear differential equation relating A to CO_2 concentration at a given level in the foliage cover and to that high above the latter, coefficient of turbulent diffusion above the foliage, intensity of the active radiation, specific moisture in and above the foliage, and the amount of water in the ground. It is possible to estimate from the differential equation the effect of various climatic conditions on the

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ACCESSION NR: AP4045631

photosynthesis. Orig. art. has: 19 equations

ASSOCIATION: Glavnaya geofizicheskaya observatoriya im. A. I. Voyeykova (Main Geophysical Observatory)

SUBMITTED: 01Aug63 ENCL: 00

SUB CODE: LS, ES NO REF SOV: 001 OTHER: 003

Card 2/2

BUDYKO, M.I.

Heat balance of the earth. Geofiz. biul. no.14:39-44 '64.
(MIRA 18:4)

GRIGOR'YEV, A.A., akademik; BUDYKO, M.I.

Relation between the balances of heat and moisture and the intensity of geographic processes. Dokl. AN SSSR 162 no.1: 151-154 My '65. (MIRA 18:5)

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

[redacted]

[redacted]

(NTRA 13:8)

L 3453-66 EWT(1)/FS(v)-3 DD

ACCESSION NR: AP5024010 UR/0020/65/164/002/0454/0457 34 33 18

AUTHOR: Budyko, M. I. (Corresponding member AN SSSR); Gandin, L. S.

TITLE: On the theory of photosynthesis in a layer of plant cover

SOURCE: AN SSSR. Doklady, v. 164, no. 2, 1965, 454-457

TOPIC TAGS: calculus, solar photosynthesis, plant respiration, computer application, carbon dioxide

ABSTRACT: In continuation of earlier work on calculation of total photosynthesis by considering the regular processes of carbon dioxide diffusion and irradiation distribution in a plant layer, the author presents some generalizations of the earlier theory and the results of calculations based on this theory. The initial formula is

$$A_z = \rho k \, dc / dz, \qquad (1)$$

where A_z is the vertical current of CO_2 gas in the layer at the z level, ρ the air density, k is the coefficient of turbulent exchange, c the CO_2 concentration in the

Card 1/3

leaf interspace. Further development introduces other factors, such as Q- the current of photosynthetically active radiation, D''- the integral diffusion coefficient of CO_2 from leaf interspace to the adsorbing elements of the leaf, s- the leaf surface unit. The developed formula

$$A = A_H + A_0 + \int_0^H \varepsilon s \, dz, \qquad (11)$$

where A is the total assimilation and A_H is the vertical CO_2 current at the H level, is applied to the cases of : 1) well ventilated cover in the absence of CO_2 from the soil; and, 2) well illuminated cover in which conditions of light saturation are met at all levels. A computer was used for solving these equations. Curves are shown for total assimilation as a function of photosynthetically active radiation (PAR), D'' and k. From these it appears that for low PAR values, total assimilation depends almost exclusively on PAR. For high PAR values, this is determined by D'' and s. Low D'' is an important factor for assimilation while high D'' reduces the importance of this factor. For curves referring to the

L 3453-66

ACCESSION NR: AP5024010

effect of k, the leaf is considered well ventilated if $K_1 \geqslant 5$ cm. sec^{-1}.
Orig. art. has: 17 formulas and 3 figures

ASSOCIATION: Glavnaya geofizicheskaya observatoriya im. A. I. Voyeykova. (Main Geophysical Observatory)

SUBMITTED: 12Mar65 ENCL: 00 SUB CODE: LS

NR REF SOV: 002 OTHER: 000

13V K

Card 3/3

BUDYKO, M.I.; GANDIN, L.S.

