"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

L 2801-66 EWT(1)/FCC/EWA(h) GS/GW

ACCESSION NR: AT5023573 UR/0000/65/000/000/0112/0119

31
30
B+1

AUTHOR: Markov, M. N.; Merson, Ya. I.; Shamilev, M. R.

TITLE: IR-radiative layers in the upper atmosphere

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 112-119

TOPIC TAGS: IR radiation, atmospheric radiation, upper atmosphere

ABSTRACT: The authors propose a theoretical model for the IR-radiative layers in the upper atmosphere at altitudes of 280, 420 and 500 km. It is assumed that the emitting layers are ∿5 km thick and that there is practically no absorption in the interlayer space. With the further assumption that radiation intensity is proportional to the length of the emitting layer (taking radiation dilution into account), theoretical curves are plotted for radiation intensity as a function of angular distribution. A comparison between experimental and theoretical curves shows satisfactory agreement at all three altitudes and at intermediate heights. The proposed model is also used for calculating isotropic radiation flux, and the number of non-

Card 1/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

L 2801-66

ACCESSION NR: AT5023573

equilibrium radiation events in the emitting layers. The isotropic radiation flux from all layers can be no more than a few tenths of the solar constant. It is estimated that there is a single radiation event each second. The concentration of neutral NO molecules in the lower layer is calculated at 10^9 cm^{-3}, the total number of radiating particles being $\sim 10^{17}$, assuming a path about 500 km long. No assumptions are made about other neutral molecules in the upper atmosphere which might radiate in the infrared zone. Rough approximations indicate that the effective temperature for the observed radiation reaches $\sim$2000°K. It is assumed that the radiating molecules are activated by corpuscular streams from the sun. A correlation is established between infrared radiation in the upper atmosphere and flares close to the central meridian of the solar disc. The results of these investigations may be used for developing hypotheses on our planetary atmosphere, particularly with regard to determining the composition of gases in the upper atmosphere from their emission spectra, verifying the theory of the nature of the ionosphere, and determining the temperature distribution in the thermosphere from the intensity and width spectral emission lines. Orig. art. has: 4 figures. [14]

ASSOCIATION: none

Card 2/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

L 2801-66

ACCESSION NR: AT5023573

SUBMITTED: 02Sep65 ENCL: 00 SUB CODE: ES

NO REF SOV: 008 OTHER: 002 ATD PRESS: 4102

BVK

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340 SOURCE CODE: UR/0293/66/004/004/0601/0618

AUTHOR: Bazhulin, P. A. (deceased); Kartashev, A. V.; Markov, M. N.
ORG: none

TITLE: Study of the angular and spectral distribution terrestrial radiation in the infrared spectral range from the Kosmos-45 earth satellite

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 601-618
TOPIC TAGS: atmospheric radiation, IR spectrometer, spectrometry, scientific satellite, optic albedo / Kosmos-45 scientific satellite

ABSTRACT: Summary. A scanning infrared spectrometer system is described which has an angular resolution of 2×10^{-3} radians, covering the spectrum from 0.8 to 36μ with spectral resolution of better than ±2μ. The characteristics and operation of the spectrometer and the associated data-recording equipment are given, together with the experimental data on infrared atmospheric radiation and the Earth's albedo collected during one orbit of the Kosmos-45 satellite.

P. A. Bazhulin and his associates describe a spectrometer intended for use in the study of the Earth's energy balance in the infrared region but which, through interpretation of the results, may also supply data on the molecular content and temperature of the atmosphere at various altitudes. The spectrometer is capable of measuring angular and spectral infrared radiation simultaneously; it was used for this purpose in October 1962 and June 1963, in vertically launched rockets which reached an altitude of 500 km [27].

 UDC: 551.521.2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

As an extension of these studies, a spectrometer of the same type but with the addition of a recording system scanned seven regions of the Earth during one orbit of the Kosmos-45 satellite (launched on 13 September 1964) . The atmosphere below the satellite was scanned in a direction perpendicular to the satellite's trajectory. Even though the experiment was of limited duration, a wide variety of conditions were encountered. Both illuminated and dark regions of the Earth were observed. Three of the seven regions covered were in the southern hemisphere, four were over ocean bodies, and one was above a spiral cloud formation near Japan. In general, the amount of cloud cover was different for each region.

The spectrometer employed in these studies comprises a scanning mirror and lens system, a filter arrangement, a bolometer, an amplifier, a recording system, and a programming unit (Figs. 1 and 2). The spectrometers launched in the rockets operated in conjunction with a telemetry system. In the satellite experiment, a magnetic oscillograph was used and the recorded film was recovered.

The spectrometer system operates as follows: A flat scanning mirror is rotated twice through π radians ($\pm\pi/2$ radians from the direction of the nadir) every 10—15 minutes, with a scanning speed of 2×10^{-2} rad/sec (determined by a hermetically sealed drive mechanism). The radiation

Card 2/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

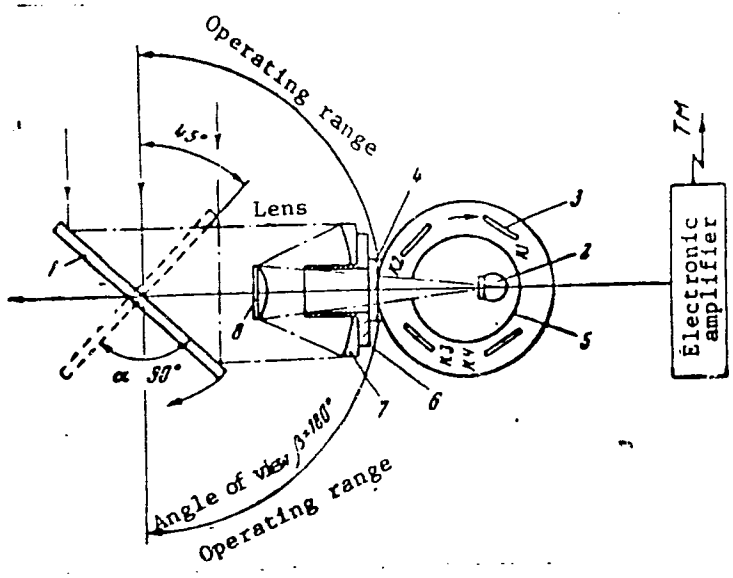
from the scanned region enters a slotted rectangular iris diaphragm, whose sides are in the ratio of 1:10 and 1:30, passes through a Cassegrainian reflector lens (effective diameter, 33 mm; focal length, 200 mm), and falls on the bolometer detector. The path between the bolometer and the lens is periodically interrupted by filters arranged nonsymmetrically along the drum circumference and rotated at 7 rps. Such an arrangement produces pulsed signals at the output of the bolometer.

Card 3/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340



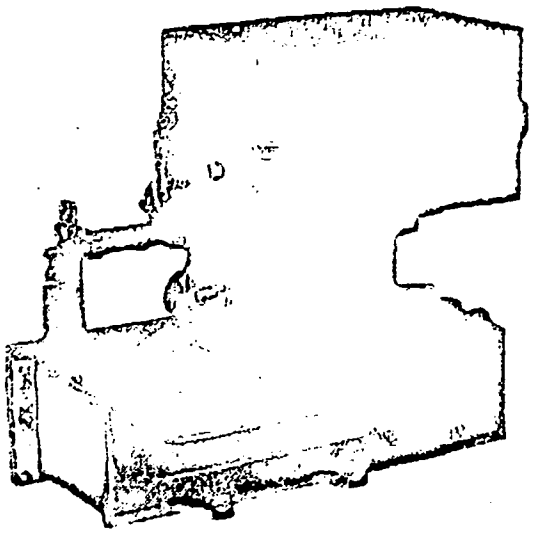
Card 4/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

1a



1b

Card 5/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

Fig. 1. Diagram and photograph of spectrometer

1 - Scanning mirror; 2 - bolometer; 3 - modulating filter; 4 - concentrating window; 5 - slotted diaphragm; 6 - internal tube; 7 - spherical mirror 1; 8 - spherical mirror 2.

