LIKHACHEV, A.I.

Ionization of the F2 layer as dependent on the penetration of solar energy into the atmosphere. Geomag. i aer. 2 no.3:481-488 My-Je '62. (MIRA 15:11)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete.
(Ionosphere)

ACCESSION NR: AT4013055 S/3058/62/000/041/0044/0048

AUTHOR: Likhachev, A. I.

TITLE: The phenomenon of the limited increase in ionization in the F2 layer

SOURCE: Tomsk. Universitet. Sibirskiy fizikotekhnicheskiy institut. Trudy*, no. 41, 1962. Rezul'taty* obrabotki materialov po issledovaniyu ionosfery* i magnitnogo polya Zemli za period MGG i MGS, 41-48

TOPIC TAGS: ionosphere, F2 layer, atmospheric ionization, ionization growth limitation, atmospheric ionization solar activity dependence, recombination coefficient

ABSTRACT: On the basis of data obtained at the Tomsk ionospheric station, the author considers the limitation of the growth in electron density in the F2 layer during years of high solar activity. For this purpose, a study was made of the material obtained at 40 of the world's ionospheric stations during 1958 in order to consider the phenomenon of the latitudinal limitation of the ionization increment in the F-region. An attempt is made to explain this phenomenon on the basis of a temperature hypothesis involving a large-scale intrusion of solar radiation into the Earth's atmosphere and a resultant change in the physical state of the atmosphere in the F2 layer. The equation for the ionization of a simple layer:

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$$\frac{dNe}{dt} = J - \alpha Ne^2 \qquad (1)$$

presupposes that the ionization balance is the result of the equilibration of only two processes: ionization and recombination. However, in real ionospheric conditions (and particularly at the level of the F2 layer), the severe temperature change that may take place will inevitably lead to a change in the value of the effective coefficient of recombination and also to a change in the value of N_e. On the other hand, the value of the temperature is, in all likelihood, related to the influx of solar radiation into the terrestrial atmosphere and an increase in temperature should be accompanied by an increase in ion-formation, and vice versa. Under conditions of equilibrium in the processes of increasing electron density due to rising solar radiation and falling electron density due to rising temperature, with an increased influx into the Earth's atmosphere of solar radiation, the result can be a condition of "heat balance", or the phenomenon of ionization growth limitation, despite an increase in the intensity of ionizing radiation. This "temperature balance" can apparently provide an explanation for the disruption in the linearity of the behavior of experimentally obtained critical frequency values for the F2 layer and their constancy (invariability) during years of heightened solar activity. In conclusion, the author advances the following hypothetical mechanism to explain this phenomenon: the process of ionization is

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ACCESSION NR: AT4013055

related to the phenomenon of recombination. With increasing solar activity the electron density rises, but there is a concomitant increase in the temperature and decrease in the value of the effective recombination factor; as a result, recombination will occur more slowly and the value of the critical frequencies during the morning hours will be considerably higher; that is, the minimum critical frequencies will rise. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: SIBIRSKIY FIZIKO-TEKHNICHESKIY INSTITUT, TOMSKIY GOSUDARSTVENNY*Y UNIVERSITET IM. V. V. KUYBY*SHEVA (Siberian physico-technical institute, Tomsk State University)

SUBMITTED: 00	DATE ACQ: 27Feb64	ENCL: 00
SUB CODE: AS	NO REF SOV: 005	OTHER: 001

Card 3/3

ACCESSION NR: AT4013058 S/3058/62/000/041/0062/0067

AUTHOR: Likhachev, A. I.

TITLE: Anomalous yearly behavior of the F2 layer as a function of the influx of solar radiation into the Earth's atmosphere

SOURCE: Tomsk. Universitet. Sibirskiy fizikotekhnicheskiy institut. Trudy*, no. 41, 1962. Rezul'taty* obrabotki materialov po issledovaniyu ionosfery* i magnitnogo polya Zemli za period MGG i MGS, 62-67

TOPIC TAGS: ionosphere, F2 layer, atmospheric ionization, solar radiation, atmospheric ionization solar activity dependence, F2 layer anomalous behavior, critical frequency variation

ABSTRACT: The magnitude of the yearly anomaly of F2 layer ionization is defined by the author as the difference between the variation in the ionization of the layer according to the law of a simple layer and the actually measured values of the critical frequencies. The author demonstrates that this yearly anomaly shows a high degree of correlation with the magnitude of the solar radiation influx into the Earth's atmosphere. He also shows that the yearly anomaly depends on the cyclic activity of the Sun. A method is proposed for forecasting the median noon-day critical frequency values. The so-called yearly anomaly consists of the

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fact that the noon-time values of the critical frequencies are lower in the summer than in the winter. According to the theory of the formation of a simple ionized layer, the ionization change during the year should obey the formula:

$$f_{cr} = B\sqrt[4]{\cos z_{noon}}, \qquad (1)$$

where z_{noon} is the zenith angle of the Sun at noon. While this equation accurately describes the annual variation of the critical frequencies of the E and F1 layers, it is wholly inadequate to explain the changes that occur in the F2 layer. In order to determine the effect of the influx of solar radiation into the atmosphere on the value of F2 layer ionization, the author postulates that during the winter months at mean latitudes the temperature effect of the solar radiation is small. He further assumes that the observed values of the critical frequencies in December at noon differ only slightly from those of a simple layer. Knowing the December noon-time critical frequency value, a calculation is made, for the latitude of Tomsk, for the noon-time critical frequencies for the other months, according to the formula for the variation of a simple layer. On the basis of this methodological approach, the author concludes that, in the first place, the yearly F2 layer anomaly in noon-time values of critical frequencies is caused by

ACCESSION NR: AT4013058

the photon radiation of the Sun; in the second place, this anomaly is a temperature-connected anomaly, since the photon radiation energy must, in the final analysis, become heat energy; in the third place, the temperature in the F2 layer has, at the end of summer, a higher value, which may be caused either by the duration of the formative processes or by other factors. Orig. art. has: 3 figures and 2 formulas.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut, Tomskiy gosudarstvenny*y universitet im. V. V. Kuyby*sheva (Siberian Physicotechnical Institute, Tomsk State University)

SUBMITTED: 00 DATE ACQ: 27Feb64 ENCL: 00

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

Card 3/3

ACCESSION NR: AT4013059 S/3058/62/000/041/0068/0071

AUTHOR: Likhachev, A. I.