Effect of climatic factors on the plant cover. Izv. AN SSSR. Ser. geog. no. 1:3-10 Ja-F '66 (MIRA 19:2)

1. Glavnaya geofizicheskaya observatoriya imeni A.I. Voyeykova.

Ivan Nikolaevich Budyko; obituary. Izv.vys.ucheb.zav.; energ. Ja '63. 6 no.1:123 (MIRA 16:2)

(Budyko, Ivan Nikolaevich, 1892-1963)

D'YACHENKO, Nikolay Kharitonovich, doktor tekhn. nauk, prof.; DASHKOV, Sergey Nikitich, doktor tekhn. nauk, prof.; MUSATOV, Vitaliy Sergeyevich, kand.tekhn.nauk; BELOV, Pavel Mitrofanovich, kand. tekhn.nauk, prof.; BUDYKO, Yuriy Ivanovich, kand.tekhn.nauk. Prinimali uchastiye: BURYACHKO, V.R.; GUGIN, A.M.; ZHDANOVSKIY, N.S., doktor tekhn. nauk, prof., retsenzent; YURKEVICH, M.P., inzh., red. izd-va; PETERSON, M.M., tekhn. red.

[High-speed piston internal conbustion engines] Bystrokhodnye porshnevye dvigateli vnutrennego sgoraniia. Moskva, Mashgiz, 1962. 368 p. (MIRA 15:7)
(Gas and oil engines) (Diesel engines)

VZOROV, B.A., kand.tekhn.nauk; BUDYKO, Yu.I., kand.tekhn.nauk; KOGANER, V.E.; MAL'TSEV, A.V.; ZAYCHENKO, S.N.; SATAROV, V.A.; ABOLTIN, E.V.

Brief news. Avt.prom. 31 no.10:40-48 O '65.

(MIRA 18:10)

L 6407-66 EWT(d)/EWT(m)/EWP(f)/T-2/EWA(c) WE

ACC NR: AP5026823 SOURCE CODE: UR/0286/65/000/017/0100/01

INVENTOR: Budyko, Yu. I.; Koganer, V. E.; Dukhnin, Yu. V.; Lisitsyn, A. I.; Mal'ts A. V.; Pavlyuchenkov, V. V.

TITLE: Fuel-injection system for internal-combustion engines. Class 46, No. 174461 [Announced by the Central Scientific-Research and Design Institute for Fuel Equipmer for Automotive and Stationary Engines (Tsentral'nyy nauchno-issledovatel'skiy i konstruktorskiy institut toplivnoy apparatury avtotraktornykh i statsionarnykh dvigatel

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 100-101

TOPIC TAGS: internal combustion engine, fuel dispersant, fuel injection, fuel injector, engine fuel system

ABSTRACT: An Author Certificate has been issued for a fuel-injection system (see Fig. 1) for internal-combustion engines, which contains plunger-pump sections, suction lines connected to a fuel tank or booster pump, injection lines connected to nozzles, electromagnetic metering devices, and an electronic control unit. For improved uniformity and accuracy in distributing fuel under all engine operating conditions, the electromagnetic metering devices are installed along the suction lines

Card 1/2 UDC: 621.43.038.3

L 6407-66

ACC NR: AP5026823

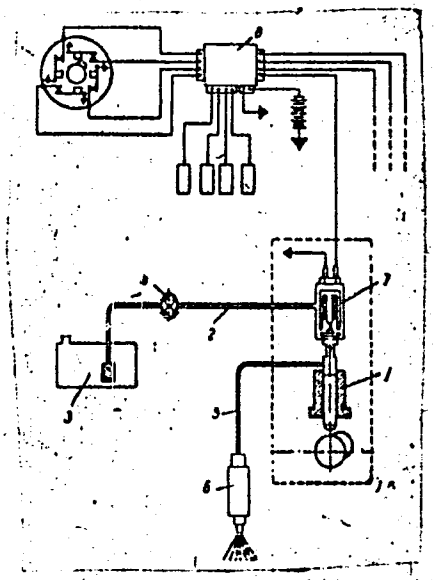

Fig. 1. Fuel-injection system

1 - Plunger-pump section; 2 - suction line; 3 - fuel tank; 4 - booster pump; 5 - injection line; 6 - nozzle; 7 - electromagnetic metering device; 8 - electronic control unit.

of the plunger-pump sections. These devices provide for fuel metering at low pressures. Orig. art. has: 1 figure. [LI

SUB CODE: PR, GO/ SUBM DATE: 18Jul64/ ATD PRESS: 4131

Card 2/2

ZHIDIKOV, A.P.; NECHAYEVA, N.S.; BUDYLEVA, O.K.