The filters — thin crystal plates — separate out different infrared spectrum bands. Four filters were used: a quartz crystal 1 mm thick with bandpass between 4.5 and 38 μ; a 0.7-mm lithium fluoride crystal (8.5 to 38 μ); a 0.7-mm fluorite crystal (12.5—38 μ), and a nontransparent metallic plate with bandpass between 0.8 and 38 μ. The bolometer has a sensing element made of a 0.3 x 9 mm calcium bromide crystal plate 1 mm thick which determines the upper cut-off wavelength. It has a time constant of 5—7 msec, a resistance of 1000 ohms, and a conversion factor of 40 v/w. At a modulating frequency of 30—40 cps, its detectivity is 1.5×10^9 $(cps \cdot cm)^{1/2}/w$.

The pulsed signals from the bolometer are amplified by a vacuum tube amplifier with two outputs. The permalloy-shielded amplifier has a voltage gain, passband, and sensitivity threshold of approximately 10^6, 0.5—200 cps, and 10^{-9} v/cps, respectively. To keep the sensitivity constant, the detector-amplifier combination is periodically calibrated by means of light from an

Card 6/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

incandescent lamp. Calibration is accomplished at instants when the scanning mirror is directed at the horizon. The power consumption of the bolometer-amplifier combination is 0.5 w. The two outputs from the amplifier drive two magnetic oscillograph channels (see Fig. 2a) which record the infrared radiation in two sensitivity ranges. The recording film transport speed is 25 mm/sec; the roll contains 100 m of film. The length of scanning is controlled by a special unit (see Fig. 2b) which stops both the scanning system and the recorder during the intervals between recording sessions. The measurement accuracy for total radiation is ±1%, which corresponds to a change in effective temperature of the radiating object of only 0.8°K. However, the error in determining the radiation in narrow sub-bands (±2 μ) which were within the spectrum under investigation was ~±6%. The total weight of the equipment is approximately 10 kg.

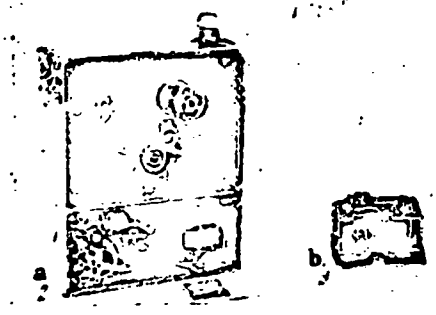


Fig. 2. Magnetic oscillograph (a) and control unit (b)

The experimental data obtained by the satellite were in the form of 10,000 high-quality spectroscopic samples. On the basis of these data, a

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

table was prepared of the radiation flux corresponding to the radiation from 1 m^2 of the Earth's surface and the equivalent temperature corresponding to the black body temperature radiating the same flux. The readings from different spectra were subtracted to derive the following four narrow spectral bands especially tailored to trap different energies:

1) The 0.8—4.5-μ band, where half of the energy from the Sun is concentrated. The thermal radiation from the Earth is small, however (only a fraction of a percent of the total terrestrial radiation). When the upper layer of the atmosphere is scanned, hydroxyl radiation may be registered here.

2) The 4.5—8.5-μ band, where, for a black body temperature of 250°K, 10% of total terrestial radiation is found. The absorption bands of H_2O, NO, N_2O, CH_4, and OH fall within this range.

3) The 8.5—12.5-μ band (atmospheric window) covers the absorption band of water vapor and O_2 (10—15% of the total). In 75% of the cases, radiation from clouds is recorded in this band.

4) The 12.5—38 μ band overlaps the CO_2 absorption band. Of the total

Card 8/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

radiation registered here, 80—90% is due to water vapor.

The data obtained are subdivided into two types according to angle of view. On the basis of data of the first type (angle of view less than 1—1.5 rad from the direction of the nadir), radiation due to the Earth and the atmosphere, including clouds, may be analyzed. Data of the second type (angle of view close to the horizontal) make it possible to analyze the free atmosphere and, particularly, the effects of the ionosphere.

Type 1 Data

Table 1 shows the average radiation flux Q, equivalent temperature $T_{eq.}$, and the radiation spectrum density I for various climatological conditions and geographic locations. The view angle corresponding to this data was 0.6—0.8 rad from the direction of the nadir. It can be seen that there is no conspicuous variation in the table entries for different conditions. The variation in the radiation flux and temperature is greatest in the atmospheric window band. The average temperature in this band (276°K) is in good agreement with temperatures measured by the Tiros III satellite by Nordberg et al. (Nordberg, W., W. K. Bandeen, B. J. Conrath, V. Kunde, and I. Persano. Preliminary results of radiation measurements from the Tiros III Meteorological Satellite. Journal of the atmospheric sciences, v. 19, no. 1, 1962, 2 -30.

Card 9/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

The most interesting results were observed in the 4.5–8.5 μ band: in this band inversion attains values of 40–45°K, and the average equivalent temperature (277°K) is somewhat higher than expected if the main contribution is considered to be the radiation due to water vapor from the upper troposphere and stratosphere. The temperature in the 4.5–8.5 μ band was considerably higher in the Southern hemisphere and during the night. In 20–30% of the cases studied, the equivalent temperature in the 4.5–8.5 μ band exceeds the temperature in the atmospheric window band (8.5–12.5 μ).

From the temperature correlation data, it was established that the same atmospheric radiation components contribute to the radiation flux for both the 8.5–12.5 and 12.5–38 μ bands. However, the radiation registered in the 4.5–8.5 μ band was not recorded in the other bands. This gave rise to speculation that the radiation in this band is due to the products of dissociation of H_2O, NO, and N_2O.

Card 10/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

Table 1.

Spectrum band, μ	$Q_{1,2}$ w/m²	T_{eq}, °K	I_{λ}, w/m²·μ
Northern hemisphere			
4,5—38	243	254,5	7,25
4,5—8,5	36	268	9
8,5—12,5	56	271	14
12,5—38	138	245,5	5,4
Southern hemisphere			
4,5—38	247	255,5	7,38
4,5—8,5	53	284	13,3
8,5—12,5	66	281	16,5
12,5—38	135	244,5	5,3
Day			
4,5—38	245	255	7,3
4,5—8,5	33	265	8,25
8,5—12,5	64	279	16
12,5—38	144	249	5,65
Night			
4,5—38	245	255	7,3
4,5—8,5	57	287	14,2
8,5—12,5	57	273	14,2
12,5—38	139	241	5,45
Land			
4,5—38	267	261	8
4,5—8,5	48	279	12
8,5—12,5	78	283	18,1
12,5—38	146	254	5,7
Oceans			
4,5—38	222	250	6
4,5—8,5	44,7	276	11,2
8,5—12,5	55,3	268	13,8
12,5—38	123	238	4,8
Average			
4,5—38	245	255	7,3
4,5—8,5	45	277	11
8,5—12,5	62	276	15,5
12,5—38	137	245	5,35

The average albedo for scanning angles of 0.3–0.8 rad was 39%, the average absorbed radiation from the sun was 600 w/m², and the radiation reflected into space was 230 w/m². In all cases except one, the incoming radiation was greater than the outgoing radiation. The exception was accompanied by a high value of the albedo and its variation (10–20%).

Card 11/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

Type II Data

Analysis of data on the effective altitude of the radiating atmosphere shows that it depends on the climatological and geographic conditions directly below the point in question. The angle of view for these data was close to the horizontal. The angular distribution in the spectral bands corresponding to water vapor absorption bands indicates that the effective altitude of the radiating atmosphere is greater for a sighting in the direction of a body of water on the Earth's surface than it is for a sighting in the direction of a land mass. The altitudes were 93 km for the regions south of Japan and 51 km for the Australian desert. This finding confirms the assumption made by Bazhulin, P. A. et al. (Bazhulin, P. A. (deceased), A. V. Kartashev, and M. N. Markov, The angular and spectral distribution of terrestrial radiation in the infrared radiation spectrum. IN: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moskva, 1965. Trudy. Issledovaniya kosmicheskogo prostranstva (Transactions of the All-Union Conference on Space Physics. Moscow, 1965. Space research). Moskva, Izd-vo nauka, 1965, 94-104.) concerning the presence of water vapor at an altitude of 100 km and the dependence of its concentration on the humidity conditions in large regions below.

Card 12/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6028340

The infrared radiation at altitudes of 280 km was studied, but the results must be considered only preliminary, since the experiment was of limited duration, the satellite trajectory was such that it covered both the illuminated and dark sides of the Earth, and the latitudes varied with height. Nevertheless, it was established that the infrared radiation is concentrated in the 4.5—8.5 μ band and that its maximum is somewhere between 250 and 300 km. The total infrared radiation measured in the 0.8—38 μ band was 150 w/m^2, a value which corresponds to a comparatively weak solar activity. Orig. art. has: 15 figures and 4 tables.
[FSB: v. 2, no. 10]

SUB CODE: 04,20,22 / SUBM DATE: 08Jan66 / ORIG REF: 007 / OTH REF: 005

Card 13/13

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6011141 SOURCE CODE: UR/0020/66/167/004/0803/0806

AUTHOR: Markov, M. N.; Merson, Ya. I.; Shamilev, M. R.