TITLE: The relationship between the daytime ionization increment of the F2 layer and the influx of solar radiation into the atmosphere

SOURCE: Tomsk. Universitet. Sibirskiy fizikotekhnicheskiy institut. Trudy*, no. 41, 1962. Rezul'taty*obrabotki materialov po issledovaniyu ionosfery*i magnitnogo polya Zemli za period MGG i MGS, 68-71

TOPIC TAGS: ionosphere, atmospheric ionization, F2 layer, solar radiation, atmospheric ionization solar activity dependence, daytime ionization increment, ionization increment latitude dependence

ABSTRACT: The author discusses the latitude-yearly distribution of the diurnal increment of ionization in the F2 layer. A comparison is made between the influx of diurnal-solar radiation into the atmosphere of the Earth and the distribution of the diurnal radiation increment in the F2 layer. It is indicated that the latitudinal anomaly in increment distribution during the summer solstice is the result of the high influx of solar radiation into the atmosphere. The author also concludes that, during solstice days, the increment distribution is not proportional to the longitudinal distribution of the influx of solar radiation; the smaller

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ACCESSION NR: AT4013059

the influx of radiation, the larger the increment. On equinoctial days, the variation of the increment with latitude agrees with the path of the longitudinal distribution of the influx of radiation. It was also found that, in solstice periods, the latitudinal distribution of the increment is sharply influenced by a limitation phenomenon which occurs in the event of large-scale intrusion of solar radiation into the atmosphere; since this is the case, equations describing the ionization state of the F2 layer should take into consideration, in addition to ionization attenuation due to temperature change, this limitation phenomenon as well. In the solution of the problem of the relationship between atmospheric ionization and the sun, a direct link between the ionization state of the F2 layer and the zenith angle is not possible unless temperature change and related phenomena are considered. Orig. art. has: 3 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut, Tomskiy gosudarstvenny*y universitet im. V. V. Kuyby*sheva (Siberian Physicotechnical Institute, Tomsk State University)

SUBMITTED: 00 DATE ACQ: 27Feb64 ENCL: 00

SUB CODE: AS NO REF SOV: 002 OTHER: 000

Card 2/2

L 32574-66 EWT(1)/FCC GW
ACC NR: AR5023007 SOURCE CODE: UR/0269/65/000/008/0055/0055

AUTHOR: Likhachev, A. I.

TITLE: Dependence of the gain in daily ionization on the entry of solar energy into the atmosphere of the earth

SOURCE: Ref. zh. Astronomiya, Abs. 8.51.473

REF SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, vyp. 45, 1964, 108-112

TOPIC TAGS: astronomic data, solar radiation effect, solar cycle

ABSTRACT: Data obtained from studies of the dependence of Δf^2F_2 on the entry of solar wave radiation into the atmosphere of the earth is given. The character of the mechanism of this dependence is clarified, as well as the types of deviations, according to data obtained from observations of the Tomsk station during the solar cycles and from a series of other stations in the northern hemisphere during the IGY. General observations are expressed on possible causes of discrepancies in the regular relationship. Author's resume

SUB CODE: 03/ SUBM DATE: none

LS
Card 1/1 UDC: 523.7:525.23

L 15263-66 EWT(1)/FCC/EWA(h) GW
ACC NR: AR5016451 SOURCE CODE: UR/0169/65/000/006/A034/A034

AUTHOR: Likhachev, A.I.; Gordeyev, O.K.

35
B

ORG: none

TITLE: Interrelation between the ionospheric parameters of the F2 stratum and the quite-sun variations in Tomsk the magnetic field

SOURCE: Ref. zh. Geofizika, Abs. 6A192

REF SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, vyp. 45, 1964, 88-92

TOPIC TAGS: ionosphere, geomagnetic field, solar energy

TRANSLATION: On the basis of an established relationship between ionospheric parameters and variations in elements of a geomagnetic field under the effect of solar energy entering the atmosphere, regression equations are given for the interrelationship between ionospheric parameters and S_q variations in a magnetic field. It is shown that the regression equations define the relationship between the observed values of ionospheric parameters and the S_q variations.

SUB CODE: 03, 04, 08

UDC: 550.388.2

Card 1/1

L 17794-66 EWT(1)/FCC/EWA(h) GW

ACCESSION NR: AR5023008 SOURCE CODE: UR/0269/65/000/008/0055/0056

35
B

AUTHOR: Likhachev, A.I.

ORG: none

TITLE: Functional dependence of the yearly course of midday critical frequencies of the F_2 layer on the zenith angle of the sun

SOURCE: Ref. zh. Astronomiya, Abs. 8.51.474

REF SOURCE: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, vyp. 45, 1964, 138-143

TOPIC TAGS: astronomic data, solar activity, solar energy, F layer, sun

TRANSLATION: Based on the dependence of the entry of solar energy into the atmosphere of the earth on the zenith angle of the sun, an empirical formula was deduced for determining the midday critical frequencies of the F_2 layer as a function of the zenith angle of the sun.

SUB CODE: 03

Card 1/1 vmb UDC: 523.7:525.23

L 44210-65 EWT(1)/EWG(v)/EEC-4/FCC/EEC(t)/EWA(h) Pc-4/Pe-5/Pq-4/Pac-2/Peb/
Pi-4 GW

ACCESSION NR: AP5010274 UR/0203/65/005/002/0303/0306

AUTHOR: Likhachev, A. I.