Forecasting water levels of the Volga and Kama Rivers below the Volga Hydroelectric Power Station (Lenin) and Kama Hydroelectric Power Station. Trudy TSIP no.117:41-61 '63. (MIRA 16:7)
(Volga River--Hydrology) (Kama River--Hydrology)

PHASE I BOOK EXPLOITATION SOV/6212

Budylin, B. V., and A. A. Vorob'yev

Deystviye izlucheniy na ionnyye struktury (The Effect of Radiation on Ion Structures). Moscow, Gosatomizdat, 1962. 166 p. 5000 copies printed.

Ed.: V. A. Podoshvina; Tech. Ed.: N. A. Vlasova.

PURPOSE: This book is intended for specialists in atomic and nuclear physics, physical chemistry, and radiation.

COVERAGE: The book describes the effects produced by radiation in matter and investigates the changes occurring in the structure and mechanical properties of solid bodies and crystal lattices as a result of radiation. No personalities are mentioned. References follow each chapter.

TABLE OF CONTENTS:

Card 1/[illegible]

Budylin, B.V.

81958
S/181/60/002/04/18/034
B002/B063

24.7700

AUTHORS: Vorob'yev, A. A., Budylin, B. V.

TITLE: Spontaneous Formation of F-Centers in Irradiated Alkali Haloid Crystals After Annealing

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 4, pp. 663-664

TEXT: Crystals of NaCl, KCl, KBr, and KI were bombarded with thermal neutrons in a nuclear reactor for three days. The color of the specimens changed so strongly that even 1 mm thick layers were opaque. The crystals regained their transparency when heated to 200-450°C. But changes occurred again in the course of time. At the same time, the electrical conductivity of the crystals decreased, and their microhardness increased. The color changes were due to gamma- and beta radiation of the nuclei activated in the reactor. They vanished almost completely after 5 - 7 days. This effect may be utilized for the following experiment: A small amount of $_{83}Bi^{209}$ is isomorphously introduced into a KCl crystal. The former passes over into $_{83}Bi^{210}$ during the irradiation: $_{83}Bi^{209} + {}_{0}n^{1} \rightarrow {}_{83}Bi^{210} + \gamma$.

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The latter is a β-emitter which passes over into $_{84}Po^{210}$ with a half-life of five days. The latter is a strong α-emitter with a half-life of 138 days. About 10-12 days after their removal from the reactor the crystals show - after heating - only the effect of the α-radiation of polonium. There are 5 non-Soviet references.

SUBMITTED: July 20, 1959

Card 2/2

L 12971-65 EWT(m)/EPF(c)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Pu-4 CG/JD

ACCESSION NR: AP4039637 S/0181/64/006/006/1573/1578

AUTHORS: Budy*lin, B. V.; Kozlov, Yu. F.