ORG: None

TITLE: A study of ionospheric layers in the infrared spectral region

SOURCE: AN SSSR. Doklady, v. 167, no. 4, 1966, 803-806

TOPIC TAGS: ionosphere, ionosphere layers, infrared phenomena, ionosphere infrared radiation, solar radiation, nitrogen oxide, ionospheric nitrogen oxide

ABSTRACT: This paper reports and interprets the results of a study of the Earth's and its atmosphere infrared radiation in the .8 - 40μ spectral region, - into the cosmic space. The infrared radiation was measured at various heights (25 to 500 km), at various points and in various directions. The results of measurements are summarized as follows: 1) maxima of IR power were observed at the altitudes of 250-300 km, 420-450 km, and near 500 km; 2) the IR radiation energy was concentrated in the spectral region between 2.5 and 8μ ; 3) The maximum derectional radiation intensity was along the layer tangent, equal to $(3 - 7)10^2 w/m^2$; integrated over a layer ray length of about 1000 km., this is equal to an isotropic radiation of 10^{-3} ergs/sec per 1 cm^3 of air; 4) the radiation intensity depends upon the solar radiation; it is correlated with the solar activity. Because of lack of reliable data on the composition of the atmosphere at great heights, interpretation of the obtained results is proposed on the

Card 1/2 UDC: 550.338

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ACC NR: AP6011431

basis of a simplified atmosphere model, which has a) 3 layers, 5 km thick, at 280, 420 and 500 km.b) no absorbing gases between the radiating layers. With some minor additional assumptions it is then possible to compute the expected angular dependence of the radiation at various heights. It is shown that the model delivers a satisfactory correspondence between the computed and the observed results. The possible mechanisms of the radiation are discussed, with the conclusion that the NO ions and molecules have a decisive participation in the radiation process. The effective temperature, detemined on the absorption band of NO, is of the order of 2000°K. The activation source, by exclusion on the basis of energies involved, is thought to be the corpuscular solar flow having peak enegies, in the atmosphere, of thousands of ergs/sec.cm^2. The correlation of the IR radiation of the ionosphere with the flasnes at the central meridian of the Sun can be considered as established. Orig. art. has 2 figures, 1 table.

SUB CODE: 04, 20/ SUBM DATE: 21Ju165/ ORIG REF: 007/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M. P.

Markov, M. P. - "A rapid method for making micropreparati ns of living diptera grubs with full exposure of the tracheal system," Trudy Stavrop. s.-kh. in-ta, Issue 3, 1948, p. 39-42

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)- under heading Biology-Zoology, item [illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M. P.

Fish Culture

Installation for producing live feed for pondfish, Ryb. khoz., 29 no. 3, 195[illegible]

MONTHLY LIST OF RUSSIAN ACCESSIONS. Library of Congress, July 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, Moisey S.

"Application Limit of theory of Weak Interactions"

"Weak Interactions and Experiments with High Energy Lepton Beams"

"High Energy Neutrino Physics."

"Time as an Operator."

papers presented at the Intl Conference on High Energy Physics, Rochester, N.Y. and/or Berkly California, 25 Aug - 16 Sep 1960.

Joint Inst. for Nuclear Reserch, Dubna, USSR

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV M.S.

AUTHOR: Markov, M.S. 5-4-8/15

TITLE: On Breccias in Metamorphic Formations (O brekchiyakh v metamorficheskikh tolshchakh)

PERIODICAL: Byulleten' Moskovskogo Obshchestva Ispytateley Prirody, Otdel Geologicheskiy, 1957, No 4, pp 129-131 (USSR)

ABSTRACT: The author studied Pre-Cambrian sediments in Central Kazakhstan and metamorphic formations in Malyy Khingan and found two types of breccias whose origin could be uniquely determined. The breccia-like sample from Central Kazakhstan presents an example of fluidity of a plastic substance interstratified between streaks of rigid rocks. The sample from Malyy Khingan had a different origin. When its limestone is re-crystallized the calcite appears in it, in coarse grains and of lighter color. During the initial phases of this process, when the limestone is not yet completely re-crystallized, the calcite in it is distributed in the form of light streaks crossing the darker limestone in various directions. Its calcite streaks also cross one another and the rock acquires a breccia-like structure.

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

On Breccias in Metamorphic Formations 5-4-8/15

The article contains 3 photos and 3 references, two of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, [illegible] Sci-- [illegible]) " [illegible]

formation of the [illegible] syneli[illegible]rium. ([illegible])."

Mos, 195[illegible]. [illegible] (Acad Sci USSR. [illegible]

([illegible], [illegible])

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

AUTHOR: Markov, M.S. [illegible]

TITLE: On the Stratigraphy and Tectonic Position of Jaspilite Strata of the Karsakpay Synclinorium (O stratigrafii i tektonicheskom polozhenii dzhespilitovykh tolshch Karsakpayskogo sinklinoriya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1956, No. 1, pp 30-45 (USSR)

ABSTRACT: This article deals with the structure and tectonic distribution of jaspilite (ferrous quartzites) in Pre-Cambrian deposits of the Karsakpay synclinorium. This synclinorium presents elongated structure in the meridional and north-north-western direction, 320 km long and 30 to 15 km wide. Its eastern wing is gradual Its western wing steeper. Its structure is complicated by numerous breaks. The breaks in meridional direction are the natural limits of big Pre-Cambrian folding structures. Ferrous quartzites are found in 5 suites. Three suites are composed mainly of metamorphized volcanogenous rocks, and the [illegible] Burmasha-say and Karsakpay suites are of complicated formation. The Burmasha-say suite is composed of very different rocks formed as a result of the metamorphism of various effusive and sedimentary formations. Near the break in a meridional direction, the amount of effusives increases, and to the east direction

Card 1/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

they are replaced by tuffs. It is possible that this zone, at the time of formation of the rocks of the Purmasha-say suite, was the place of lava outflow. The deposits of the Karsakpay suite fill the synclinal structures located on the wings. The suite is composed of different rocks (quartzites, various schists and marbles) which resulted from metamorphism of silica-argillaceous rocks. The composition of the suite varies. Volcanic sections rich in ferrous quartzites were found in the central part of the synclinorium and almost disappear in its elevated parts. The author cites the works of N.S. Chatskiy (Ref. 23 and 24) who divided all ferrous quartzite (Jaspilite) formations into two groups: the first - of volcanogenic-sedimentary origin, into: a) silica-shist type formations, and b) distant siliceous type formations; and the second - of sedimentary origin. The author accepts his conception. At least two strata of ferrous quartzites of the Karsakpay synclinorium belong to the first group. The ferrous quartzite deposits of the Purmasha-say suite form a separate group together with the complex of siliceous, silica-argillaceous and carbonaceous formations. For this group,

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

11-58-4-7/16

On the Stratigraphy and Tectonic Position of Jaspilite Strata of the Karsakpay Synclinorium

of Keewatin type, a close connection with the greenstone formation is very characteristic. A short review of all known deposits of jaspilites in the world confirms - according to the author - the theory of N.S. Shatskiy.
There are 6 graphs and 35 references, 27 of which are Soviet, 6 American and 2 Indian.

ASSOCIATION: Geologicheskiy institut AN SSSR, Moskva (The Moscow Geological Institute, AS USSR)

SUBMITTED: September 1, 1957

Card 3/3

1. Jaspilite - Sources 2. Jaspilite - [illegible]
3. Jaspilite - Classification 4. [illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.S.

Jaspilite formation of the volcanic siliceous series in the Karsakpay synclinorium. Zakonom. razm. polezn. iskop. 2:221-243 '59. (MIRA 15:4)

1. Geologicheskiy institut AN SSSR.
(Karsakpay region--Jaspilite)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

LEYTES, A.M.; MARKOV, M.S.

In the Geological Institute of the Academy of Sciences of the U.S.S.R.; sixtieth anniversary of the birth of E.V.Pavlovskii. Izv. AN SSSR. Ser.geol. 26 no.8:128 Ag '61. (MIRA 14:9)
(Pavlovskii, Evgenii Vladimirovich, 1801-)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.S.

