"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

L 30114-66

ACC NR: AP6020605 SOURCE CODE: CZ/0023/65/009/003/0230/0235

AUTHOR: Picha, Jan (Prague); Venedikov, A. P. (Sofia)

ORG: [Picha] Geophysical Institute, CSAV, Prague; [Venedikov] Geophysical Institute, BAN, Sofia

TITLE: Comparison of the methods of harmonic analysis of tidal measurements by Pertsev and Venedikov

SOURCE: Studia geophysica et geodaetica, v. 9, no. 3, 1965, 230-235

TOPIC TAGS: harmonic analysis, ocean tide, gravimeter, oceanographic equipment

ABSTRACT: A comparison was made of the two methods by using material from the Pribram-Brezove Hore tidal station, shaft "Anna" (observations with horizontal pendulums) and the Sofia station (observations with the Askania gravimeter). On the basis of the comparatively small number of comparisons made, the two methods appear to be practically equivalent in the given case. Orig. art. has: 4 tables. [Based on author's Eng. abst.] [JPRS]

SUB CODE: 08 / SUBM DATE: 030ct64 / OTH REF: 009 / SOV REF: 003

Card 1/1 OLR

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

L 31717-66 GW

ACC NR: AP6021190 SOURCE CODE: CZ/0023/66/010/001/0101/0105

AUTHOR: Picha, Jan

ORG: Geophysical Institute, CSAV, Prague

TITLE: Use of non-tidal effects from records of tidal observations in studying recent crustal movements

SOURCE: Studia geophysica et geodaetica, v. 10, no. 1, 1966, 101-105

TOPIC TAGS: ocean tide, earth crust

ABSTRACT: The article presents the results of an analysis of selected non-tidal effects from the records of Czechoslovak tiltmetric stations and points out the need to pay much greater attention to their investigation in connection with the study of crustal movements. [JPRS]

SUB CODE: 08 / SUBM DATE: 15Jul65 / ORIG REF: 008 / OTH REF: 001

Card 1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

S/035/62/000/006/057/06-
A001/A101

AUTHORS: Pick, Miloš, Picha, Jan, Vyssoli, Vincen

TITLE: Topographic gravity corrections for the territory of Czechoslovakia

PERIODICAL: Referativnyy zhurnal, astronomiya i Geodeziya, no. 6, 1962, abstract 6G185 ("Geofys. sb.", 1960 (1961), no. 125 - 145, 1.. Czech; Russian and English summaries)

TEXT: A team of the gravimetric department of the Geophysical Institute of the Czechoslovakian Academy of Sciences has compiled, as a result of 5 years of work, a 1:200,000 map for the entire territory of the republic for calculating gravity corrections. Corrections are introduced, with an accuracy of ±0.1 mgal, for the relief within the Hayford zone C for density 2.67. Separate sheets of the map are presented for mountainous, hilly and plain regions. Isolines of equal correction values are drawn through 0.2 mgal. The Earth's curvature is taken into account. The values obtained from the map should be added with a correction determined from the appended nomogram for the height of the points and a correction, calculated for every point, for the effect of relief masses within a radius

Card 1/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

Topographic gravity corrections...

[illegible]

of 5.[illegible] km. The nomogram [illegible] statistically determined, varying regularly with the height. The [illegible] region is chosen so that corrections indicated on the map should [illegible] the point heights. A sheet of the 1:[illegible] map is taken for the region [illegible] Maximum values on the maps are [illegible] mgal. Topographic and hypsometric [illegible] ginning from scale 1:100,000 are used for calculations. Corrections are [illegible] for special points of the relief indicated on the maps. About 40 points [illegible] for each sheet of the 1:100,000 map; in mountains - sometimes [illegible] points [illegible] more. Calculated values are presented [illegible] the maps. The effect of [illegible] is determined for four points on the [illegible] sheet, and that of [illegible] for one point. For each quarter of the sheet indicated a graph [illegible] of zones M - O_2 on the point height is [illegible], and this effect is [illegible] all points of the section. Graphs of adjacent sections determine the [illegible] zones M - O_2 with a difference of, in most cases, ~0.01 mgal. In high[illegible] tainous regions of Slovakia the sections are reduced. If any dependence [illegible] dients of quantities presented on the map on relief heights was noticed, the heights of locality were taken into account while drawing the isolines. For the control, corrections for relief were calculated for 207 points uniformly distri[illegible]

Card 2/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

Topographic gravity corrections... S/035/62/000/[illegible]
A001/A1[illegible]

[illegible] over the Czechoslovakian territory and heights. The [illegible] determining the influence of zones M [illegible] estimated by the auth[illegible] The [illegible] that errors of influence of zones I - [illegible] not depend [illegible] heights. The mean error of this influence is estimated [illegible] is presented for Bullard's term: a difference of effects on gravity [illegible] spherical layer within the external radius of Hayford O zone and infinite [illegible] of the same thickness. For zones H - O_2 a correction table is given for [illegible] of spherical layer. A table is also given of effects of zone A and sect[illegible] zones and subzones B - H on corrections for relief (up to 0.001 mgal). It [illegible] shown in tables, which accuracy is required for mean heights in these [illegible] subzones for calculating their effect with an accuracy of 0.1 and 0.[illegible] mgal [illegible] mean elevations close to zero and 100 m. It is shown also, what an accura[illegible] required for determining mean heights in sections of zones I - O_2 for calc[illegible] their effect with an accuracy of 0.1, 0.2, 0.3 and 0.4 mgal at mean elevati[illegible] locality 500, 1,000, 1,500 and 2,000 m. A map of topographic corrections for zones 18 - 1 of Hayford for Czechoslovakia is presented. A map of topograph[illegible] isostatic reductions of these zones has been prepared. For 14 points, unif[illegible] distributed over the land territory, the table gives effects of topographic

Card 3/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

Topographic gravity corrections... S/035/62/000/[illegible]
A001/A101

masses in zones 18 - 14, 13 - 10, 9 - 8 and 7 - 1. The effect of zones [illegible] changes most considerably (up to 3 mgal) and rapidly. Tables are given for normal gravity values according to Gel'mert formula 1901 - 1909 in the range 47°30' to 51°50' in intervals of 10' in latitude; the tables contain also reductions in free air for heights from 0 to 1,000 m in intervals of 1 m of height with an accuracy of ±0.01 mgal and from 1,000 to 2,700 m in intervals [illegible] an accuracy of ±0.1 mgal, additional corrections to these reductions for [illegible] in normal vertical gradient in latitude and height, Bouguer reductions with Bullard's term (with the same height intervals and accuracy as in the tables of reductions for free air) for conversion from the assumed value of density to [illegible] other value. There are 16 references.