TITLE: Dependence of critical frequencies of the F2 layer at noon upon the arrival of the solar wave energy in the earth's atmosphere

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 2, 1965, 303-306

TOPIC TAGS: ionosphere, critical frequency, solar energy, zenithal distance, equatorial hour

ABSTRACT: Data were processed from ionospheric observations concerned with critical frequencies at noon f_0F2_{max}. A ratio

$$f_0F2_{max} / \cos^{1/4} Z_n$$

was composed for studying the dependence of the critical frequency upon the rate that solar wave energy is received by the upper atmosphere. Z_n is the solar zenithal distance at noon. The daily traveling speed of solar energy was measured in so-called equatorial hours. One equatorial hour is the quantity of solar energy obtained

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L 44340-65
ACCESSION NR: AP5010274

by an area 1 cm^2 during 1 hour when the solar zenithal distance is equal to zero. The ratio of the critical frequency to the solar zenithal distance is equated with the total solar energy obtained during 1 day by a special formula. This formula makes it possible to determine the yearly anomaly of the F2 layer and also the critical frequency (a slow limited increase of which took place during maximum solar activity). Ionization changes in the F2 layer depend upon latitude. Orig. art. has: 2 tables, 3 figures, and 3 formulas. [EG]

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete. (Siberian Physicotechnical Institute, Tomsk State University)

SUBMITTED: 27May64 ENCL: 00 SUB CODE: ES,AA

NO REF SOV: 004 OTHER: 003 ATD PRESS: 3241

Card 2/2

L 43719-66 EWT(1)/FCC GW

ACC NR: AT6023733 SOURCE CODE: UR/2831/65/000/014/0129/0140

AUTHOR: Likhachev, A. I.; Yelizar'yev, Yu. N.; Yegorova, G. V.; Timchenko, N. I.

40

ORG: none

B+1

TITLE: Dependence of ionospheric parameters on the admission of solar radiation into the earth's atmosphere

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. V razdel programmy MGG: Ionosfera. Sbornik statey, no. 14, 1965. Ionosfernyye issledovaniya, 129-140

TOPIC TAGS: F layer, solar radiation effect, atmospheric ionization

ABSTRACT: This article presents data from a study of the relations between ionization parameters of the F2 layer and the zenith angle of the sun and the influx of solar energy into the earth's atmosphere. An investigation of the time variations of the diurnal increment of ionization, which represents the difference between critical frequencies at the maximum (midday hours) and minimum of the diurnal variation, showed that the maximal value of the increment of ionization is reached during the winter and the minimal value during the summer, and that during the year the change in the increment correlates well with the change of the sine of the zenith angle of the sun; the maximal values of the diurnal increment observed during the winter

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months change in proportion to solar activity, and during the summer months the increment remains approximately constant regardless of solar activity. On the basis of the widely held concept, confirmed by large-scale ionospheric observations, that the principal agent of ionization at the level of the F2 layer is solar wave radiation, a method of investigation is given to elicit the dependence of the state of ionization on the level of the wave radiation of the sun. It was found that the basic parameters characterizing the state of ionization are associated with the zenith angle and level of solar radiation, that the duration of illumination affects the state of ionization and the establishment of the phenomenon of limitation of an increase of ionization in the F2 layer, and that a radiation-type equilibrium state exists in the ionosphere during years of maximal solar activity and during the summer at moderate activity. It would be desirable to introduce into the annual data-analysis reports a section on the detection of a relation between ionization parameters and the level of wave radiation for each station based on the method presented. Orig. art. has: 9 figures and 12 formulas.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 020/ OTH REF: 004

LIKHACHEV, A. M.

"Use of the Best Cutting Planting in Regions Requiring Irrigation," Sov. Agron., No. 4, 1949. All-Union Central Sci. Res. Inst. Sugar Industry, -c1949-. Cand. Agricultural Sci.

LIKHACHEV, A.M.

Problem of excursions in new geography programs. Geog. v shkole 18 no.3 22-26 My-Je '55. (MLRA 8:9)
(Geography--Study and teaching) (School excursions)

LIKHACHEV, A.M.

"Geographic excursions in secondary schools". V.A.Trapovitsyn. Reviewed by A.M.Likhachev. Geogr.v shkole 19 no.3:73-74 My-Je '56. (School excursions) (MLRA 9:9)

LIKHACHEV, A.M.

Relation of geography to other subjects. Geog. v shkole 20 no.1:29-34 Ja-F '57. (MLRA 10:3)
(Geography--Study and teaching)

Лихачев, А. М.

LIKHACHEV, A.

The economic evaluation of natural conditions in the study of economic geography. Geog. v shkole 20 no.6:27-31 N-D '57.
(Geography, Economic) (MIRA 10:12)

LIKHACHEV, A.M.

"Methods of teaching an elementary course in physical geography" by T.P. Gerasimova. Reviewed by A.M. Likhachev. Geog. v shkole 22 no.1:84-86 Ja-F '59. (MIRA 12:4)
(Physical geography--Study and teaching)

LIKHACHEV, A.M. (g.Voronezh)

Geography in the new school. Geog.v shkole 22 no.3:73-74 My-Je '59. (MIRA 12:11)
(Geography--Study and teaching)

LIKHACHEV, A.M.(Voronezh)

Geography textbook on the local province. Geog. v shkole 24 no.2:42-44 Mr-Ap '61. (MIRA 14:3)
(Geography--Textbooks)

LIKHACHEV, A.M. (Voronezh)

"Methology for teaching the economic geography of the U.S.S.R." by I.I. Samoilov. Reviewed by A.M.Likhachev. Geog. v shkole 24 no.4:92-94 Jl-Ag '61. (MIRA 14:8)
(Geography, Economic--Methodology) (Samoilov, I. I.)