Scientific council of the Geological Institute. Vest. AN SSSR 31 no.2:105-106 F '61. (MIRA 14:2)
(Geology)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, Mark Solomonovich; SHTREYS, N.A., otv.red.; TUGOLESOV, D.A., red. izd-va; YEGOROVA, N.F., tekhn.red.

[Tectonics of the southern part of the Karsakpay synclinorium] Tektonika iuzhnoi chasti Karsakpaiskogo sinklinoriia. Moskva, Izd-vo Akad.nauk SSSR, 1962. 138 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.72). (MIRA 15:7)
(Karaganda Province--Geology, Structural)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

GLUKHOVA, V.A.[translator]; KUDRYAVTSEV, V.A.[translator]; MARKOV, M.S.[translator]; MOISEYEVA, V.M.[translator]; KELLER, B.M., red.; ROMANOVICH, G.P., red.; KHAR'KOVSKAYA, L.M., tekhn. red.

[Ancient rocks of China]Drevneishie porody Kitaia; sbornik statei. Moskva, Izd-vo inostr.lit-ry, 1962. 305 p. Translated from the Chinese and English. (MIRA 15:9)
(China—Geology)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.S.

Development of the earth's crust in the Early-Pre-Cambrian as revealed by the studies of the Canadian Shield. Trudy VSGI Ser.geol. no.5:70-76 '62. (MIRA 15:9)

1. Geologicheskiy institut AN SSSR, Moskva.
(Canadian Shield—Earth—Surface)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ZHEMCHUZHNIKOV, Yuriy Apollonovich; BOTVINKINA, L.N., otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.; MISHINA, R.L., red.izd-va; YEGOROVA, N.F., tekhn.red.

[Seasonal varvity and peridiocity of sedimentation] Sezonnaia sloistost' i periodichnost' osadkonakopleniia. Moskva, Izd-vo Akad. nauk SSSR, 1963. 68 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.86). (MIRA 16:8)

1. Chleny-korrespondenty AN SSSR (for Zhemchuzhnikov, Peyve).
(Deep-sea sediments)
(Silt)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

GITERMAN, Roza Yevseyevna; ZAKLINSKAYA, Ye.D., otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.; RABINOVICH, L.A., red.izd-va; DOROKHINA, I.N., tekhn.red.

[Stages in the development of Quaternary vegetation in Yakutia and their stratigraphic significance] Etapy razvitiia chetvertichnoi rastitel'nosti IAkutii i ikh znachenie dlia stratigrafii. Moskva, Izd-vo Akad. nauk SSSR, 1963. 191 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.78). (MIRA 16:8)

1. Zaveduyushchaya laboratoriyey sporovo-pyl'tsevogo analiza Otdela chetvertichnoy geologii Geologicheskogo instituta AN SSSR (for Zaklinskaya). 2. Chlen-korrespondent AN SSSR (for Peyve).
(Yakutiya--Paleobotany, Stratigraphic)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MASLOV, Vladimir Petrovich; GOLLERBAKH, M.M., otv. red.; VAKHRAMEYEV, V. A., otv. red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.; VANYUKOVA, C.M., red. izd-va; CUS'KOVA, O.M., tekhn. red.

[Introduction to the study of fossil charophytes.] Vvednie v izuchenie iskopaemykh kharovykh vodoroslei. Moskva, Izd-vo Akad. nauk SSSR, 1963. 103 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no. 82). (MIRA 16:11)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

LEBEDEVA, Natal'ya Alekseyevna; NIKIFOROVA, K.V., otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.; NOSOV, G.I., red.izd-va; UL'YANOVA, O.G., tekhn.red.

[Continental Quaternary sediments in the Kuban-Azov trough and their association with marine formations] Kontinental'nye antropogenovye otlozheniia Azovo-Kubanskogo progiba i sootnoshenie ikh s morskimi tolshchami. Moskva, Izd-vo Akad. nauk SSSR, 1963. 104 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.84). (MIRA 16:10)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

GURARIY, G.Z.; SOLOV'YEVA, I.A.; KROPOTKIN, P.N., otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.

[Crustal structure according to geophysical data] Stroenie zemnoi kory po geofizicheskim dannym. Moskva, 1963. 125 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.98). (MIRA 17:4)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

KHERASKOV, Nikolay Pavlovich; YANSHIN, A.L., akademik, otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.

[Some general characteristics of the structure and development of the earth's crust] Nekotorye obshchie zakonomernosti v stroenii i razvitii struktury zemnoi kory. Moskva, 1963. 116 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.91). (MIRA 17:4)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

BOGDANOV, Nikita Alekseyevich; PUSHCHAROVSKIY, Yu.M., otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P. P., red.; GALUSHKO, Ya.A., red.izd-va; RYLKINA, Yu.V., tekhn.red.; DOROKHINA, I.N., tekhn.red.

[Tectonic development of the Kolyma Massif and eastern Arctic in the Paleozoic.] Tektonicheskoe razvitie va paleozoe Kolymskogo massiva i Vostochnoi Arktiki. Moskva, 1963. 234 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.99). (MIRA 17:2)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

SOLOV'YEVA, Mariya Nikolayevna; RAUZER-CHERNOUSOVA, D.M., doktor geol.-mineral.nauk, otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.; KOTLYAREVSKAYA, P.S., red.izd-va; NOVICHKOVA, N.D., tekhn.red.; KASHINA, P.S., tekhn.red.

[Stratigraphy and the zone of fusulinids of Middle Carboniferous sediments in Central Asia] Stratigrafiia i fuzulinidovye zony srednekamennougol'nykh otlozhenii Srednei Azii. Moskva, Akad. nauk SSSR. 1963. 132 p. fold. diagrs. inserted. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no.76). (MIRA 16:10)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

RENGARTEN, V.P.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, red.; TIMOFEYEV, P.P., red.

[Representatives of the family Ostreidae in the Cretaceous [illegible] of the Lesser Caucasus], Predstaviteli semeistva ustrichnykh v melovykh otlozheniiakh Malogo Kavkaza. Moskva, 1964. 87 p. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no. [illegible]). (MIRA [illegible])

1. Chleny-korrespondenty AN SSSR (for Rengarten, Peyve).

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

BURTMAN, Valentin Semenovich; PEYVE, A.V., otv.red.; MARKOV, M.S., red.
MENNE V.V., red.; TIMOFEYEV, P.P., red.

[Talas-Fergana fault (TienShan)]. Talaso-Ferganskii sdvig (Tian'-Shan'). Moskva, Izd-vo "Nauka," 1964. 142 p.(akademiia nauk SSSR. Geologicheskii institut. Trudy, no. 104) (MIRA 17:6)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

TIMOFEYEV, P.P.; KHVOROVA, I.V., otv. red.; PETUR, A.V., akademik, [illegible] red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, [illegible]

[Jurassic coal-bearing formation of the Tuva intermontane depression.] IUrskaia uglenosnaia formatsiia Tuvinskogo mezhgornogo progiba. Moskva, Nauka, 1964. 260p. (Akademiia nauk SSSR Geologicheskii institut. Trudy, no.94).

(MIRA 18:3)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ZABOROVSKAYA, N.B.; LIPKOV, L.Z.; MARKOV, M.S.; NEKRASOV, G.Ye.

Genesis of the Cretaceous structures of the Taygonos Peninsula. Geotektonika no.6:56-68 N-D '65. (MIRA 19:1)

1. Geologicheskiy institut AN SSSR i Severo-Vostochnoye geologicheskoye upravleniye. Submitted May 25, 1965.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

[illegible]BOR[illegible]YA, N.E. [illegible]

Minor dislo[illegible] and their relation [illegible]
large structures. [illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

KRASILOVA, Irina, Nikolayevna; KELLER, B.M., otv.red.; PEYVE, A.V., glavnyy red.; MARKOV, M.S., red.; MENNER, V.V., red.; TIMOFEYEV, P.P., red.; MIRAKOVA, L.V., red.izd-va, GUS'KOVA, O.M., tekhn.red.