M. Yurkina

[Abstracter's note: Complete translation]

Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

Z/023/60/000/001/006/006
A026/A126

AUTHOR: Pícha, Jan

TITLE: Comparison of methods for harmonic analysis and some comments on the controls of the calculations

PERIODICAL: Studia geoph. et geod., no. 1, 1960, 85-94

TITLE: This paper is the reprint of a report read by the author on the 3rd International Conference on the Earth Tides at Triest in July 1959. Within the scope of the IGY, the Gravimetric Division of the Geophysical Institute, ČAS, established a second tide station on the 36th sole of the "Anna" mine at Březové Hory (Příbram), 1,300 m below the surface, at 772 m above the mean sea level. This station has been equipped with a Schweydar device with 2 simple horizontal pendulums and a photographic recorder. The Doodson-Lennon, Lecolazet, and Pertsev methods of harmonic analysis were applied to the observation material and compared. The purpose of this paper is the determination of how the results differ from each other. The author found out that the methods do not differ greatly. Reviewer: A. Zátopek. There are 2 figures, 9 tables and 6 references.

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

Comparison of methods for harmonic ...

Z/023/60/[illegible]
A026/A126

3 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Geophysical Institute, ČAS, Prague

SUBMITTED: July 1, 1959

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

AMJ/A+B

1950

6-43

Picha, Jaroslav. Vliv sluneční aktivity na atmosférickou cirkulaci. 551.518:523.74

solar activity on the atmospheric circulation.] *Meteorologické Zprávy*, 3(4-5):64-70, Feb. 1950. 18 charts, 3 diagrs., 25 refs. MH-BH Previous research by Dellinger, Clayton, Abbot, Schell and others is reviewed. U. S. Weather Bureau data and Northern Hemisphere Charts are used to construct curves showing the relation between relative sunspot numbers and the annual number of (a) cyclones (<1,000 mb.) and (b) anticyclones (>1,020 mb.) for the period 1899-1947. An 11-year period shows plainly on both charts with the discrepancies easily explained by the presence of an 8-year cycle. Synoptic charts for 18 typical situations at different phases of solar activity are presented. The author concludes that cyclones deepen at times of increasing solar activity but with rapidly increasing activity the circulation weakens. Also, anticyclones form at higher latitudes and cyclones form in the subtropics at times of maximum solar activity. *Subject Headings:* Sunspots, Atmospheric circulation, Periodicities.

M R

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, Jan; BURSA, Milan

Sixth Conference on International Gravimetric Commission in Paris.
Vestnik CSAV 72 no.1:154-157 '63.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, Jan; SKALSKY, Lumir

Determination of oscillation periods and sensitivity of simple horizontal pendulums for tidal measurements. Studia geophys 7 no.2:156-163 '63.

1. Geophysical Institute, Czechoslovak Academy of Sciences, Praha 4 - Sporilov, Bocni II.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, J., RNDr.; BURSA, M., C.Sc.

The 12th Assembly of the International Union of Geodesy and Geophysics in Helsinki. Geod kart obzor 9 no.1:24-27 Ja '63.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, Jan

Commemorating the 75th birthday of professor Frantisek Cechura. Studia geophys 6 no.4:413-414 '62.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, JAN

3

[redacted]

CZECH

6.7-53

Picha, Jan. Třicet let Státního Ústavu Geofysikálního. [Thirty years of the State Geophysical Institute.] *Meteorologické Zprávy*, 3(3-4):69-70, 1950. 4 photos. DWE—The Czechoslovakian State Geophysical Institute at Prague was established on Dec. 29, 1920 under the directorship of VÁCLAV LÁSKA (1862-1943). The work and instruments developed at the Institute, mostly in geomagnetism, seismology and geodesy are briefly described. *Subject Headings*: 1. Geophysical institutes 2. History of geophysics 3. Czechoslovakia. —M.R.

55(09)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

FICHA J.

Investigation of the gravitational field in the Prague-Plzen-C. Budejovice area, p. [illegible] (Prague. Vol. 18, 1951) Czechoslovakia

SO: Monthly List of East European Accessions, Vol. [illegible], #6, Library of Congress, August 1953, Incl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, J.

Gravity measurements in the Anna Mine in Brezove Hory. p. 119

Vol. 65, No. 1/11 1953 (Pub. 1954)
GEOFYSIKALNI SBORNIK
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5, No. 4, 1956

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

[illegible], J.

[illegible], J. In memory of academician [illegible]. A. [illegible]arburtsev, p. [illegible].

Vol. 5, no. 6, 1955
SOVETSKA VEDA: MATEMATIKA-FYZIKA-[illegible]
SCIENCE
Praha, Czechoslovakia

So: East European Accessions, Vol. [illegible], no. 5, May 1956

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, J.

Results of tide observations in the solid earth crust at Brezove hory during the period of 1936-1939. In German.

P. 95, (Geofysikalni Sbornik) Ceased publication. No. 36/60, 1956 (Published 1957) Praha, Czechoslovakia

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

L 31423-66 GW

ACC NR: AP6022985 SOURCE CODE: CZ/0085/65/000/003/0075/0077

AUTHOR: Picha, Jaroslav; Cenek, Josef

ORG: HMU, Prague

TITLE: Total radiation on Milesovka Mountain

SOURCE: Meteorologicke zpravy, no. 3, 1965, 75-77

TOPIC TAGS: atmospheric radiation, calculation, mathematic physics

ABSTRACT: The total radiation, calculated with a modified Angstrom equation, is given for the period 1951-1960, along with the results of a comparison by means of Berlyand's equation. The ten-year average was determined from the calculated years 1951-1957 and the measured years 1958-1960. Orig. art. has: 2 figures and 5 tables. [JPRS]

SUB CODE: 04 / SUBM DATE: none / ORIG REF: 002 / SOV REF: 001
OTH REF: 002

Card 1/1 JT

UDC: 551.521 (437.1)
0915 1070

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, J.

The work of the Czechoslovak Antonin Arkos in the Antarctic. In English. [illegible]

STUDIA [illegible] Ceskoslovenska akademie ved. [illegible] Prana, Czechoslovakia, Vol. 3, no. [illegible], 19[illegible].