TITLE: Some features of decoloration of alkali halide crystals bombarded by neutrons during isothermal annealing B

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1573-1578

TOPIC TAGS: decoloration, color center, alkali halide neutron bombardment, isothermal annealing, defect formation, diffusion decay, single crystal study, metallographic microscope

ABSTRACT: In their experiments, the authors used single crystals of KI, KBr, KCl, NaI, NaBr, and NaCl grown from fused salts. For studying isothermal annealing in single crystals, specimens in the form of parallelopipeds were produced by appropriate cleavage to give dimensions of 5 x 5 x 15 mm. The specimens were irradiated in the duct of a reactor at 20C by an integrated flux of neutrons ranging from $1.2 \cdot 10^{15}$ to $1.2 \cdot 10^{20}$ neutrons/cm^2. The test and control specimens were placed in ceramic crucibles having a high thermal inertia, and these were set in a crucible furnace. Specimens were extracted from the furnace and cooled at set intervals of time. The rate of temperature change in the process did not exceed 15 deg/min. The

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L 12971-65
ACCESSION NR: AP4039637

3

required observations were made on cleavage fragments of annealed samples by means of an MIM-8 metallographic microscope. Results show that isothermal annealing of specimens irradiated with an integrated flux exceeding 10^{18} neutrons/cm^2 leads to anomalous destruction of color centers in the zone adjacent to crystal faces. Macroscopic pores are formed throughout the whole volume of the annealed samples. The formation of these pores is accompanied by increased intensity of light scattering and by an acceleration of anomalous local decoloration. This local decoloration takes place in two stages. The first involves decrease in defect saturation in the zone next the crystal face because of microdiffusion to the boundaries. The second, accompanied by development of cloudiness in the crystal, involves the formation of an internal escape mechanism for the defects formed by the pores. These pores are due to diffusion decay of solid solutions saturated with vacancies. [4] "The authors express their thanks to Professor A. A. Vorob'yev for discussing the results of this work." Orig. art. has: 3 figures, 2 tables, and 5 formulas.

ASSOCIATION: none

SUBMITTED: 11May63 ENCL: 00

SUB CODE: SS, NM NO REF SOV: 003 OTHER: 004

Card 2/2

84599

21.6200 1138, 1417, 1403

S/181/60/002/010/022/051
B019/B056

AUTHOR: Budylin, B. V.

TITLE: The Change in the Mechanical Properties of Ion Crystals Under the Action of Irradiation

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2484-2486

TEXT: Seen from the radiotechnical viewpoint, there is considerable interest in the investigation of the changes of the mechanical properties of ceramic materials under the action of irradiation. The author investigated roughly 100 samples of single crystals of NaCl, NaBr, KCl, and KBr before and after irradiation in a reactor. The samples were bred according to a method developed by Chokhral'skiy. After irradiation with slow neutrons in an uranium-free reactor channel, in which case the samples attained a temperature of not more than 30°C, they were stored for 3 - 5 days, before being examined. In Fig. 1 the microhardness numbers are shown as a function of the irradiation dose of the four crystals investigated. In Fig.2 the microhardness of the crystals is graphically

Card 1/2

The Change in the Mechanical Properties of Ion Crystals Under the Action of Irradiation

S/181/60/002/010/022/051
B019/B056

represented as a function of the lattice energy after irradiation in the reactor. In Fig. 3 the results obtained by bending tests carried out on rock salt are graphically represented. Here, the samples were exposed to various integral neutron fluxes in the reactor. As may be seen from these results, the microhardness grows with the increase of the dose rate in all samples. An increase of microhardness with an increase of the lattice energy is found. The elasticity limit of the crystals after irradiation grows with an increase of the dose rate. Summarizing, it may be said that an irradiation of the crystals leads to an increase of elasticity and hardness, whereas plasticity is diminished. The destruction of the irradiated single crystals sets in at lower relative deformations than in the case of non-irradiated single crystals. The subject of the present paper was suggested by Professor A. A. Vorob'yev and the investigation was carried out under his supervision. V. D. Kuznetsov is mentioned. There are 3 figures, 1 table, and 2 references: 1 Soviet.

SUBMITTED: July 20, 1960

Card 2/2

BUDYLIN, B.V.; VOROB'YEV, A.A.; PODOSHVINA, V.A., red.; VLASOVA, N.A., tekhn. red.