LIKHACHEV, A.N. (Moskva)

In the Maritime Territory. Priroda no.6:128 Je '60.
(MIRA 13:6)

(Maritime Territory—Spring)

1. LIKHACHEV, A. N.

2. USSR (600)

4. Impregnation, Artificial

7. New developments in the field of artificial insemination of sheep. Kar. i zver. 5, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

LIKHACHEV, A.N., kand.sel'skokhozyaystvennykh nauk

Important details of artificial insemination technique. Zhivotnovodstvo 20 no.11:46 N '58. (MIRA 11:11)
(Artificial insemination)

BEL'KEVICH, V.N., kand.biol.nauk; LIKHACHEV, A.N., kand.sel'skokhoz.nauk

Synthetic polymeric materials for the insemination of animals. Zhivotnovodstvo 21 no.8:77-78 Ag '59. (MIRA 12:11)

1. Vsesoyuznyy institut zhivotnovodstva.
(Artificial insemination—Equipment and supplies) (Plastics)

LIKHACHEV, A. N. Cand Biol Sci — (diss) "The Formation of After-Grasses in Several Meadow Growths Depending on Their Agricultural Utilization." Moscow, 1960, 19 pp, (Moscow at Pedagogic Inst im V. P. Potemkin) 150 Copies, no price given (KL, 21-60, 121)

LIKHACHEV, A.N., kand.sel'skokhozyaystvennykh nauk

Available simple apparatus. Zhivotnovodstvo 23 no.8:80-81 Ag '61. (MIRA 16:2)
(Artificial insemination--Equipment and supplies)

KVASNIKOV, V.I. (Moskva); LIKHACHEV, A.N. (Moskva)

Teaching the grafting technique by the use of maple scions. Biol. v shkole no.1:84 Ja-F '63. (MIRA 16:6)

(Grafting—Study and teaching)

LIKHACHEV, A.P.

Disordered plagioclases in the rocks of differentiated intrusions in the Noril'sk region. Zap.Vses.min.ob-va 94 no.5:592-600 '65.

(MIRA 18:11)

1. TSentral'nyy nauchno-issledovatel'skiy gorno-razvedochnyy institut, Moskva.

LIKHACHEV, A.P.

Role of leucocratic gabbro in the formation of the Noril'sk differentiated intrusions. Izv. AN SSSR. Ser. geol. 30 no.10: 75-88 O '65. (MIRA 18:12)

1. TSentral'nyy nauchno-issledovatel'skiy gorno-razvedochnyy institut tsvetnykh, redkikh i blagorodnykh metallov, Moskva. Submitted Jan. 25, 1965.

KARAGODIN, V.L., inzh.; LIKHACHEV, A.S., inzh.

General sewerage system and its significance for construction on the territory of the city of Moscow. Gor. khoz. Mosk. 33 no.7:22-25 Jl '59. (MIRA 12:10)
(Moscow--Sewerage)

KNORRE, V.E., inzh.; LIKHACHEV, A.S., inzh.; LUNKEVICH, M.V., inzh.; MURAV'YEV, I.N., inzh.; FILIMONOV, V.A., inzh.

Public utilities and communications in a satellite city near Moscow. Gor.khoz.Mosk. 34 no.4:10-13 Ap '60. (MIRA 13:8)

(Kryukovo—City planning)
(Kryukovo—Sewerage)

VOYACHEK, V.I., prof., Geroy Sotsialisticheskogo Truda; UNDRITS, V.F., prof.; LIKHACHEV, A.T., prof., zasluzhennyy deyatel' nauki; POTAPOV, I.I., doktor med.nauk, prof.; FOTIN, A.V., dotsent, kand.med.nauk

Active member of the Academy of Medical Sciences of the U.S.S.R. and Honored Scientist, Professor Boris Sergeevich Preobrazhenskii; on his 70th birthday. Vest.otorin. no.4 83-9 '62. (MIRA 16:3)

1. Deystvitel'nyy chlen AMN SSSR (for Voyachek). 2. Chlen-korrespondent AMN SSSR (for Undrits).
(PREOBRAZHENSKII, BORIS SERGEEVICH, 1892-)

L 05685-67 EWT(1) JAJ/RO

ACC NR: AP6014505 (A) SOURCE CODE: UR/0317/66/000/004/0070/0072

AUTHOR: Likhachev, B. (Guards lieutenant general in the armoured forces); Yelesin, M. (Lieutenant colonel in the Guards)

19
B

ORG: None

TITLE: Moving in columns by day and night

SOURCE: Tekhnika i vooruzheniye, no. 4, 1966, 70-72

TOPIC TAGS: ground force tactic, ground force training, field exercise, military tank

ABSTRACT: The organization of a many-day tactical movement of a column of armoured tanks for training purposes is discussed. General field exercises are conducted once per year. Traffic regulations are studied. Special attention is given to keeping prescribed distances between vehicles in the column. Preliminary exercises, lectures, discussions and meetings are held and the trainees are submitted to proficiency tests. The exercises are conducted under the direction of commanding officers (2 days) and sergeants (5 days). The route is selected in such a manner that one half of it covers bad field roads and rough terrain, while the other half includes highways passing through towns and villages. The planned movement is carefully studied at route briefings. Radio intercommunications are established between sub-units and the commanding staff. Various exercises with protecting the column against nuclear and chemical warfare are also conducted. The condi-

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L 05685-67

ACC NR: AP6014505

tions of movement at night are examined and the proper use of lights on various types of roads is discussed. Vehicles and equipment are carefully checked at halting places and damaged parts are replaced or repaired. In case of major repairs, the vehicles are either hauled to main halting places or left on the road. The publication of a special manual on long marches and column movements is recommended.

SUB CODE: 15/ SUBM DATE: None

Card 2/2

LIKHACHEV, D.D., inzhener-kapitan.

Performance of new road building machines at the construction project no. 7. Stroi. dor. 10 no.7:7-10 Jl-Ag '47. (MLRA 6:12)
(Road machinery)

LIKHACHEV, D.S.