Monthly List of East European Accessions ([illegible]), [illegible], Vol. [illegible], no. 11, Nov. 1954
uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, J.

Some results of measuring the ground ozone in Hradec Kralov during 1957. p. 48

METEOROLOGICKE ZPRAVY. (Statni meteorologicky ustav)
Praha, Czechoslovakia

Vol. 12, no. 2/3, June 1959

Monthly list of East European Accessions (EEAI) LC. VOL. 9, no. 1 January 1960

Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ICHA, JAN,

Gravimetrie.

Praha . tatni nakl, Czechoslovakia, technicke literatury, 1[illegible], 1[illegible] .

Monthly List of East European Accessions (SEAL) LC, Vol. [illegible], no. 10, Oct, 19[illegible].
Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, V.

4595. The resistance of the earth to the twisting of the foundations in transmission towers subjected to torsion. V. PICHA. *Elektrotech. Obzor*, 42, No. 9, 490-5 (1953) *In Czech.* 621.315.66.036

Description of method of calculating the stresses on the foundations of transmission towers, in particular under conditions of broken conductor.

H. NOREL

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

[illegible], [illegible].

"Earth Resistance Against Torsional Stresses of the Tower Foundation." p. [illegible]
(ELEKTROTECHNICKY OBZOR, Vol. [illegible], No. 9, September 1953, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, LC, Vol. 3, No. [illegible], May 1954, Unclassified

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHA, VACLAV.

Tunelove stavby. (Vyd. 1)

Praha, Czechoslovakia, Nakl. Ceskoslovenske akademie ved, 1959. 343 p.

Monthly List of East European Accessions, (EEAI), LC, Vol. 8, No. 12, Dec. 1959
Uncl.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Applications. Pharmaceuticals. Vitamins. Antibiotics. H-17

Abs Jour : Ref Zhur-Khimiya, No 7, 1959, 24485

Author : Hodinar, F., Picha, Z., Kraus, A., Krizek, P.

Inst : -

Title : Manufacturing Control and Clinical Tests on Czechoslovakian Streptomycin.

Orig Pub : Ceskosl. farmac., 1957, 6, No 6, 329-330

Abstract : No abstract.

Card : 1/1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

LAZAREV, Anatoliy Abramovich; ROZET, Isaak Yakovlevich; YEFIMOV, Viktor Ivanovich; PICHAK, F.I., kand. tekhn. nauk, red.; BEZUKLADNIKOV, M.A., red.; YEMMAKOV, N.P., tekhn. red.

[KDM-100 engine; its design and operation] Dvigatel' KDM-100; ustroistvo i ekspluatatsiia. Izd.2. Moskva, Mashgiz, 1963. 257 p. (MIRA 16:9)

(Diesel engines)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PYATETSKIY, Boris Grigor'yevich; POLUYANOV, V.T., red.vypuska; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Grinding and lapping of motor vehicle parts] Pritirka i dovodka avtotraktornykh detalei. Izd.2. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 109 p. (MIRA 12:12)
(Grinding and polishing) (Motorvehicles--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

DUNAYEV, Petr Aleksandrovich; RAYTSES, Veniamin Borisovich; ALEKSEYEV, G.P., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; MARCHENKOV, I.A., tekhn.red.

[Forging in the repair of agricultural machinery] Kuznechnoe delo v remonte sel'skokhozisistvennoi tekhniki. Izd.2. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 158 p. (MIRA 14:1)

(Forging) (Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

CHEREMOVSKIY, Yuriy Ivanovich; SIDOROV, Fedor Georgiyevich; MIKHEYEV, Nikolay Zakharovich; PICHAK, Fedor Ivanovich; ALEKSEYEV, Georgiy Petrovich; KHARITONCHIK, Ye.M., prof., retsenzent; CHERMENNOV, V.M., inzh., retsenzent; RYABCHENKO, P.G., inzh., retsenzent; KALOSHIN, A.I., inzh., retsenzent; PICHAK, F.I., kand.tekhn.nauk, red.; YERMAKOV, N.P., tekhn.red.

[Manual for tractor drivers] Posobie traktoristu. Izd.2., perer. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 592 p. (MIRA 13:12)

(Tractors)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

SIDOROV, Fedor Filippovich; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand. tekhn.nauk, red.; PLAKSIN, V.N., inzh., red.; POLKANOV, I.P., kand.tekhn.nauk, red.; MARCHENKOV, I.A., tekhn.red.

[Mechanic for combines and agricultural machinery] Slesar' po remontu kombainov i sel'skokhozialstvennykh mashin. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 107 p. (MIRA 14:3)

(Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ZGIRSKIY, Cheslav Iosifovich; ALEKSEYEV, G.P., inzh., red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; FEDOROV, N.G., kand.tekhn. nauk, red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand. tekhn. nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; MARCHENKOV, I.A., tekhn. red.

[Reconditioning of tractor parts] Vosstanovlenie detalei traktorov. Izd.2., ispr. i dop. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 141 p. (MIRA 14:12)
(Tractor--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

KURATOV, Aleksey Ivanovich; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; SOBOLEV, L.A., inzh., red.

[Running-in and testing of motor-vehicle engines after repair] Obkatka i ispytanie avtotraktornykh dvigatelei posle remonta. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 75 p. (MIRA 13:5)
(Motor-vehicles--Engines--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

VASIL'YEV, Nikolay Alekseyevich; ABRAMOV, Georgiy Aleksandrovich; SERGEYEV, M.P., prof., red.; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Repair of machinery according to a yearly chart] Remont mashin po kruglogodovomu grafiku. Pod red. M.P.Sergeeva. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 66 p. (MIRA 14:2)

(Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

KUZ'MOV, Nikolay Terent'yevich, inzh.; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KALENICHENKO, P.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Efficient use of machinery in harvesting by separate stages] Ratsional'noe ispol'zovanie mashin na razdel'noi uborke. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 101 p. (MIRA 13:5)

(Harvesting machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAK, Fedor Ivanovich

[Adjusting tractors and farm machinery] Regulirovka traktorov i sel'skokhozyaistvennykh mashin. Moskva, Mashgiz, 1958. 315 p. (MIRA 13:8)

(Tractors) (Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

BELOUSOV, Semen Nikolayevich; ALEKSEYEV, G.P., inzh., red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; FEDOROV, N.G., kand.tekhn. nauk, red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand. tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; MARCHENKOV, I.A., tekhn.red.