[Effect of radiation on ionic structures]Deistvie izlucheniĭ na ionnye struktury. Moskva, Gosatomizdat, 1962. 166 p. (MIRA 15:9)

(Dielectrics, Effect of radiation on)
(Ionic crystals)

BUDYLIN, M., zasluzhennyy izobretatel' UkrSSR

Maple leaves and the technology of inventing. Izobr.i rats no.10:2 of cover and 29-30 O '62. (MIRA 15:9)

1. Glavnyy inzhener Kiyevskogo mototsikletnogo zavoda.
(Technological innovations)

BUDYLIN, M.M.

BUDYLIN,M.M.; ARNOPOLIN,Ye.M.

Textolite rings in pneumatic hammers. Stan. i instr. 26 no.5:31 My '55. (MIRA 8:8)
(Pneumatic tools) (Washers (Mechanics))

BUDYLIN, M.M.

Subject : USSR/Engineering AID P - 5358

Card 1/1 Pub. 103 - 13/25

Author : Budylin, M. M.

Title : Semi-automatic drilling of holes with intersecting axes

Periodical : Stan. i instr., 8, 35-37, Ag 1956

Abstract : The author describes the two-column drilling machine (VEBO) reconditioned at the Kiyev Motorcycle Plant, and now capable of drilling holes with intersecting and if needed with parallel axes. Five drawings.

Institution : As above

Submitted : No date

BUDYLIN, M.M.

SMIRNOV, F.I.; BUDYLIN, M.M.

Mechanized line for shell molding; work practices of the Kiev Motorcycle Plant. Lit. proizv. no.1:3-5 Ja '58. (MIRA 11:2)
(Shell molding (Founding)) (Kiev--Motorcycles)

BUDYLIN, M.M.

PHASE I BOOK EXPLOITATION SOV/4475

Firstov, Aleksey Nikolayevich, Fedor Ivanovich Smirnov, and Mikhail Mikhaylovich Budylin

Mekhanizatsiya litʹya v obolochkovyye formy (Mechanization of Shell-Mold Casting) Moscow, Mashgiz, 1960. 174 p. 6,000 copies printed.

Reviewer: R. I. Anpilogov, Engineer; Ed.: I. B. Pyasik, Engineer; Chief Ed. (Southern Division, Mashgiz): V. K. Serdyuk, Engineer; Ed.: P. Ya. Furer.

PURPOSE: This book is intended for technical personnel in foundries.

COVERAGE: The book deals with the large-scale mechanization of the shell-mold casting process in large-lot and mass production. The authors present recommendations for selecting proper materials for the molds and charge, describe what they consider to be the most efficient technique of casting, and discuss equipment required for the operation. Technical and economic indices of shell-mold casting are presented, and measures for safeguarding the health of foundry

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Mechanization of Shell-Mold (Cont.)

SOV/4475

workers are suggested. The book is based on the experiences of the Kiyevskiy mototsikletnyy zavod (Kiyev Motorcycle Plant) and other foundries. There are 20 references, all Soviet.

TABLE OF CONTENTS:

Card 2/6

MOCHALOV, V.A.; MATYUSHCHENKO, D.D.; KRIVITSKIY, A.A.; GLEZER, G.N.; OPARIN, I.M.; KHEYMAN, E.L.; SMETNEV, N.N.; EPSHTEYN, A.L.; GUSEV, B.Ya.; LEYKIN, L.P.; MARCHENKO, G.M.; FISHKOV, V.G.; SAPROVSKIY, S.V.; LYAKHOVSKIY, I.I.; SMELYAKOV, Ye.P.; VAYNTRAUB, D.A.; BUDYLIN, M.M.; NOTKIN, Ye.M.; KUR, G.Ye.; ARONSHTEYN, N.A.; SUKHAREV, V.I.; VINOGRADOV, K.N.; BOBROVSKIY, N.S.