AUTHOR LIKHACHEV, D.S., Corresponding Member of the Academy of Sciences of the U.S.S.R. 30-7-33/36

TITLE Report: A Meeting Commemorating the Archpriest Avvakum and His Creative Work.
(Zasedaniye, posvyashchennoye tvorchestvu Protopopa Avvakuma - Russian)

PERIODICAL Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 7, pp 113-114 (U.S.S.R.)

ABSTRACT On April 14, 1682 the archpriest Avvakum Petrov was executed by order of the tsar, because he denounced the grievances at the then court of the tsar.-
The clerical scholar used a rich, expressive and free language. His writings rather early attracted the attention of many Russian historians of literature. Turgenev enthused about the polished, brilliant style; he stated that every Russian writer had to study Avvakum's works, if he wanted to perfect his language and his expression- form. Maxim Gorki said that the style and the language of the archpriest (in his "Letters" and in "Zhitiyo" were hitherto unequalled. Avvakum's works were translated into many western European languages and into Chinese, Polish and Hungarian. In spite of that great interest, the part which Avvakum played in history has not yet been sufficiently investigated. Avvakum's nature is multifarious and often contradictory. He stood on the line of transition from the old to the modern Russia. This fact is, however, by no means sufficient to explain the existing

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30(6)

AUTHOR: Likhachev, D. S., Corresponding Member, AS USSR

SOV/30-58-12-4/46

TITLE: Some Results and Prospects for the Study of Russian Literature of the X to the XVII Centuries (Nekotoryye itogi i perspektivy izucheniya russkoy literatury X-XVII vv.)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 12, pp 19-24 (USSR)

ABSTRACT: Russian literature began to develop in the 10th century as is stated in the papers of D. S. Likhachev, V. P. Adrianova-Peretts and B. I. Bursov (Refs 1, 2, and 3). At the AS USSR much has been done in the field of historical research of Russian literature of the first seven centuries as was pointed out in the papers of V. D. Kuz'mina, V. Kaminskiy, V. P. Adrianova-Peretts, V. I. Malyshev (Refs 4, 5, and 6). A publicist of the XVI. century, Yermolay-Yerazm, was discovered (V. F. Rzhig, Ref 7), and the role of secular literature in Old-Russian life was described (V.P. Adrianova-Peretts, M. N. Tikhomirov, Ref 8). The papers of D. S. Likhachev and V.P. Adrianova--Peretts (Refs 9, 10, and 11) report on the character of Old-Russian literature. Excellent editions of the works of Old-Russian writers have been carried out by

Card 1/2

LEBEDKINA, Ye.D.; FEDOROV, V.M.; FAYNBERG, V.Ya., kand.fiz.-matem.nauk; BARCHUKOV, A.I., kand.tekhn.nauk; FESENKOV, V.G., akademik; KUCHEROV, V.F., doktor khim.nauk; DZERDZEYEVSKIY, B.L., prof.; SHAPIRO, G.S., doktor tekhn.nauk; KULAGINA, O.S.; UDAL'TSOVA, Z.V., doktor istor.nauk; LIKHACHEV, D.S.

Brief notes. Vest. AN SSSR 32 no.1:119-130 Ja '62. (MIRA 15:1)
(Scientific societies) (Research)

LIKHACHEV, F.

Statutes of the CPSU on the rights and obligations of party members. Komm.Vooruzh.Sil 2 no.5:42-48 Mr '62. (MIRA 15:2)
(Communist Party of the Soviet Union)

LIKHACHEV, F., polkovnik zapasa

When adherence to principles is lacking. Komm.Vooruzh.Sil 3 no.21:69-72 N '62. (MIRA 15:10)

(Commercial crimes)

LIKHACHEV, F., polkovnik zapasa

Violating the rights of Communists. Komm. Vooruzh. Sil 3 no.1: 55-57 Ja '63. (MIRA 16:1)
(Russia--Armed forces--Political activity)

LIKHACHEV, F., polkovnik zapasa

Man and performance. Kommun. Vooruzh. Sil 5 no.22:57-59 N '64.
(MIRA 17:12)

1. Spetsial'nyy korrespondent zhurnala "Kommunist Vooruzhennykh Sil".

STEKOLNIKOV, I. S.; KOMELKOV, V. A.; BOGOMOLOV, A. F.; LIKHACHEV, F. A.; BORISOV, V. N.; LOPSHITS, L. M.

LIKHACHEV, F. A.

Grozozashita Promyshlennykh Sooruzhenii i Zdanii (Lightning Protection of Industrial Structures and Buildings), 202 p., Publ. House of the AS USSR, Moscow, 1951.

1. LIKHACHEV, F. A., Eng.

2. USSR (600)

4. Electric Discharges

7. Increasing the dependability of valve-type dischargers. Elek. sta. 23 No. 9, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

LIKHACHEV, F.A., inzhener.

Grounding for factory chimneys. Rab.energ. 3 no.5:38-39 My '53. (MLRA 6:5)
(Electric currents--Grounding)

1. LIKHACHEV, F. A., Eng.

2. USSR (600)

4. Lightning Arresters

7. Selecting external spark gap intervals of fibrobakelite lightning arresters in 35 and 110 Kv networks. Elek. sta. 24, No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

LIKHACHEV, F. A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Stekol'nikov, I. S. Komel'kov, V. S. Bogomolov, A. F. Likhachev, F. A. Borisov, V. N. Lopshin, L.N.	"Lighting Protection of Industrial Structures and Buildings"	Power Engineering Institute imeni G. M. Krzhizhanovskiy, Academy of Sciences USSR

SO: W-30604, 7 July 1954

LIKHACHEV, Fedor Andreyevich; VORONTSOV, F.F., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor

[Choice, installation, and operation of arc-extinguishing apparatus] Vybor, ustanovka i ekspluatatsiia dugogasiashchikh apparatov. Moskva, Gos. energ. izd-vo, 1955. 143 p. (MLRA 8:3)
(Electric arc) (Electric lines)

LIKHACHEV, F.A.