[Machines for the reclamation of new lands] Mashiny dlia razrabotki novykh zemel'. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 69 p. (MIRA 13:7)
(Reclamation of land)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

LAZAREV, Anatoliy Abramovich; ROZET, Isaak Yakovlevich; YEFIMOV, Viktor Ivanovich; PICHAK, F.I., kand.tekhn.nauk, red.; YERMAKOV, N.P., tekhn.red.

[The KDM-100 engine; construction and operation] Dvigatel' KDM-100; ustroistvo i ekspluatatsiia. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit.lit-ry, 1960. 254 p. (MIRA 13:5)
(Diesel engines)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ANDRYUSHCHENKO, Yu.S.; BAGIN, Yu.I.; BASHKIRTSEV, A.A.; BELEN'KOV, G.Ye.; BELINICHER, I.Sh.; BUSHUYEV, N.M.; VAGANOV, A.K.; GASHEV, A.M.; YES'KOV, K.A.; ZGIRSKIY, Ch.I.; IGANT'YEV, M.I.; KORUSHKIN, Ye.N.; KUZ'MOV, N.T.; PATSKEVICH, I.R.; PICHAK, F.I.; PAYTSES, V.B.; RUDAKOV, A.S.; SAPRYKIN, V.M.; SIDOROV, F.F.; UMINSKIY, Ye.A.; KHANZHIN, P.K.; CHEREMOVSKIY, Yu.I.; YERAKHTIN, D.D., kand. tekhn. nauk, retsenzent; MAKAROV, M.P., inzh., retsenzent; TORBEYEV, Z.S., kand. tekhn. nauk, retsenzent; POLKANOV, I.P., kand. tekhn. nauk, retsenzent; IGNAT'YEV, M.G., agronom, retsenzent; GUTMAN, I.M., inzh., retsenzent; YERMAKOV, N.P., tekhn. red.; SARAFANNIKOVA, G.A., tekhn. red.

[Reference manual for the agricultural machine operator] Spravochnik mekhanizatora sel'skogo khoziaistva. Pt.2. [Repair of tractors and agricultural machinery] Remont traktorov i sel'skokhoziaistvennykh mashin. Pod red. N.M. Bushueva. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. 1957. 335 p. (MIRA 11:9)

(Agricultural machinery—Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

VAGANOV, Aleksandr Konstantinovich; BEZUKLADNIKOV, M.A., inzh., red. vypuska; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand. tekhn.nauk, red.; KUZ'MOV, N.T., inzh., red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.~~tekhn.nauk, red.;~~ DUGINA, N.A., tekhn.red.

[Efficient use of tractor diesel engine] Kak luchshe ispol'zovat' dvigatel' dizel'nogo traktora. Izd.2., dop. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 110 p. (MIRA 12:12)

(Tractors--Engines)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ANDRYUSHCHENKO, Yu.S., BAGIN, Yu.I., BASHKIRTSEV, A.A., BELEN'KOV, G.Ye., BERLINICHER, I.Sh., BUSHUYEV, N.M., VAGANOV, A.K., GASHEV, A.M., YES'KOV, K.A., ZGIRSKIY, Ch.I., IGNAT'YEV, M.I., KORUSHKIN, Ye.N., KUZ'MOV, N.T., PATSKEVICH, I.P., PICHAK, F.I., RAYTSES, V.B., RUDAKOV, A.S., SAPRYKIN, V.M., SIDOROV, F.F., UMINSKIY, Ye.A., KHANZHIN, P.K., CHEREMOVSKIY, Yu.I., BUSHUYEV, N.M., kand.tekhn. nauk, red.; DUGINA, N.A., tekhn.red.

[Manual for agricultural machinery operators] Pt. 3. Stationary internal combustion engines, steam engines and windmills. Rural electrification. Mechanization of production in animal husbandry. Spravochnik mekhanizatora sel'skogo khoziaistva. Pt. 3. Statsionarnye dvigateli vnutrennego sgoraniia, lokomobili i vetrodvigateli. Elektrifikatsia sel'skogo khoziaistva. Mekhanizatsiia proizvodstvennykh protsessov v zhivotnovodstve. Pod red. N.M. Bushueva. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry. 1957. 200 p. (MIRA 11:8)

(Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

SIDOROV, Fedor Filippovich; NAUMOV, G.I., inzh., retsenzent; PICHAK, F.I., kand. tekhn. nauk, red.; POLKANOV, I.P., kand. tekhn. nauk, red.; SARAFANNIKOVA, G.A., tekhn. red.

[Progressive practices in using sugar beet, potato, and flax harvesters] Peredovoi opyt ispol'zovaniia sveklokombainov, kartofelekombainov i mashin dlia uborki l'na. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1957. 76 p. (Harvesting machinery) (MIRA 11:7)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAK, Fedor Ivanovich, kand.tekhn.nauk; ALEKSEYEV, G.P., inzh., red.; KUZ'MOV, N.T., inzh., red.; PYATETSKIY, B.G., inzh., red.; PLAKSIN, V.N., inzh., red.; SOBOLEV, L.A., inzh., red.; IGNAT'YEV, M.G., agronom, red.; MARCHENKOV, I.A., tekhn.red.

[Checking parts in repairing tractors and agricultural machinery] Kontrol' detalei pri remonte traktorov i sel'skokhoziaistvennykh mashin. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 89 p. (MIRA 14:1)
(Tractors--Maintenance and repair)
(Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAK, F.I., kand.tekhn.nauk, dotsent.

Increase the wear resistance of chain drives in agricultural machinery. Sel'khozmashina no.11:16-18 N '57. (MIRA 10:12)

1. Sverdlovskiy sel'skokhozyaystvennyy institut.
(Agricultural machinery)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAK, F.I.