Innovators' certificates and patents. Mashinostroenie no. 2: 103-109 Mr-Ap '64. (MIRA 17:5)

BUDYLIN, M.N., inzh.; LUKASHEVICH, G.I., kand. tekhn. nauk; PETKO, I.V., inzh.

Increasing the reliability and durability of the K-750M motorcycle. Mashinostroenie no.5:45-48 S-O '65.

(MIRA 18:9)

BUDYLIN, N.V.; SOKOLOV, M.I., direktor.

Effect of the central nervous system upon the formation of immune bodies; author's abstract. Zhur.mikrobiol.epid.i immun. no.9:53 S '53. (MLRA 6:11)

1. Moskovskiy institut epidemiologii i mikrobiologii im. I.I.Mechnikova. (Nervous system) (Immunity)

KOST, A.N.; YUDIN, L.G.; BUDYLIN, V.A.

Nitration of the benzene ring of indole compounds. Zhur.VKHO 10 no.4:474-475 '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.

YUDIN, L.G.; BUTLIN, V.A.; KOST, A.N.

9-Lilolidenes. Metod. poluch. khim. reak. i prepar. no.11; 65-68 '64. (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
Submitted April 1964.

BUDYLIN, V.G.

BAGDASAROVA, E.M., assistent; RAYKHER, E.A., professor, zaveduyushchiy kafedroy; BUDYLIN, V.G., professor, direktor instituta.

Treatment of rheumatism in children with prolonged sleep. Pediatriia no.4:32-34 Jl-Ag '53. (MLRA 6:9)

1. Klinika detskikh bolezney Stavropol'skogo meditsinskogo instituta (for Bagdasarova and Raykher). 2. Stavropol'skiy meditsinskiy institut (for Budylin). (Sleep) (Chorea) (Rheumatic heart disease)

BUDYLIN, V.G.

KHOZHAINOV, I.I.; FEDOROV, P.S., professor, zaveduyushchiy; BUDYLIN, V.G., professor, direktor.

Surgical therapy in certain forms of enuresis in the presence of spinae bifidae occultae. Vop.neirokhir. 17 no.3:45-47 My-Je '53. (MLRA 6:8)

1. Fakul'tetskaya khirurgicheskaya klinika Stavropol'skogo meditsinskogo instituta (for Fedorov and Khozhainov). 2. Stavropol'skiy meditsinskiy institut (for Budylin).

(Spine--Abnormities and deformities) (Urine--Incontinence)

4342. HIGHER NERVOUS ACTIVITY AFTER EXPERIMENTAL INJURY TO THE SCIATIC NERVE (Russian text) - Budylin V. G. and Levshunova N. A. Dept. of Physiol., Med. Inst., Stavropol - FIZIOL. ZH. IM. SECH. 1958, 44/7 (513-518) Graphs 1 Tables 2

The effects of prolonged stimulation of the sciatic nerve by means of chemical or mechanical injury upon conditioned alimentary reflexes were studied in 3 dogs over a period of 2 yr. Traumatization of the sciatic nerve was followed by inhibition of positive conditioned alimentary responses for 2 to 12 days.

Simonson - Minneapolis, Minn.

BUDYLIN, V.G.; LEVSHUNOVA, N.A.

Formation and course of conditioned reflexes in the presence of a traumatic dominant in the cerebral cortex. Zhur.vys.nerv.deiat. 9 no.4:573-577 Jl-Ag '59. (MIRA 12:12)

1. Kafedra normal'noy fiziologii Stavropol'skogo meditsinskogo instituta.

(REFLEX CONDITIONED)

BUDYLIN, V.G., prof.; ALABOVSKIY, Yu.I., dotsent

Organization of regular paractical training for students. Zdrav. Ros. Feder. 4 no.3:25-28 Mr '60. (MIRA 13:5)

1. Iz Stavropol'skogo meditsinskogo instituta.
(STAVROPOL--MEDICINE--STUDY AND TEACHING)

BUDYLIN, V.C., prof., zasluzhennyy deyatel' nauki RSFSR i Dagestanskoy Avtonomnoy SSR.