AID P - 1637

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 19/23

Author : Likhachev, F. A., Eng.

Title : Lightning protection of low voltage rotating machines

Periodical : Energetik, 1, 32-34, Ja 1955

Abstract : The use of lightning arresters and capacitors for protection of generators and motors is discussed. Three diagrams accompany the text.

Institution: VEI (All-Union Electrotechnical Institute)

Submitted : No date

LIKHACHEV, F.A.

AID P - 1514

Subject : USSR/Electricity

Card 1/1 Pub. 26 - 10/36

Author : Likhachev, F. A., Eng.

Title : Measuring capacity and ground currents in networks with insulated neutrals and choke coils

Periodical : Elek. sta., 3, 32-37, Mr 1955

Abstract : The author describes the method and order of measurement used in analyzing forty 6 to 110-kv networks and in testing sixty arc-quenching apparatuses of various makes and capacities. Seven connection diagrams.

Institution: None

Submitted : No date

LIKHACHEV, F.A., inzhener.

Analysis of the cutting of of transformers due to lightning surges. (MLRA 9:8)
Elek.sta. 27 no.3:44-47 Mr '56.
(Electric transformers) (Lightning protection)

LIKHACHEV, F.A.

LIKHACHEV, F.A., inzhener.

On the protection provided by RT$_2$ 35 kv lightning arresters. (MLRA 10:9)
Energetik 5 no.7:33-37 Jl '57.
(Lightning protection)

LIKHACHEV, F.A., inzh.

Lightning damage to a regulator autotransformer on 100 mva produced by the VVS firm. Elek.sta. 28 no.10:53-58 '57.
(MIRA 10:11)
(Electric transformers)

LIKHACHEV, F.A., inzh.

Short-circuit switching overvoltages in three-phase systems with small capacity currents. Elek.sta. 29 no.1:57-62 Ja '58. (MIRA 11:2)

(Electric switchgear)
(Electric transformers)

LIKHACHEV, F.A., inzh.

Damage caused by arbitrary displacement of neutral. Elek.sta.29 no.3:49-53 Mr '58. (MIRA 11:5)
(Electric power distribution)

LIKHACHEV, F.A., inzh.

Shifting the bias voltage for the neutral from one network to another. Elek.sta. 29 no.8:70-72 Ag '58. (MIRA 11:11)
(Electric networks)

SOV/105-59-5-18/29

8(3)

AUTHOR: Likhachev, F. A., Engineer

TITLE: Overvoltages in Switching-off Two-phase Short Circuits (Perenapryazheniya pri otklyuchenii dvukhfaznykh korotkikh zamykaniy)

PERIODICAL: Elektrichestvo, 1959, Nr 5, pp 72-77 (USSR)

ABSTRACT: This article gives results of an analysis of the overvoltage arising in switching-off two-phase short circuits in a current circuit connected with an unloaded transformer when the magnetizing current of the transformer showed its maximum value. These results permitted the levels and the character of the overvoltages to be evaluated and the possible protective measures to be indicated. The conditions for the formation of such overvoltages and their reasons are investigated here on a concrete example of an actual service interruption. It is shown that the circuit of the magnetizing currents can be considered independently of the current circuit of the two-phase short circuit. If the two phases involved in the short circuit are connected, a single-phase equivalent circuit diagram according to figure 3 is obtained for the circuit of the magnetizing currents. The following equations are

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derived: (1) for the interphase overvoltages, (2) and (3) for the overvoltages in the three phases. The overvoltages are evaluated in consideration of an unloaded transformer (which corresponds to real facts before the two-phase short circuit). In general, the overvoltages will be the higher, the smaller the capacity of the feeding line, and the higher the transformer output is. If in two-phase short circuits simultaneous earth connections exist in any phase of the feeding line, the switching-off will be accompanied by overvoltages in phase K if the earth connection originated in phase Zh or Z, or by overvoltages in phases Zh and Z, if the earth connection originated in phase K. In the present case, the overvoltages arose in switching-off a two-phase short circuit after the unloaded transformer. But overvoltages may also arise in switching-off two-phase short circuits in a feeding line connected to an unloaded double-winding transformer with star-star or star-delta connection of the windings, or to an unloaded three-winding transformer with star-star-delta connection of the windings. In such case, the conditions for the formation of overvoltages may arise during a thunderstorm. The sec-

Overvoltages in Switching-off Two-phase Short Circuits

ondary windings of the transformer do not affect the current intensity and the phase of the current in the primary winding. The most difficult case possible in practice is the one where, because of a bridging of the insulated neutral-conductor lead-in and the adjoining lead-in wire of the transformer, the winding of one of its phases is completely short-circuited. Measurements with the oscillograph confirmed the accuracy of evaluations of the overvoltage levels in switching off two-phase short circuits before or after the unloaded transformer, unless the transformer winding has an interturn short circuit, according to formulas (1), (2) and (3). The damages occurring in the concrete case investigated here are pointed out. The type of overvoltages investigated here must be fought by the following measures: increase in the reliability of switching-off by circuit breakers for small induction currents by means of a proper adjustment of these breakers and shunt-circuiting the quenching chamber by effective resistances or capacities. There are 6 figures.

SOV/105-59-5-18/29

Overvoltages in Switching-off Two-phase Short Circuits

ASSOCIATION: ORGRES (State Trust for Organization and Efficiency of Electric Power Plants)

SUBMITTED: September 27, 1958

Card 4/4

LIKHACHEV, F.A., inzh.

Analyzing multiple insulation damages at a 35k substation during a thunderstorm. Elek.sta. 31 no.2:62-67 F '60. (MIRA 13:5)

(Electric substations)

LIKHACHEV, F.A., inzh.