ANDRYUSHCHENKO, Yu.S.; BAGIN, Yu.I.; BASHKIRTSEV, A.A.; BELEN'KOV, G.Ye.; BELINICHER, I.Sh.; BUSHUYEV, N.M.; VAGANOV, A.K.; GASHEV, A.M.; YES'KOV, K.A.; ZGIRSKIY, Ch.I.; IGNAT'YEV, M.I.; KORUSHKIN, Ye.N.; KUZ'MOV, N.T.; PATSKEVICH, I.R.; PICHAK, F.I.; RAYTSES, V.B.; RUDAKOV, A.S.; SAPRYKIN, V.M., SIDOROV, F.F.; UMINSKIY, Ye.A.; KHANZHIN, P.K.; CHERNOVSKIY, Yu.I.; YERAKHTIN, D.D., kand.tekhn.nauk; retsenzent; MAKAROV, M.P., inzh.,retsenzent; TORBEYEV, Z.S., kand. tekhn.nauk, retsenzent; POLKANOV, I.P., kand.tekhn.nauk, retsenzent; IGNAT'YEV, M.G., agronom, retsenzent; GUTMAN, I.M., inzhener, retsenzent; SARAFANNIKOVA, G.A., tekhn.red.; YERMAKOV, N.P., tekhn.red.

[Manual for agricultural mechanizers] Spravochnik mekhanizatora sel'skogo khoziaistva. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry. Pt.1. [Tractors and automobiles, agricultural machinery and implements, and operation of machine and tractor yards] Traktory i avtomobili, sel'skokhoziaistvennye mashiny i orudiia, ekspluatatsiia mashinno-traktornogo parka. Pod. red.N.M.Bushueva. 1957. 462 p. (MIRA 10:12)

(Machine-tractor stations)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PYATETSKIY, Boris Grigor'yevich; ALEKSEYEV, G.P., inzh., red.; BUSHUYEV, N.M., kand.tekhn.nauk, red.; GUTMAN, I.M., inzh., red.; KUZ'MOV, N.T., inzh., red.; IGNAT'YEV, M.G., agronom, red.; PICHAK, F.I., kand.tekhn.nauk, red.; POLKANOV, I.P., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Recent developments in the repair of agricultural machinery] Novoe v remonte sel'skokhoziaistvennoi tekhniki. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 99 p. (MIRA 13:9)

(Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

GUTMAN, Iosif Moiseyevich; PICHAK, Fedor Ivanovich; RABOVSKIY, A.V., inzh., retsenzent; SOBOLEV, L.A., inzh., retsenzent; BUSHUYEV, N.M., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Tractors and motor vehicles; manual for workers of collective farms] Traktory i avtomobili; spravochnik kolkhoznogo rabotnika. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 163 p. (MIRA 13:9)

(Motor vehicles)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

KURATOV, Aleksey Ivanovich; PICHAK, F.I., kandidat tekhnicheskikh nauk, redaktor; POLKANOV, I.P., kandidat tekhnicheskikh nauk, retsenzent; DUGINA, N.A., tekhnicheskiy redaktor.

[Running in and testing automobile and tractor engines after repair] Obkatka i izpytanie avtotraktornykh dvigatelei posle remonta. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1956. 55 p. (MLRA 10:6)

(Tractors--Engines--Testing)
(Automobiles--Engines--Testing)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PYATETSKIY, Boris Grigor'yevich; PICHAK, P.I., kandidat tekhnicheskikh nauk, retsenzent; DUGINA, N.A., tekhnicheskiy redaktor

[Grinding and polishing tractor parts] Pritirka i dovodka avto-traktornykh detalei. Moskva, Gos. nauchno-tekhn. izd-vo mashino-stroit. lit-ry, 1956. 101 p. (MIRA 10:1)
(Tractors)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

CHEREMOVSKIY, Yuriy Ivanovich; SIDOROV, Fedor Georgiyevich; MIKHEYEV, Nikolay Zakharovich; PICHAK, Fedor Ivanovich, kand.tekhn.nauk; ALEKSEYEV, Georgiy Petrovich; KHARITONCHIK, Ye.M., prof., retsenzent; DUGINA, N.A., tekhn.red.

[Tractor operator's manual] Posobie traktoristu. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 512 p. (MIRA 12:6)

(Tractors)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAK, Fedor Ivanovich; ALEKSEYEV, G.P., inzhener, retsenzent; DUGINA, N.A., tekhnicheskiy redaktor

[Efficient use of tractor equipment in machine-tractor stations] Ratsional'noe ispol'zovanie traktornykh agregatov v MTS. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1956. 87 p. (MIRA 10:9)
(Tractors)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAK, Fedor Ivanovich, kand.tekhn.nauk; ALEKSEYEV, Georgiy Petrovich, inzh. Prinimal uchastiye BAGIN, Yu.I., inzh. ANOKHIN, V.I., kand.tekhn.nauk, retsenzent; ZELENEV, A.A., kand.tekhn.nauk, retsenzent; SOROKIN, Ye.M., inzh., retsenzent; MOROZOV, A.G., kand.tekhn.nauk, red.; DUGINA, N.A., tekhn.red.

[Adjustment of tractors and agricultural machinery] Regulirovka traktorov i sel'skokhoziaistvennykh mashin. Moskva, Mashgiz, 416 p. (MIRA 15:5)

(Tractors--Maintenance and repair)
(Agricultural machinery--Maintenance and repair)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

SAPKO, A.I.; SVIRIDENKO, L.G.; BOBROV, V.P.; GLADKIY, D.F.; BUZUNOV, I.S.; PICHAK, G.V.

Remote control of steel-pouring ladle plugs. Metallurg 7 no.6:18-21 Je '62. (MIRA 15:7)

1. Dnepropetrovskiy metallurgicheskiy institut i Dnepropetrovskiy staleplavil'nyy zavod vysokokachestvennykh i spetsial'nykh staley.

(Electric furnaces--Equipment and supplies)
(Remote control)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ACCESSION NR: AT4011511 S/2531/63/000/146/0021/0027

AUTHOR: Kolokolov, V. P.; Pichakhchi, G. I.