[Stratigraphy and Upper Silurian and Lower Devonian pelecypods of the northwestern Lake Balkhash region.] Stratigrafiia i pelecipody verkhov silura i nizhnego devona Severo-Vostochnogo Pribalkhash'ia. (Akademiia nauk SSSR. Geologicheskii institut. Trudy, no. 75). '63. (MIRA 17:2)

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

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

[illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

NEFRIMEROV, N.N.; SHARAGIN, A.G.; NUZHIN, M.T., prof., otv. red.; MARKOV, M.T., prof., zamestitel' otv. red.; KASHTANOV, S.G., prof., red.; ARBUZOV, B.A., akademik, red.; AL'TSHULER, S.A., prof., red.; LIVANOV, N.A., prof., red.; NORDEN, A.P., prof., red.; PISAREV, V.I., prof., red.; TIKHVINSKAYA, Ye.I., prof., red.; BARYSHNIKOV, V.G., dots., red.; KOLESNIKOVA, Ye.A., dots., red.; KOLOBOV, N.V., dots., red.; MOROZOV, D.G., dots., red.; KHARITONOV, A.P., dots., red.; YUDIN, I.N., red.; SAMITOV, Yu.Yu., red.

[Investigations of wells and development of preventive paraffin control methods] Issledovanie skavazhiny i razrabotka preventivnykh metodov bor'by s parafinom. Kazan' 1957. 108 p. (Kazan. Universitet. Uchenye zapiski, vol. 117, no.3). (MIRA 11:5)

1. Rektor Kazanskogo gosudarstvennogo universiteta (for Nuzhin). 2. Prorektor po nauchnoy rabote Kazanskogo gosudarstvennogo universiteta (for Markov). 3. Prorektor po uchebnoy rabote Kazanskogo gosudarstvennogo universiteta (for Kashtanov). 4. Sekretar' partkoma Kazanskogo gosudarstvennogo universiteta (for Yudin).
(Oil wells) (Petroleum engineering)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

GAVRILKO, V.M.; MARKOV, M.V.

Practice of using plyform pipes to case wells. Razved. i okh. nedr 27 no.1:41-45 Ja '61. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii (for Gavrilko). 2. Gosudarstvennyy soyuznyy trest po burovym rabotam dlya vodosnabzheniya promyshlennosti Glavtekhmontazha Ministerstva stroitel'stva SSSR (for Markov).

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M. V.

MARKOV, M. V.....Rastitel'nost' Tatarii. Kazan', Tatgosizdat, 1943. 128 p.

SO: LC, Soviet Geography, Part II, 1951/Unclassified

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V., professor.

Weed control in grassland rotations. Uch.zap.Kaz.un. 113 no.1:41-50 '53. (MLRA 10:3)
(Weed control) (Rotation of crops) (Grasses)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Interrelations of plants constituting a plant association. Bot.zhur. 40 no.2:161-167 Mar-Apr '55. (MLRA 8:7)

1. Kazanskiy Gosudarstvennyy universitet imeni V.I. Ul'yanova-Lenina. (Botany--Ecology)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V., professor.

Flora and vegetation of the Volga and Kama bottomlands within the boundaries of the Tatar A.S.S.R. Part 1. Uch.zap.Kaz.un. 115 no.1:5-30 '55. (MLRA 10:3)

(Tatar A.S.S.R.--Pastures and meadows)
(Alluvial lands)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.; FIRSOVA, M.I.

Trees and shrubs of the Volga and Kama bottomlands within the boundaries of the Tatar A.S.S.R. Uch.zap.Kaz.un. 115 no.5:5-94 '55. (MIRA 10:3)

(Tatar A.S.S.R.—Forests and forestry)
(Alluvial lands)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.; BELYAYEVA, V.; POPOVA, N.K.

Vegetation of the Volga and Kama bottomland waters within the boundaries of the Tatar A.S.S.R. Uch.zap. Kaz.un. 115 no.5:111-152 '55. (MLRA 10:3)

(Tatar A.S.S.R.—Fresh -water flora)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Vegetation of the lower Vyatka bottomlands. Uch.zap.Kaz.un. 116 no.1:186-190 '55. (MLRA 10:5)

1.Kafedra geobotaniki.
(Vyatka Valley--Botany--Ecology)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

USSR / Forestry. Biology and Typology of the Forest. K-2

Abs Jour: Ref Zhur - Biologiya, No. 1, 1958, 1322

Author : Markov, M.V.

Title : Oak Forests

Orig Pub: Sb.: Ocherki po geogr. Tatarii, Kazan', Tatknigoizdat, 1957, 245-252

Abstract: Going from west to east in the TaSSR the following changes are noted in the broadleaved forests: the oak forest is giving way to the linden-oak forest in which the oaks decline in quality due to increased winter evaporation. Steppe undergrowth appears, and its density increases. The grass cover develops more weakly, and the number of varieties increases with the introduction of the steppe varieties /? stepnyak/.

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Comparative study of soils of the Tatar A.S.S.R. by the use of phytometers. Uch. zap. Kaz. un. 117 no.9:227-231 '57.
(MIRA 13:1)

1.Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina. Kafedra geobotaniki.
(Tatar A.S.S.R.--Soils)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Apparatus for determining the air permeability of soil. Uch. zap. Kaz. un. 117 no.9:232-234 '57. (MIRA 13:1)

1.Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina. Kafedra geobotaniki.

(Soil aeration)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MAKKOV, M.V.

Concept of phytocoenotic dominants in works of Russian geobotanists [with summary in English]. Bot. zhur. 43 no.4:504-517 Ap '58. (MIRA 11:6)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina.

(Botany--Ecology)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Effect of subsurface flooding on meadow vegetation. Uch. zap. Kaz. un. 118 no. 5:3-91 '58. (MIRA 14:4)
(Pastures and meadows) (Water, Underground)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V., inzh.

Using thin-walled drive pipes in boring artesian wells.
Mont.i spets.rab.v stroi. 22 no.8:28-30 Ag '60.
(MIRA 13:8)

1. Trest Promburvod.
(Artesian wells) (Pipe)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Field method of determining the root pressure by the quantity of exuded sap. Bot. zhur. 45 no.10:1502-1503 O '60. (MIRA 13:11)

1. Kazanskiy gosudarstvennyy universitet imeni V.I. Ul'yanova-Lenina.

(Plants, Motion of fluids in)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Department of Geobotany and Plant Systematics. Uch.zap.Kaz.un. 120 no.3:3-22 '60. (MIRA 14:6)
(Tatar A.S.S.R.--Botanical research)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V., prof.; KULIKOVA, N.M., dots., red.; KUSURGASHEV, I.M., red.; GATAULLINA, R.Z., tekhn. red.

[Grasses of the Tatar A.S.S.R.(classification key); textbook for students of universities, pedagogical and agricultural institutes, agricultural and forestry workers, teachers and amateur ethnographers] Zlaki Tatarskoi ASSR (opredelitel'); posobie dlia studentov universitetov pedagogicheskikh i sel'skokhoziaistvennykh institutov, rabotnikov sel'skogo i lesnogo khoziaistva, uchitelei i kraevedov-liubitelei. Kazan', Izd-vo Kazanskogo univ., 1961. 71 p. (MIRA 15:1)

(Tatar A.S.S.R.—Grasses)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOVA, S.A.; MARKOV, M.V.

Studying the relationships of some meadow plants with the dock Rumex confertus Willd. Bot. zhur. 46 no.1:82-90 Ja '61. (MIRA 14:3)

1. Kazanskiy gosudarstvennyy universitet.
(Rumex) (Grasses) (Allelopathy)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

Interrelationships between plants in pure stands. Probl. bot. 6: 95-102 '62. (MIRA 16:5)

(Phytosociology)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, Mikhail Vasil'yevich, prof.; PROSKURYAKOVA, G.M., red.; GARINA, T.D., tekhn. red.

[General geobotany]Obshchaia geobotanika. Moskva, Gos.izd-vo "Vysshaia shkola," 1962. 449 p. (MIRA 15:9)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina (for Markov).

(Plant communities)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

POLYANIN, V.A., prof., nauchn. red.; MARKOV, M.V., prof., nauchn. red.; TOROPOVA, V.F., prof., nauchn. red.; KLIMOV, Ye.A., red.