Voltage recovery in a damaged phase after quenching the grounding arc. Elek. sta. 31 no.8:73-81 Ag '60. (MIRA 14:9)
(Electric power distribution)

LIKHACHEV, F.A., inzh.

Automatic current regulation in arc-suppression coils during short-circuits to ground in an electric power distribution network. Elek. sta. 32 no.11:61-64 N '61. (MIRA 14:11)
(Electric power distribution) (Electric protection)

LIKHACHEV, F.A., inzh.

Chapter 33, "Protection from overvoltages," of the new "Regulations for Operating Electric Networks and Power Plants." Energetik 11 no.2:22-29 F '63. (MIRA 16:3)
(Electric power distribution) (Electric protection)

LIKHACHEV, F.A., inzh.

Supplementary clarifications to chapter 33 of "Regulations for operating electric networks and power plants." Energetik 11 no.3:22-24 Mr '63. (MIRA 16:4)

(Electric power distribution)
(Electric power plants)

LIKHACHEV, F.A., inzh.

Effect of the parameters of power transformers on phase voltages relative to ground with commutation according to phase. Elek. sta. 34 no.6:54-64 Je '63. (MIRA 16:9)
(Electric power distribution)

LIKHACHEV, F.A., inzh.

Overvoltages resulting during the disconnection of idle 35 kv. and 6kv. transformers by disconnecting switches. Elek. sta. 34 no.5:54-59 My '63. (MIRA 16:7)

(Electric power distribution)
(Transients (Electricity))
(Electric transformers)

14546-66 EWT(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b) JD/HM

ACC NR: AP6005386 SOURCE CODE: UR/0413/66/000/001/0134/0134

INVENTOR: Sedykh, V. S.; Pashkov, P. O.; Kofman, A. P.; Gokhshteyn, B. Ye.; Pavlov, A. I.; Likhachev, G. F.

ORG: none

TITLE: A method of producing three-layer metal plates. Class 49, No. 177759

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 134

TOPIC TAGS: metal plate, three layer plate, clad plate, plate cladding, explosive cladding

ABSTRACT: This Author Certificate introduces a method of producing three-layer metal plates by explosive welding. Explosive charges are placed on the outer surface of the plates to be welded. In order to increase productivity, both outer plates are welded to the center plate simultaneously by a charge detonated at one point. In order to improve the quality of the bond, a centering prism is set up on the upper edges of the plates so that one edge of the prism faces the detonator. Orig. art. has: 1 figure. [WW]

SUB CODE: 11/ SUBM DATE: 23Mar64/ ATD PRESS: 4197

Cladding 18

Card 1/1 UDC: 621.791.044-419.5

L 46600-66 EWT(m)/EWP(v)/T/EWP(t)/ETI/EWP(k) IJP(c) JD/HM/HW/WB
ACC NR: AP6012584 (N) SOURCE CODE: UR/0314/66/000/004/0027/0029

AUTHOR: Grekov, I. N. (Engineer); Yunger, S. V. (Candidate of technical sciences); Rubenchik, Yu. I. (Candidate of technical sciences); Kofman, A. P. (Engineer); Likhachev, G. F. (Engineer); Bronshteyn, L. M. (Engineer)

ORG: none

TITLE: Production of apparatus from bimetallic sheets obtained by the explosion method

SOURCE: Khimicheskoye i neftyanoye mashinostroyeniye, no. 4, 1966, 27-29

TOPIC TAGS: bimetal, corrosion resistant steel, explosive forming

ABSTRACT: VNIIPTKh in cooperation with the Volgograd Polytechnic Institute (Volgogradskiy politekhnicheskiy institut) and the Volgograd Plant of Petroleum Machinery im. Petrov (Volgogradskiy zavod neftyanogo machinostroyeniya) conducted weldability tests on the bimetal St. 3 + Kh18N9T prepared by the new explosion method, and studied its qualitative characteristics at various stages of construction of experimental industrial equipment weighing up to 20 tons. The metal was found to have a good weldability, and

Card 1/2 UDC: 66.05:621.9—419.002.2

L 46600-66
ACC NR: AP6012584

welded structures made of it can be prepared by earlier processes developed for welding bimetals produced by classical methods. Weld joints prepared in this manner were found to have high values of strength and plasticity. In addition to mechanical tests, the weld joints successfully passed tests for intercrystalline corrosion, x-raying, and other checking operations. V. M. Stepanov, V. G. Tugabey, and V. V. Faleyeva took part in this work. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11,4/SUBM DATE: none

Card 2/2 afs

1. LIKACHEV G.N.

2. USSR (600)

4. Titmice

7. Observations of the great titmouse in artificial nests, Zool.zhur. 32 no.1, 1953.

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

LIKHACHEV, G.N.

Observations on the propagation of the flycatcher (Muscicapa) [Myscicapa hypoleuca] in artificial nests. Biul.MOIP. Otd.biol. 58 no.2:23-34 '53. (MLRA 6:6)
(Flycatchers)

USSR/ Biology - Insect control

Card 1/1 Pub. 86 - 32/40

Authors : Likhachev, G. N.

Title : Bumble bees and wasps in artificial bird nests

Periodical : Priroda 3, page 114, Mar 1954

Abstract : The problem of combating forest insects (bumble bees, wasps, hornets), which nestle in the artificial nests, set up for the attraction of insect eating birds, is discussed. Illustration.

Institution: The Prioksko-Terassniy State Forest of the Moscow Region

Submitted : .....

LIKHACHEV, G.N.

Propagation and the population of dormice (Muscardinus avellanarius). Zool.zhur. 33 no.5:1171-1182 S-O '54. (MLRA 7:11)

1. Prioksko-Terrasnyy gosudarstvennyy zapovednik.
(Dormouse)

LIKHACHEV, G.N.

Bumblebees and wasps in birdhouses. Priroda 43 no.3:114 Mr '54.
(MLRA 7:3)

1. Prioksko-Terrasnyy goszapovednik Moskovskoy oblasti Serpukhovskiy rayon. (Wasps) (Bumblebees)

LIKHACHEV, G.N.