TITLE: The level of atmospheric interference and certain peculiarities of thunderstorm activity

SOURCE: Leningrad. Glavn. geofiz. observatoriya. Trudy*, no. 146, 1963. Atmosfernoye elektrichestvo, 21-27

TOPIC TAGS: atmospheric interference, atmospheric electricity, thunderstorm, thunderstorm activity, lightning, lightning discharge, atmospheric discharge, storm recording device, storm duration, meteorology

ABSTRACT: An attempt was made to find a correlation between the intensity of atmospheric interference (the number of lightning discharges) and the climatological characteristics of thunderstorm activity. An attempt was also made to establish relations among these climatic characteristics as they are observed over an extensive territory. The solution of the first part of the problem involved in question: with what climatological characteristics can atmospheric interference be most conveniently compared? At first, the authors compared the number of lightning discharges, recorded by a PRG-1 storm recording device, with

Card 1/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ACCESSION NR: AT4011511

climatological characteristics, finding, in this way, the values of the correlation factors between the sum monthly number of discharges recorded by the device (threshold of sensitivity: 1.5 v; approximate effective radius: 20 km; passband: 6 kc; frequency band: 60-66 kc) on the one hand and the sum monthly number of days with storms and the sum monthly duration of the storms in hours on the other hand (for Tbilisi and Sverdlovsk, summer season, 1960). As atmospheric interference characteristics, the authors used material on the number of the atmospheric discharges recorded during the summer season of 1961 at Sverdlovsk, Odessa and Leningrad. This recording was made with a PRG-1, with the sole difference that this device was more sensitive and had a broader band (2-20 kc). It soon became apparent that, for the authors' purposes, a climatological characteristic such as the sum duration of the storms (in hours) was most convenient. The authors qualify a certain part of the conclusions by stating that their results pertain to atmospherics which give rise to large field intensities and which, consequently, are generated by nearby thunderstorms. With regard to atmospherics of low threshold values (below 100 millivolts/meter, for example), these may arrive from great distances, exceeding the delimitations of the territory selected. Moreover, the level of these atmospherics will, to a considerable degree, depend on superlongwave propagation conditions; that is, on the state of the ionosphere. The authors discovered, in

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ACCESSION NR: AT4011511

general, the maximum sum duration of thunder storms in elevated and adjacent regions. There is, naturally, a tendency toward an increase in the level of atmospheric interference as the latitude of the observation point decreases. However, there are local regions which constitute exceptions to this general law. It should also be noted that in regions with a large percentage of stormy days, or with a large number of storms, the storms themselves are, on the average, of greater duration. In this connection, however, it is interesting to note that there is no correlation between the number of thunderstorms and their mean duration (see Fig. 1 of the Enclosure). It may be assumed, the authors claim, that the plotting of storm duration charts would be useful for an estimation of the number of electrical discharges per unit area, provided the proper reference readings are taken at several points within the European Territory of the USSR. Orig. art. has: 6 figures and 2 tables.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad (Main Geophysical Observatory)

SUBMITTED: 06 DATE ACQ: 20Feb64 ENCL: 01

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

Card 3/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

ACCESSION NR: AT4011511

ENCLOSURE: 01

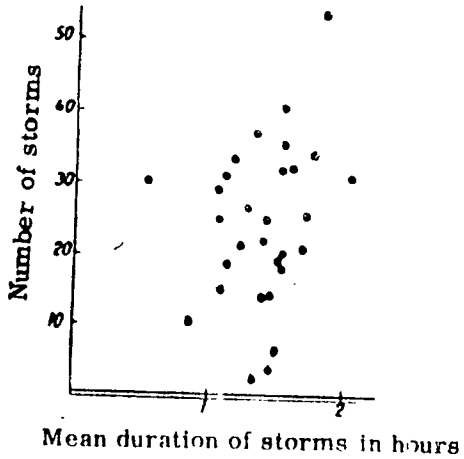

Fig. 1. Mean duration of thunderstorms (in hours) as a function of the number of storms

Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

KOLOKOLOV, V.P.; PICHAKHCHI, G.I.

Level of atmospheric disturbances and some characteristics thunderstorm activity. Trudy GGO no.146:21-27 '63. (MIRA 17:2)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

S

//

On the Origin of Internal Cracks in High Speed Steel Forgings. I. D. Pichakhchi and N. V. Tikhomirov (Metallurg, 1939, No. 7, pp. 75–82). (In Russian). Internal cracks in milling-cutter blanks forged down from square ingots of high-speed steel were due mainly to incorrect forging technique and only rarely to axial porosity of the ingot. Different deformations in different directions during forging cause slipping of the grains which may give rise to cracks during subsequent forging. These causes and the resulting cracks were almost entirely eliminated by adopting a modified forging sequence. Prolonged holding at forging temperatures is also undesirable from the point of view of cracking.

COMMON ELEMENTS

OPEN

MATERIALS INDEX

ASM SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

11

Conditions for the Appearance of Flakes in Chromium-Nickel-Molybdenum Steel Forgings and the Means of Eliminating Them. I. D. Pichakhchi. (Metallurg, 1939, No. 9, pp. 45-54). (In Russian). Two arc-furnace heats (from which 3½-ton ingots were cast) were investigated. The first heat was controlled in such a way as to favour subsequent flake formation (i.e., by incomplete deoxidation by boiling, by deoxidation with ferro-silicon at high temperatures and by the addition of moist lime to introduce hydrogen), while the second one was given a good boil and finished to yield gas-free metal. The ingots were forged down in several stages at 1200-1220° C. After the final forging the samples were cooled in a number of ways, either rapidly by quenching in water, or in air, or after precooling in air, to temperatures of 48-50° C., they were introduced into a furnace at 630° C., and, after holding for various periods, they were cooled in the furnace at different rates and in various stages. Other specimens were placed in the furnace at 630° C. directly after forging without precooling, while another set was allowed to cool down very slowly from the forging temperature. As had been expected, specimens from the first heat had a much larger number of flakes than specimens from the second heat, and also flakes were observed after a larger number of the cooling schedules. Rapid cooling in air from the forging temperature facilitated the differentiation of steel with an inherent tendency to flake formation arising out of incorrect steel-

Continued
[illegible]

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

Causes of flake formation in billets of chromium-nickel-molybdenum steel. I. D. Pichakhchi. *Metallurg* 14, No. 9, 45-54 (1939).—Elec. furnace steels contg. (1) C 0.33, Cr 0.54, Ni 2.76 and Mo 0.40% and (2) C 0.33, Cr 0.73, Ni 2.90 and Mo 0.40% were studied. (1) was deoxidized with ferro-manganese and ferro-silicon immediately after removal of the oxidizing slag, by use of moist lime to form slag; (2) was held under a carbide slag before deoxidation and dry lime was added to form slag. Both steels were forged into billets 220 mm. in diam. and subjected to various heat-treatments. When cooled in air after forging, (1) was very sensitive to flake formation while (2) was not. Flakes could be avoided in (1) by cooling the steel after forging in air to 200–480° and then transferring to a furnace at 650° and holding for 3–5 hrs.; thus H was permitted to diffuse from the steel.