Foreword. Uch. zap. Stavr. gos. med. inst. 8:3-5 '63
(MIRA 17:7)

1. Rektor Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

BUDYLIN, V.G., prof., zasluzhennyy deyatel' nauki

Twenty-five years' work of the Stavropol State Medical Institute. Uch. zap. Stavr. gos. med. inst. 12:3-11 '63. (MIRA 17:9)

1. Rektor Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

BUDYLIN, V.G., prof.

Reactivity of the cerebral cortex in the pathology of afferent innervation and homoral disorders. Uch. zap. Stavr. gos. med. inst. 12:31-33 '63. (MIRA 17:9)

1. Kafedra normal'noy fiziologii (zav. zasluzhennyy deyatel' nauki RSFSR i Dagestanskoy ASSR prof. V.G. Budylin) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

BUDYLIN, V.G., prof.; GUBENKO, V.K.

Method of investigating gas exchange in dogs. Uch. zap. Stavr. gos. med. inst. 12:60-61 '63.

Gas exchange in old dogs. Ibid.:62-63

Alteration of gas exchange under the influence of pathological interoception in old and young dogs. Ibid.:71-72

Effect of cortisone on the gas exchange in old dogs. Ibid.:73-74
(MIRA 17:9)

1. Kafedra normal'noy fiziologii (nauchnyy rukovoditel' prof. V.G. Budlin) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

BUDYLIN, V.G., prof., zasluzhennyy deyatel' nauki; LEVSHUNOVA, N.A., dotsent

Electroencephalographic data in cortical pathological dominants. Uch. zap. Stavr. gos. med. inst. 12:34-35 '63. (MIRA 17:9)

1. Kafedra normal'noy fiziologii (nauchnyy rukovoditel' prof. V.G. Budylin) Stavropol'skogo gosudarstvennogo meditsinskogo instituta.

BUDYLINA, M.

"Autograph [Manuscript] of Willaim Hershel (1738-1822)," Astron. Zhur., 16, No 2, 1939.

SO: U-1518, 23 Oct 1951.

BUDYLINA, M.V.

Francois Arago's letters to G.V.Orlov. Trudy Inst.ist.est.i tekh. 10:393-398 '56. (MLRA 9:12)
(Arago, Dominique Francois Jean, 1786-1853)
(Orlov, G.V., Graf, 1777-1826)

BUDYLINA, M.V.

Reputed autograph of Nicolaus Copernicus. Ist.-astron.issl. no.7:310-314 '61. (MIRA 14:9)
(Nicolaus Copernicus, 1473-1543)

BUDYLINA, S. M., Candidate Med Sci (diss) -- "Functional indicators of taste reception in desquamative glossitis". Moscow, 1959. 14 pp (Min Health RSFSR, Moscow Med Stomatological Inst), 200 copies (KL, No 26, 1959, 127)

BUDYKINA, S.M.

Manifestation of the gastrolingual reflex in some diseases of the gastrointestinal tract. Biul. eksp. biol. i med. 60 no.8: 36-39 Ag '65. (MIRA 18:9)

1. Kafedra normal'noy fiziologii (zav.- prof. F.G. Snyakin) Moskovskogo meditsinskogo stomatologicheskogo instituta.

BUDYLINA, V. V., Chari, Pathophysiology, Dagestan Inst. Med, (-1944-)

"Determination of the Virulence of the Variolus Vaccine and the Influence of Anemia on Detritis Evaluation 'An Auto-Abstract'," Zhur. Mikrobiol., i Immunobiol., No 10-11, 1944.

BUDYLINA, V.V.