[Collection of papers of graduate students: natural sciences] Sbornik aspirantskikh rabot, estestvennye nauki. Kazan', Izd-vo Kazanskogo univ., 1965. 178 p. (MIRA 18:11)

1. Kazan Universitet.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

BARANOV, A.F., redaktor; BIZYUKIN, D.D., redaktor; VAKHNIN, M.I., otvetstvennyy redaktor toma, professor, doktor tekhnicheskikh nauk; VEDENISOV, B.N., redaktor; IVLIYEV, I.V., redaktor; MOSHCHUK, I.D., redaktor; RUDOY, Ye.F., glavnyy redaktor; SOKOLINSKIY, Ya.I., redaktor; SOLOGUBOV, V.N., redaktor; SHILEVSKIY, V.A., redaktor; ALFEROV, A.A., inzhener; ANASHKIN, B.T., inzhener; AFANAS'YEV, Ye.V., laureat Stalinskoy premii, inzhener; BELENKO, K.M., dotsent; BORISOV, D.P., dotsent, kandidat tekhnicheskikh nauk; ZHIL'TSOV, P.N., inzhener; ZBAR, N.R., inzhener; IL'YENKOV, V.I., dotsent, kandidat tekhnicheskikh nauk; KAZAKOV, A.A., kandidat tekhnicheskikh nauk; KRAYZMER, L.P., kandidat tekhnicheskikh nauk; KOTLYARENKO, N.F., dotsent, kandidat tekhnicheskikh nauk; MAYSHEV, P.V., professor, kandidat tekhnicheskikh nauk; MARKOV, M.V., inzhener; NELEPETS, V.S., dotsent, kandidat tekhnicheskikh nauk; NOVIKOV, V.A., dotsent; ORLOV, N.A., inzhener; PETROV, I.I., kandidat tekhnicheskikh nauk; PIVKO, G.M., inzhener; PO-GODIN, A.M., inzhener; RAMLAU, P.N., dotsent, kandidat tekhnicheskikh nauk; ROGINSKIY, V.N., kandidat tekhnicheskikh nauk; RYAZANTSEV, B.S., laureat Stalinskoy premii, dotsent, kandidat tekhnicheskikh nauk; SHARSKIY, A.A., inzhener; FEL'DMAN, A.B., inzhener; SHASTIN, V.A., laureat Stalinskoy premii, inzhener; SHUR, B.I., inzhener; GONCHUKOV, V.I., inzhener, retsenzent; NOVIKOV, V.A., dotsent, retsenzent; AFANAS'YEV, Ye.V., laureat Stalinskoy premii, retsenzent;

[Technical handbook for railroad men] Tekhnicheskii spravochnik zheleznodorozhnika. Vol. 8. [Signaling, central control, block system, and communication] Signalizatsiia, tsentralizatsiia, blokirovka, sviaz'. Red. kollegiia A.F.Baranov [i dr.] Glav.red. E.F.Rudoi. Moskva, Gos. transp. zhel-dor. izd-vo, 1952. 975 p.

(Continued on next card)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

BRYLEYEV, A.M., laureat Stalinskoy premii, inzhener; GAMBURG, Ye.Yu., inzhener, retsenzent; GOLOVKIN, M.K., inzhener, retsenzent; KAZAKOV, A.A., kandidat tekhnicheskikh nauk, retsenzent; KUT'IN, I.M., dotsent, kandidat tekhnicheskikh nauk, retsenzent; LEONOV, A.A., inzhener, retsenzent; SEMENOV, N.M., laureat Stalinskoy premii, inzhener, retsenzent; CHERNYSHEV, V.B., inzhener, retsenzent; VALUYEV, G.A., inzhener, retsenzent; METTAS, N.A., laureat Stalinskoy premii, inzhener, retsenzent; NOVIKOV, V.A., dotsent, retsenzent; PIVOVAROV, A.L., inzhener, retsenzent; POGODIN, A.M., inzhener, retsenzent; KHODOROV, L.R., inzhener, retsenzent; PIVOVAROV, A.L., inzhener, retsenzent; POGODIN, A.M., inzhener, retsenzent; KHODOROV, L.R., inzhener, retsenzent; SHUPLOV, V.I., kandidat tekhnicheskikh nauk, retsenzent; KLYKOV, A.F., inzhener, retsenzent; YUDZON, D.M., tekhnicheskiy redaktor; VERINA, G.P., tekhnicheskiy redaktor.

[Technical handbook for railroad men] Tekhnicheskii spravochnik zheleznodorozhnika. Vol. 8. [Signaling, central control, block system, and communication] Signalizatsiia, tsentralizatsiia, blokirovka, sviaz'. Red. kollegiia A.F.Baranov [i dr.] Glav.red. E.F.Bidoi. Moskva, Gos. transp. zhel-dor. izd-vo, 1952. 975 p. (Card 2) (MLRA 8:2)
(Railroads--Signaling) (Railroads--Communication systems)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M.V.

621.395.82 : 621.332

3415. Experiments for clarifying the influence on communication systems of electric railways operated with a.c. M. I. MIKHAILOV, M. V. MARKOV AND L. D. RAZUMOV. *Elektrichestvo*, 1954, *No.* 4, 23–8. *In Russian.*

The effect of d.c.-operated railways on communication lines further than 50–60 cm from the railway track may be suppressed by the usual smoothing filters in the traction substations, whereas the interference range of 1-ph. railways extends to 2–3 km. Theoretically the voltage induction effects of the longitudinal e.m.f. of an overhead or cabled traction system operated at 22 kV 1-ph. on telephone lines disappear at a distance of ~100 m. However, the current induction (magnetic field) effects extend far beyond this distance. Comprehensive measurements reported on a railway contact system and neighbouring telephone lines dealt with the longitudinal e.m.f. in relation to mutual approach of lines and earth resistivity, noise voltage in the telephone lines *v.* approach, earth resistivity and form factors of current voltage curves. The investigations also comprise screening effect of return lead depending on position of telephone wire, variation of effective and psophometric voltages *v.* variation of currents and influencing loop lengths during the movement of electric locomotives of various types. In most respects the measurements confirmed theory, so that all the effects are, in general, predictable. The only promising protective measure is the cabling of telephone lines where they approach the track below a determined critical distance.

B. F. KRAUS

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, M V

6(7), 12(3), 28(1) PHASE I BOOK EXPLOITATION SOV/1526

Snarskiy, Aleksey Antonovich, and Modest Vladimirovich Markov

Linii avtomatiki, telemekhaniki i svyazi na zheleznodorozhnom transporte (Automation, Remote Control, and Communication Lines in Railroad Transportation) Moscow, Transzheldorizdat, 1958. 389 p. 7,000 copies printed.

Eds.: V.M. Nefedov, Engineer, and L.P. Stroganov, Engineer; Tech. Ed.: Ye.N. Bobrova.

PURPOSE: This book was approved by the Main Administration of Educational Institutions of MPS (Ministry of Railroads) as a textbook for the departments of "Automation and Remote Control in Railroad Transportation" and "Wire Communication" at tekhnikums. It is intended to give the students the necessary theoretical and practical information necessary for planning, constructing and operating these facilities.

COVERAGE: The book contains material on automation and remote control in railroad transportation, and wire communication. It is divided into three sections: the first section deals with overhead lines,

~~Card 1/16~~

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

SOV/1526

Automation, Remote Control (Cont.)

the second with underground cables, and the third with the protection of overhead lines and cables. The author discusses a number of special problems, such as the use of reinforced concrete supporting structures, the distribution of power lines of the interlocking system on poles of the contact network, and protection of communications equipment of railroad sections supplied by single-phase a-c current. Beginning with 1930 theoretical and experimental work on problems of telemechanics and communications has been carried on in the USSR. Contributions in this field were made by P.K. Akulishin, A.D. Apanasenko, A.N. Gumel', V.Z. Malyshev, V.A. Norvikov, P.A. Frolov, and others. Their work made it possible to introduce wire communication between Moscow and Vladivostok, a distance of 9500 km. Theoretical and experimental work on balancing was done by V.N. Kuleshov, V.Z. Malyshev, N.Ye. Pleshkov, V.O. Shvartsman, and others. Problems of protection of communication lines against interference from h-v lines were studied by P.A. Azbukin, M.I. Mikhaylov, N.N. Mirolyubov, and others. Problems of protection of communication lines against interference from harmonic components of rectified currents (used exclusively for electric traction in the USSR until 1955) were studied by V.A. Solov'yev, N.M. Petisov, and M.A. Chernyshev. Ye.N. Petrinskiy and I.S. Grachev worked on additional measure

Card 2/16

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

for protection of communication line equipment. Finally, electrolysis-preventive measures were studied by P.A. Azbukin, I.M. Yershov, M.I. Mikhaylov, and others. Since 1955 electrification of Soviet railroads has been accomplished with a-c, single-phase current and the replacement of overhead lines with underground cables. The Introduction, Section I "Overhead Lines," and Chapters III and IV of Section III "Protection of Overhead Lines and Cable Lines" were written by A.A. Snarskiy; Section II "Cable Lines" and Chapters I, II, V, VI, VII and VIII of Section III "Protection of Overhead Lines and Cable Lines" were written by M.V. Markov. There are no references.