H. W. Rathmann

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

MALISHEVSKIY, N.G. (Khar'kov); PICHAKHCHI, I.D. (Khar'kov)

Horizontal sedimentation tanks with a vertical water discharge system. Vod. i san. tekh. no.7:22-24 Jl '61. (MIRA 14:7)
(Water—Purification)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

L 00314-66

ACCESSION NR: AP5016854 EWT(1)/EWP(m)/EPF(n)-2/EWG(m)/EWA(d)/EPA(w)-2/FCS(k)/EWA(1) IJP(c) AT UR/0382/65/000/002/0057/0079 533.95 : 538.4

AUTHOR: Kushnir, V. S.; Novikov, I. I.; Pichakhchi, L. D.; Fokin, V. N.

TITLE: Theoretical and experimental investigation of self-excitation regimes during the interaction of a traveling magnetic field with the flow of ionized gas

SOURCE: Magnitnaya gidrodinamika, no. 2, 1965, 67-79

TOPIC TAGS: MHD flow, transmission line, traveling wave interaction

ABSTRACT: Study of the interaction between the plasma stream and the transverse magnetic field of the traveling wave moving in an artificial transmission line with localized inductances and capacities is reported. Transmission line theory is adapted with proper simplifications to computation of amplification coefficient, useful power delivered to a resistive load, electrical efficiency and the magnitude of the positive feedback occuring in the self-excitation regime. Both leakage flux and finite ratio of channel width to the characteristic wavelength are taken into account. The computational results were checked with the experi-

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

3

L 00314-66
ACCESSION NR: AP5016654

ment performed on a specially constructed test apparatus. The amplification coefficient and other parameters were measured for copper, aluminum and steel discs which simulated the plasma. Orig. art. has: 42 formulas, 5 figures.

21.44,55

ASSOCIATION: none

SUBMITTED: 27Jan65

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: EM, ME

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAKCHI, L.D.

Magnetohydrodynamic waves in the second approximation. Ukr. fiz. zhur. 6 no.3:308-317 My-Je '61. (MIRA 14:8)

1. Khar'kovskiy gosudarstvennyy universitet.
(Magnetohydrodynamics)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

NOVIKOV, I.I. (Novosibirsk); PICHAKHCHI, L.D. (Novosibirsk)

Heat transfer in the flow of a conducting fluid at small Reynolds numbers. PMTF no.2:143-145 Mr-Ap '64. (MIRA 17:8)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAKHCHI, L. D., CAND PHYS-MATH SCI, "CERTAIN PROBLEMS OF THE THEORY OF THE PROPAGATION OF WAVES AND SURFACE ~~RUP-TURES~~ IN MAGNETIC GAS DYNAMICS." NOVOSIBIRSK, 1961. (MIN OF HIGHER AND SEC SPEC ED UKSSR. L'VOV STATE INSTITUTE IMENI I. YA. FRANKO). (KL-DV, 11-61, 209).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAKHCHI, L.D.

Constancy of the tangential burst in a rarefied plasma.
Ukr. fiz. zhur. 6 no.1:86-92 Ja-F '61. (MIRA 14:6)

1. Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo.
(Plasma (Ionized gases))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

27945
S/185/60/005/004/003/021
D274/D306

94 6714 also 2117 2317 1327

AUTHOR: Pichakhchi, L.D.

TITLE: Discontinuities in a rarefied plasma in the Chew-Goldberger-Low approximation

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 5, no. 4, 1960, 450-457

TEXT: The discontinuities of a rarefied plasma are classified in accordance with the Chew-Goldberger-Low equations. In the Chew-Goldberger-Low approximation, a rarefied plasma is described by

$$\rho\frac{\partial v_i}{\partial t} + \rho v_k \frac{\partial v_i}{\partial x_k} = -\frac{\partial p_{ik}}{\partial x_k} - \frac{1}{4\pi} H_k \frac{\partial H_k}{\partial x_i} + \frac{1}{4\pi} H_k \frac{\partial h_i}{\partial x_k} \qquad (1)$$

The continuity equations are set up, whereby

$$\Pi_{ik} = \rho v_i v_k + p_{ik} - \frac{1}{4\pi}\left[H_i H_k - \frac{1}{2}\delta_{ik}H^2\right]; \qquad (8)$$

Card 1/5

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

The conditions which hold on the discontinuity surface are

$$\{j\} = \{\rho v_n\} = \left\{\frac{v_n}{V}\right\} = 0 \tag{13}$$

$$\{H_n\} = 0; \tag{14}$$

$$\{\mathbf{E}_t\} = H_n\{\mathbf{v}_t\} - j\{V\mathbf{H}_t\} = 0; \tag{15}$$

$$\{Q_n\} = j\left\{\frac{v_t^2}{2} + \frac{1}{2}j^2V^2 + \frac{5}{2}p_\perp V + \frac{1}{2}aV + \frac{1}{4\pi}VH_t^2 + \frac{H_n^2}{H^2}aV\right\} - \frac{H_n}{4\pi}\left\{\mathbf{H}_t\mathbf{v}_t\left(1 - 4\pi\frac{a}{H^2}\right)\right\} = 0 \tag{16}$$

(where $a = p_\parallel - p_\perp$), and the conditions

$$j^2\{V\} + \{p_\perp\} + H_n^2\left\{\frac{a}{H^2}\right\} + \frac{1}{8\pi}\{H_t^2\} = 0; \tag{17}$$

$$j\{\mathbf{v}_t\} + H_n\left\{\mathbf{H}_t\frac{a}{H^2}\right\} - \frac{H_n}{4\pi}\{\mathbf{H}_t\} = 0. \tag{18}$$

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

city are the same on each side of the discontinuity surface, in addition, if $H_n = 0$, then all the quantities are continuous and there is no discontinuity; hence the importance attached to the conditions $H_n \neq 0$. A system of equations is obtained which includes

$$\left\{\left[j^s V - \frac{H_n^2}{4\pi}\left(1 - 4\pi \frac{a}{H^2}\right)\right] H_t\right\} = 0; \qquad (31)$$

Eq. (31) yields two possibilities. The first one involves (as a particular case), a rotational discontinuity: the magnetic field H_t and the velocity v_t rotate in the discontinuity surface by an arbitrary angle. In the second case, Eq. (31) is a scalar equation. Both j and $\{\rho\}$ are different from zero. The velocity of the plasma is different on each side of the discontinuity surface. The general case is considered: $H_n \neq 0$. Equations are derived, one of which involves an arbitrary jump of H_t, and another determines the velocity of propagation of the discontinuity

$$-u_i = v_{in} = \frac{H_n}{\sqrt{4\pi\rho_i}} \sqrt{1 - 4\pi \frac{a_i}{H_i^2}}, \quad i = 1, 2, \qquad (52)$$

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

L 24115-66 EWT(1)/EWP(m)/EWA(d)/ETC(m)-6/EWA(1) IJP(c) WW

ACC NR: AP6011518 SOURCE CODE: UR/0382/66/000/001/0109/0115

AUTHOR: Kushnir, V. S.; Morozova, N. M.; Pichakhchi, L. D.