Squirrel in the Tula deciduous forests. Priroda 43 no.8:111-112 Ag '54. (MLRA 7:8)

1. Prioksko-Terrasnyy gosudarstvennyy zapovednik.
(Tula Province--Squirrels) (Squirrels--Tula Province)

LIKHACHEV, G.N.

Feeding habits of the turtledove and the stock dove. Biul.MOIP. Otd. biol. 59 no.2:15-25 Mr-Ap '54. (MLRA 7:6)
(Pigeons)

LIKHACHEV,G.N.

Houselike rodents and birdhouses. Zool.zhur. 34 no.2:471-473 Mr-Ap '55. (MLRA 8:6)

1. Prioksko-terrasnyy gosudarstvennyy zapovednik.
(Birdhouses) (Rodent control)

LIKHACHEV, G.N.

Emergence from hibernation and character of migrations of the common dormouse. Biul.MOIP. Otd.biol.60 no.4:123-124 Jl-Ag'55. (MLRA 8:12)
(HIBERNATION) (DORMOUSE)

LIKHACHEV, G.N.

The great titmouse and its relation to the nesting territory. Biul. MOIP. Otd biol. 60 no.4:125 Jl-Ag'55. (MIRA 8:12)
(TITMICE)

LIKHACHEV, G.N.

Biology of the black kite (Milvus korschun) in the Tula forest reserves. Biul. MOIP. Otd. biol. 60 no.5:65-75 S-O '55. (MLRA 9:4)

(TULA PROVINCE--HAWKS)

LIKHACHEV, G.N.

Supplementary data on the nature of reproduction of the greater titmous in artificial nesting places. Trudy Priok.-Terr.zap. no.1:248-265 '57. (MIRA 12:7)
(Krapivna District--Titmice) (Oka Terrace Preserve--Titmice)

LIKHACHEV, G. N.

Wintering of the gnome owl Glaucidium passerinum in artificial nesting places. Trudy Priok.-Terr.zap. no.1:287-290 '57.
(MIRA 12:7)

(Oka Terrace Preserve--Owls)

LIKHACHEV, G.N., LYUBIMOVA, V.A.

Occurrence of the bat Myotis nattereri Kuhl in Moscow Province.
Trudy Priok.-Terr.zap. no.1:291-292 '57. (MIRA 12:7)
(Moscow Province--Bats)

LIKHACHEV, G.N.

Some data on the feeding of roe deer. Trudy Priok.-Terr.zap. no.1:293-296 '57. (MIRA 12:7)
(Krapivna District--Roe deer--Feeding and feeding stuffs)

LIKHACHEV, G.N.

Some data on the nutrition of the hazel grouse in the Tula forests [with summary in English]. Zool. zhur. 36 no.7:1104-1105 Jl '57. (MLRA 10:9)

1. Prioksko-terrasnyy gosudarstvennyy zapovednik.
(Prioksko-Terrasnyy Preserve--Grouse)
(Birds--Food)

LIKHACHEV, G.N.

Some data on the nutrition of elk in the tula oak forests [with summary in English]. Zool.zhur. 36 no.12:1900-1901 D '57.
(MIRA 11:1)

1.Priksko-terrasnyy gosudarstvennyy zapovednik.
(Tula Province--Elk)
(Animals, Food habits of)

LIKHACHEV, G.N.

Birds rarely nesting in artificial homes. Biul. MOIP. Otd. biol. 64 no.3:25-34 My-Je '59. (MIRA 13:3)
(Krapivna District--Birds--Eggs and nests)
(Serpukhov District--Birds--Eggs and nests)

GRUZDEV, L.V. [deceased], LIKHACHEV, G.N.

Material on the feeding of Strix aluco in the "Tula Pellings" Preserve. Zool.zhur. 39 no.4:624-627 Ap '60. (MIRA 13:11)

1. Prioksko-Terrasnyy Preserve.
(Tula Province--Owls)

LIKHACHEV, G.N.

Use of artificial bird nests by the yellow-throated mouse Apodemus flavicollis in the southern part of Moscow Province. Zool. zhur. 41 no.8:1270-1271 Ag '62. (MIRA 15:9)

1. The Oka Terrace Reservation Grounds, Danki P.O.Box, Moscow region.
(Oka Terrace Preserve—Field mice)
(Animals, Habits and behavior of)

LIKHACHEV, G.N.

Ornithological observations in the oak forests of Tula Province. (MIRA 16:2)
Ornitologiia no.5:110-112 '62.
(Tula Province--Birds) (Forest fauna)

LIKHACHEV, G.N.

Materials [illegible] activity and estivation of the common dormouse. Biul. [illegible] Otd. biol. 70 no.2:5-17 Mr-Ap '65. (MIRA 18:5)

LIKHACHEV, G. P.

LIKHACHEV, G. P.: "Research on the wear-resistance of the articulating joints of the caterpillar tracks of agricultural tracto". Moscow, 1955. Min Higher Education USSR, Moscow Inst of the Mechanization and Electrification of Agriculture imeni V. M. Molotov. (Dissertation for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis', No. 40, 1 Oct 55

LIKHACHEV, I

USSR

11984* Character of the Fracturing of Plastic Metals Under the Conditions of the Concentration of Stresses During Tension. O kharaktere razrusheniia plastichnykh metallov v usloviiakh I. Likhachev. *Zhurnal Tekhnicheskoi Fiziki*, v. 25, no. 5, May 1955, p. 922-932.

Notched specimens tested to show relation of load to position of boundary between elastic and plastic zones; local plastic deformations; shear tests; tangential stresses. Diagrams, graphs. 8 ref.

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ZYAZEV, V.; LIKHACHEV, I.

Direct centralized automotive transportation of ammonium nitrate.
Avt.transp. 42 no.12:8-9 D '64. (MIRA 18:4)