TABLE OF CONTENTS:

From the Authors

Introduction 3

SECTION I. OVERHEAD LINES 4

Ch. I. Classes of Overhead Lines, Their Classification and Types 7
1. General information 7

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

KATSALAPENKO, Valentin Ivanovich; MARKOV, M.V., inzh., retsenzent; NOVIKAS, M.N., inzh., red.; KHITROVA, N.A., tekhn. red.

[Selective communication apparatus] Apparatura izbiratel'noi sviazi. Izd.2., perer.i dop. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 167 p. (MIRA 14:12)

(Telephone) (Railroads—Communication systems)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

S/106/61/000/012/008/010
A055/A127

6,7000

AUTHORS: Mikhaylov, M. I., Razumov, L. D., Markov, M. V.

TITLE: Calculation method for a electrified railway interferences in communication lines

PERIODICAL: Elektrosvyaz', no. 12, 1961, 56 - 61

TEXT: Harmonics 13 to 23 of the interfering current being taken into consideration (according to the provisional specifications) in the case of double-track railways, the following formula is used:

$$U_{noise} = \sqrt{\sum_{k=13}^{23} (p_k U_{Tk})^2} \text{ volts} \qquad (1)$$

where p_k is the coefficient of acoustic effect at the frequency of the k-th harmonic, and U_{Tk} is the voltage between the wires of a two-wire communication circuit, induced by the k-th harmonic of the interfering current. After reproducing the formulae giving U_{Tk} for lines of any length and for short lines respectively, and also the formula for the current I_k (of the k-th harmonic component of the

Card 1/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

31204
S/106/61/000/012/008/010
A055/A127

Calculation method [illegible] a [illegible] electrified [illegible]

interfering current), the authors speak of the approximate method of calculation, where the interfering current is assumed equal to an equivalent current at 800 cps which must induce in the communication line the same noise-voltage as the working current with all its harmonics. They say that the formula recommended by the International Telephone and Telegraph Consultative Committee for the calculation of the equivalent current is not quite accurate. Indeed, the psophometric value of the interfering current:

$$I'_{psoph.} = \sqrt{\sum_{k=3}^{35} (p_k I_k)^2} \text{ amp.} \qquad (6)$$

cannot be considered as expressing the equivalent interfering current, because it does not take into account some of the electric magnitudes that enter into the formula giving U_{Ik} - i.e. ω, γ (propagation constant), η (coefficient of sensitivity to interferences of a two-wire telephone circuit), M (average mutual induction coefficient), r (resulting screening effect coefficient) - all of these magnitudes depending on frequency. It is necessary therefore to multiply I'_{psoph} by a correction factor. This correction factor is:

Card 2/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

$$k_{corr} = \frac{U_{T\ harm}}{U_{T\ 800}} \qquad (8)$$

and:

$$I_{equiv} = k_{corr} I'_{psoph.}\ \text{amp.} \qquad (10)$$

Here are some of the conclusions drawn by the authors: For overhead communication lines, all the harmonic components must be taken into account in the calculation. For cable lines, formula (1) can be used. The correction factor varies but slightly, whatever the conditions might be; it differs but slightly from unity. In an overwhelming majority of cases, it varies between 0.9 and 1.2. When the distance between the railway and the communication line is below 500 meters, k_{corr} can be taken equal to 1.15; for distances $\geqslant$ 500 meters, $k_{corr} = 1$. The importance of the frequency characteristic of the sensitivity coefficient of the line to interferences must be stressed: the greater is the frequency-dependence of the sensitivity coefficient, the greater will be the correction factor. There are 4 figures, 1 table and 1 Soviet-bloc reference.

SUBMITTED: February 8, 1961

Card 3/3

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

LAVROV, M.I.; NUZHIN, M.T., prof., otv.red.; MARKOV, M.V., prof., red.; DUBYAGO, A.D., prof., red.; ARBUZOV, A.Ye., akademik, red.; NORDEN, A.P., prof., red.; PISAREV, V.I., prof., red.; TIKHVINSKAYA, Ye.I., prof., red.; PARYSHNIKOV, V.G., dotsent red.; KOLESNIKOVA, Ye. A., dotsent, red.; KOLOBOV, N.V., starshiy prepodavatel', red.; MOROZOV, D.G., dotsent, red.;

[Some statistical regularities of variable stars and their physical interpretation]. Nekotorye statisticheskie zakonomerr ti u zatmennykh peremennykh zvezd i ikh fizicheskoe istolkovar'e. Kazan', 1955. 63 p. (Kazan. Universitet. Astronomicheskaia observatoriia. Biulleten', no. 31) (MIRA 15:10)

1. Rektor Kazanskogo ordena Trudovogo Krasnogo Znameni gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina (for Nuzhin). 2. Prorektor po nauchnoy rabote Kazanskogo ordena Trudovogo Krasnogo Znameni gosudarstvennogo universiteta im. V.I.Ul'yanova-Lenina (for Markov).

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

L 36340-66 EWT(1)/EWT(m)/T/FSS-2/EWP(t)/ETI IJP(c) JD

ACC NR: AP6015779 (A,N) SOURCE CODE: UR/0048/66/030/005/0840/0842

AUTHOR: Polivanov, V. V.; Gerchikova, I. I.; Markov, M. Ye.; Gilim, N. N.

ORG: none

53
B

TITLE: A precision electronic dc current regulator /Report, Fifth All-Union Conference on Electron Microscopy held in Sumy 6-8 July 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 5, 1966, 840-842

TOPIC TAGS: current stabilization, direct current, electron microscopy

ABSTRACT: The authors describe a series-type vacuum tube current regulator capable of supplying 0.4 to 0.8 A of regulated current with a drift after a 40 minute warm up of less than one part per million per minute and not more than five parts per million per hour. The instrument featured a type 70-AMTsG-1.3 battery for the reference voltage, a precision potentiometer with which the current could be adjusted in steps of 2 to 4 parts per million, a dc amplifier of which the first stage was a parallel balanced circuit each branch of which was connected as a compensation circuit with a large cathode resistor, and preregulation of the heater current. By using this regulator to supply the objective lens of a type EMV-150 electron microscope it was possible for the first time to achieve a resolving power of 5 A with a Soviet microscope. Orig. art. has: 4 figures.

SUB CODE: 20, 09/ SUBM DATE: 00/ ORIG REF: 000/ OTH REF: 000

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N. A. Docent 189T22

USSR/Electricity - Arc Furnaces May 51
Circuit Analysis

"Determining Circuit Parameters of Three-Phase Electric Arc Furnaces," Docent N. A. Markov, Kuybyshev Ind Inst imeni Kuybyshev

"Elektrichestvo" No 5, pp 31-33

Present methods for detg circuit parameters are complicated and do not give actual values of the parameters under furnace operating conditions. Suggests method of detg circuit parameters under asym working conditions using std elec measuring instruments available in elec furnace installations. Submitted Oct 50.

189T22

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N. A.

The following is among dissertations of the Leningrad Polytechnic Institute imeni Kalinin:

"Use of Voltage between Phases as a Parameter of the Power Control of a Three-Phase Electric-Arc Furnace." 9 June 1952. Investigations have shown complete possibility of the use of the voltage between phases as a parameter of furnace control. This results in improved control and operation of three-phase furnaces.

SO: M-1048, 28 Mar 56

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

[illegible]

7723. Zakharik, [illegible] Markov, [illegible].-[illegible] trifikatsiya sel'skogo khozyaystva orlovskoy oblastn. orel, (orlov. Pravda), 1954. 32 s; 1L Kart, 20 sm. (Orlov. Obl. lekcionnoye buro. 2.[illegible] ekz. Gespl.-(55-[illegible]) [illegible] 631.37:[illegible] ([illegible])

SO: Knizhnaya Letopis', Vol. 7, [illegible]

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N.A.