Muscular reception in tetanus immunization. Zhur. mikrobiol. epid. i immun. no.8:85 Ag '55. (MLRA 8:11)

1. Iz Stavropol'skogo instituta vaktsin i syvorotok (dir. V.M. Kruglikov)

(TETANUS, immunology,
vacc. eff. on musc. neuroreception)
(VACCINES AND VACCINATION,
tetanus, eff. of musc. neuroreception)
(MUSCLES, physiology,
eff. of tetanus vacc. on neuroreception)

USSR / General Problems of Pathology. Immunity. U

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102409.

Author : Budylina, V. V.
Inst : Stavropol Scientific Research Institute of Vaccines and Sera.
Title : The Phagocytic Activity of Leucocytes of Animal's Blood in Hyperimmunization.

Orig Pub: Sb. nauchn. tr. Stavropol'sk. n.-i. in-ta vaktsin i syvorotok, 1957, vyp. 4, 27-36.

Abstract: In hyperimmunization of guinea pigs, rabbits, and horses with tetanus anatoxin, the phagocytic activity of leucocytes (PAL) lowers in the increase of antitoxin production. In stimulation of CNS of rabbits with strychnine, PAL increases regardless of the titer of antitoxin. Towards the end of the first cycles of hyperimmunization of horses,

Card 1/2

USSR / Microbiology. Microbes Pathogenic to Man and Animals. Bacteria. Bacteria of the Intestinal Group. F-5

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72175.

Author : Budylina, V. V.; Illyutovich, A. Yu.; Petrova, Z. S.; Bodulina, T. V.; Golubeva, Ye. Ye.; Titrova, A. I.; Chetvernina, R. S.

Inst : Stavropol Scientific-Research Institute of Vaccines and Sera.

Title : Experimental-Biological Model of Bacterial Dysentery.

Orig Pub: Sb. nauchn. tr. Stavropol'sk. n.-i. in-t vaktsin i syvorotok, 1957, vyp. 4, 85-97.

Abstract: Kittens aged 2-5 months were infected orally with a local strain of a Flexner type W in a quantity of 1-8 billion microbe bodies. Development of

Card 1/3

USSR / Microbiology. Microbes Pathogenic to Man and Animals. Bacteria. Bacteria of the Intestinal Group. F-5

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72175.

Abstract: typical bacterial dysentery was observed in all kittens after the incubation period. The animals were divided into 3 groups according to the character of the course of the disease (severe, intermediate and mild forms of dysentery). It is noted that the seriousness of the disease did not depend on the infecting dose of the bacteria. The diagnosis was confirmed by the bacterial investigation of feces and internal organs, as well as by means of phagocyte reaction and reaction of agglutination with sera of the kittens. Pathologico-anatomic and histological changes of internal organs of the kittens were characteristic

Card 2/3

USSR / Microbiology. Microbes Pathogenic to Man and Animals. Bacteria. Bacteria of the Intestinal Group. F-5

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72175.

Abstract: for dysentery. The authors think that kittens must serve as an experimental-biological model for the study of the problems of pathogenesis and immunity from dysentery. -- F. I. Yershov.

Card 3/3

BUDYLINA, V.V.

USSR/Microbiology - Microorganisms Pathogenic to Humans and Animals. F-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 9960

Author : Budylina, V.V., Illyutovich, A.Yu., Petrova, Z.S., Bodulina, T.V., Golubeva, Ye.Ye., Titrova, A.I., Chetverina, R.S.

Inst :

Title : Experimental Bacterial Dysentery.

Orig Pub : Byul. eksperim. biol. i meditsiny, 1957, 43, No 2, 70-75

Abstract : Kittens at the age of 2-5 months were infected by a suspension of Flexner dysentery culture (strain No 6176) mixed with milk. All 15 kittens became ill with typical dysentery clinical symptoms. Flexner dysentery bacilli were isolated from excreta and different organs. Accumulation of agglutinins in the blood was noted 6 days after infection, and lasted all through the illness. During severe and moderate gravity of dysentery an inhibition of the

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