AID P - 605

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 9/35

Author : Markov, N. A., Kand. of Tech. Sci., Dotsent, Kuybyshev

Title : Analytical method of determination of unbalanced load conditions for three-phase electric arc-furnaces

Periodical : Elektrichestvo, 8, 47-51, Ag 1954

Abstract : The method of computation concerns the circuits with different phase resistances and asymmetrical sinusoidal currents and arc voltages. 3 diagrams, 3 Russian references (1946-1951).

Institution : Kuybyshev Industrial Institute im. Kuybyshev

Submitted : D 21, 1953

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV N. A.

137-1958-5-4[illegible]

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 4[illegible]

AUTHOR: Markov, N A.

TITLE: Determination of the Parameters of a Three phase Arc Furnace and the Plotting of the Furnace Characteristics With Due Consideration to the Non-linearity of the Parameters (Opredelenie parametrov trekhfaznoy dugovoy elektropechi i postroyenie kharakteristik pechi s uchetom nelineynosti parametrov)

PERIODICAL: Sb. nauchn. tr. Kuybyshevsk. industr in-t 1956, Nr [illegible] Vol 1, pp 25-34

ABSTRACT: Electrical parameters of steel-smelting arc furnaces, i.e., the inductive reactance, x, and the active resistance of losses, r, vary as a function of the current I. The circular diagrams customarily employed in investigating the electrical regimen, do not take into account the variations of x and r as a function of the current and, therefore, do not yield accurate results. A method is described in which the r and x values are obtained experimentally by utilizing measurements of voltages, power ratings, and amperages. The values of x and r are determined on the basis of these readings with the aid of relatively simple

Card 1/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

137-1958-5-4747

Determination of the Parameters of a Three-phase Arc Furnace (cont.)

graphical constructions. Also described is a method for the construction of a circular diagram with due allowances for the variations in x and r. The operating characteristics of the furnace were constructed with the aid of a circular diagram of improved accuracy. A comparison between the usual and the high-accuracy diagrams and values (allowing for variations in x and r) demonstrates that the general nature of the basic curves (power ratings and cos φ) is identical for both characteristics. The standard characteristics show lower maximum values for the total active power rating of the arc and give lower current values corresponding to the maximum power rating of the arc. If the construction of the circular diagram and of the characteristics is based on x and r values obtained by the short-circuit method, then both the circular diagram and the operating characteristics, which were constructed without appropriate allowances for the variations in x and r, give values of power ratings, cos φ, and η_{el} which are lower than the true values. Diagrams which take into consideration the variations of x and r as a function of current give more accurate results than the commonly used diagrams which do not make such allowances. The abovedescribed method of determining parameters may find practical applications.

N. O.

Card 2/2

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N.A.

621.365.22 : 621.3.012.11

1413. CIRCLE DIAGRAM OF AN ORE-SMELTING ARC FURNACE.

N.A.Markov.

Elektrichestvo, 1958, No. 11, 20-3. In Russian.

The arcs burn below a layer of the charge which forms a shunt across the arcs, since it is conducting; a badly or non-conducting layer of slags or melts separates the arcs from the steel casing of the furnace; this layer is connected in series with the arcs. These facts may be represented by a simple equivalent circuit and in this way it is possible to plot a circle diagram of the furnace from which the optimum operating conditions of the latter may be determined. The circle diagram is also useful for plotting the operating characteristics of the furnace.

B.F.Kraus

Kuybyshev Industrial Inst. im. Kuybyshev

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

AUTHOR: Markov, N.A., Candidate of Technical Sciences. 133-5-8/27

TITLE: Determination of the minimum power consumption in electric arc furnaces (Opredeleniye naimen'sheggo raskhoda electro-energii v dugovykh pechakh)

PERIODICAL: "Stal'" (Steel), 1957, No. 5, pp. 419-422 (U.S.S.R.)

ABSTRACT: The determination of the minimum power consumption, maximum active power of the installation and of the arc as well as other indices of the furnaces operation, without taking into consideration changes in the parameters of the installation, leads to considerable errors and to wrong practice. A method of calculating the minimum power consumption in electric arc furnaces in which changes in the resistance of the power feeding system and power losses in the transformer steel are taken into consideration is given. There are 2 figures and 8 Slavic references.

ASSOCIATION: Kuibyshev Industrial Institute (Kuibyshevskiy Industrialnyy Institut)

AVAILABLE:

Card 1/1

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N.A., kand.tekhn.nauk, dots.

Theory of the electric circuit of a three-phase electrothermic ore furnace. Elektrichestvo no.1:10-13 Ja '58. (MIRA 11:2)

1.Kuybyshevskiy industrial'nyy institut im. Kuybysheva.
(Electric furnaces)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N.A., dotsent, kand.tekhn.nauk; POLYAKOVA, N.A., dotsent, kand.tekhn.nauk

Calculation of currents in operational short-circuits of three-phase electric arc furnaces. Elektrichestvo no.2;28-33 F '61. (MIRA 14:3)

1. Kuybyshevskiy industrial'nyy institut.
(Electric furnaces)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, ~~N.A., kand.~~tekhn.nauk, dotsent; POLYAKOVA, N.A., kand.tekhn.nauk, dotsent

Method for calculating nonsymmetrical three-phase networks for electric arc furnace systems. Elektrichestvo no.2:33-37 F '62. (MIRA 15:2)
Elektrichestvo no.2:33-37 F '62.

1. Kuybyshevskiy industrial'nyy institut.
(Electric furnaces)
(Electric networks)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, Nikolay Andreyevich; GUTTERMAN, K.D., red.; BORUNOV, N.I., tekhn. red.

[Electrical networks of electric-arc furnace systems] Elektricheskie tsepi dugovykh elektropechnykh ustanovok. Moskva, Gosenergoizdat, 1963. 231 p. (MIRA 16:7)
(Electric furnaces)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

NETYAZHENKO, V.I., inzh.; MARKOV, N.F., inzh.

Operation of inverter units on the Lvov railroad. Zhel.dor. transp. 41 no.11:72-74 N '59. (MIRA 13:2)

1. Nachal'nik sluzhby elektrifikatsii i energeticheskogo khozyaystva L'vovskoy dorogi, g.L'vov (for Netyazhenko).
2. Nachal'nik otdela ekspluatatsii i remonta sluzhby elektrifikatsii L'vovskoy dorogi, g.L'vov (for Markov).
(Ukraine--Electric railroads--Substations)
(Electric current converters)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N.F.; NEMNONOV, A.G.; VANYASHOV, P.G.

NMV machine for cleaning the edges of fabrics. Tekst.prom. 14 no.10:45-47 O '54. (MLRA 7:10)
(Textile machinery)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

ZAKHAR'YEVSKAYA, I.D.; ONIKOV, L.I.; MARKOV, N.F.

Yarn vat dyeing with PKM apparatuses. Tekst.prom. 15 no.6: 29-31 Je '55. (MLRA 8:7)
(Dyes and dying--Apparatus)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, Nikolay Fedorovich; LUZHETSKIY, Dmitriy Georgiyevich; ISURIN, Boris Iosifovich; KUPRIYANOV, F.S., retsenzent; SOKOLOVA, V.Ye., redaktor; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Design, assembly and adjustment of multiple shuttle turret looms in the cotton weaving industry] Ustroistvo, montash i naladka mnogo-chelnochnykh revol'vernykh tkatskikh stankov khlopchatobumashnoi promyshlennosti. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva legkoi promyshl. SSSR, 1956. 218 p. (MLRA 9:10)
(Looms) (Cotton weaving)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

GORDEYEV, Vasiliy Aleksandrovich, prof.; VOLKOV, Pavel Vasil'yevich, dotsent; MARKOV, N.F., retsenzent; BLYUYER, V.A., retsenzent; GORITSKIY, S.G., retsenzent; KULIGIN, A.V., retsenzent; SEGAL', N.M., red.; MEDVEDEV, L.Ya., tekhn.red.

[Weaving] Tkachestvo. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1958. 550 p. (MIRA 12:3)
(Weaving)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"

"APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5

MARKOV, N.F.; ISURIN, B.I.

New fabrics produced by the Zheliabov Factory. Tekst.prom. 18 no.10:9-11 O '58. (MIRA 11:11)

1. Direktor Leningradskoy tkatsko-krasil'noy fabriki im. Zhelyabova (for Markov). 2. Zaveduyushchiy tkatskim proizvodstvom Leningradskoy tkatsko-krasil'noy fabriki imeni Zhelyabova (for Isurin).
(Leningrad--Textile fabrics)

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001032510004-5"