ORG: none

73
B

TITLE: The effect of busbars on the current interaction of conducting fluid flow with the traveling wave magnetic field

SOURCE: Magnitnaya gidrodinamika, no. 1, 1966, 109-115

TOPIC TAGS: electroconductive fluid, electromagnetic field, magnetic effect, traveling wave, wave function, traveling wave interaction, electric inductance

ABSTRACT: An analysis has been made of the effect of electroconducting busbars on the current interaction of conducting fluid flow with the traveling wave magnetic field created by a long line of concentrated inductances and capacitances. An expression for the amplification coefficient as a function of the ratio of busbar thickness and duct width to the wavelength was obtained. The inclusion of busbars increases the amplification coefficient. Orig. art. has: 4 figures and 22 formulas. [Based on authors' abstract]

[NT]

SUB CODE: 20/ SUBM DATE/21Sep65/ ORIG REF: 002/

Card 1/1 UDC: 538.4

2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

L 24207-66 EWT(1)/EWP(m)/T-2 IJP(c)

ACC NR: AP6011006 SOURCE CODE: UR/0056/66/050/003/0818/0820

AUTHOR: Pichakhchi, L. D.

ORG: Institute of Thermophysics of the Siberian Department of the Academy of Sciences SSSR (Institut teplofiziki Sibirskogo otdeleniya Akademii nauk SSSR)

TITLE: Contribution to the theory of the hydromagnetic dynamo

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 3, 1966, 818-820

TOPIC TAGS: magnetohydrodynamics, hydromagnetics, electric field, magnetic field

ABSTRACT: The Cowling theorem of magnetohydrodynamics, which states that a stationary axially symmetrical hydromagnetic dynamo is impossible, is extended to include an arbitrary three-dimensional case. From this expanded proof, which is based on an analysis of the kinematic equations of a hydromagnetic dynamo with zero field and the boundary conditions in the dynamo, it follows that when a magnetic field is generated in the stationary case, the electric charges must be separated in the liquid, so that an electric field must be produced in space in addition to the magnetic field. The author is grateful to M. A. Gol'dshtik for a discussion of the work. Orig. art. has: 11 formulas. [02]

SUB CODE: 20/ SUBM DATE: 27Oct65/ ORIG REF: 002/ OTH REF: 003/ ATD PRESS: 4245

Card 1/1 BLG

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAKHCHI, L.D.; IVANENKO, A.M.

Effect of an external electrical field on the frequency of nuclear quadrupole resonance. Zhur.strukt.khim. 4 no.5:687-690 S-O '63. (MIRA 16:11)

1. Institut teplofiziki AN SSSR, Novosibirsk.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

24290

S/185/61/006/003/002/010
D208/D302

3,2600

AUTHOR: Pichakhchi, L. D.

TITLE: Magnetohydrodynamic waves in the second-order approximation

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 6, no. 3, 1961, 308-316

TEXT: The solutions of magnetohydrodynamics equations in the second order approximation are analyzed and their physical meaning ascertained. After some transformations, the magnetohydrodynamics equations can be put in the form

$$\frac{\partial H}{\partial t} = N \operatorname{rot} [v, H], \quad \operatorname{div} H = 0, \tag{1.7}$$

$$\frac{\partial \rho}{\partial t} + N \operatorname{div} \rho v = 0, \tag{1.8}$$

$$N \frac{\partial v}{\partial t} + N^2 (v \nabla) v = - c^2 \frac{1}{\rho} \nabla \rho - \frac{c}{\rho} \frac{dc}{d\rho} \nabla (\rho - \rho_0)^2 + \frac{M^2 N^2}{4\pi\rho} [\operatorname{rot} H, H], \tag{1.9}$$

Card 1/6

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

23290

S/185/61/006/003/002/010
D208/D302

Magnetohydrodynamic waves ..

where $N = \frac{UT}{X}$, $M^2 = \frac{H^2}{PU^2}$, $c = \frac{CT}{X}$, U, P, H being approximately equal to the maximum values of v, ρ, H respectively. Expanding v, ρ and H in power series in the small parameter N (u = phase veloc $N \approx \frac{v_{max}}{u}$) one obtains the various approximations The equations in the second-order approximation are

$$\frac{\partial H_2}{\partial t} = \mathrm{rot}\,[v_1 H_1] + \mathrm{rot}\,[v_2 H],\ \mathrm{div}\, H_2 = 0 \qquad (1.10)$$

$$\frac{\partial \rho_2}{\partial t} + \mathrm{div}\,\rho_1 v_1 + \rho\,\mathrm{div}\, v_2 = 0. \qquad (1.11)$$

$$\rho \frac{\partial v_2}{\partial t} + \rho_1 \frac{\partial v_1}{\partial t} + \rho (v_1 \nabla) v_1 = - c^2 \nabla \rho_2 - c \frac{dc}{d\rho} \nabla \rho_1^2 + \frac{1}{4\pi} ([\mathrm{rot}\, H_1, H_1] + [\mathrm{rot}\, H_2, H]) \qquad (1.12)$$

Plane waves are considered: in that case the solutions for the first order approximation are known from L.D Landau, E. M Lifshits,

Card 2/6

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

(Ref. 1: Elektrodinamika sploshnykh sred (Electro-dynamics of continuous media) GITTL, M. 1957). Two groups of waves arise: Alfven waves and magneto-acoustic waves. If in the first-order approximation either of the group of waves propagates, the system of equations (1.10-1.12) reduces to:

$$\frac{\partial^2 v_{2x}}{\partial t^2} - \left(c^2 + \frac{H_y^2}{4\pi\rho}\right)\frac{\partial^2 v_{2x}}{\partial x^2} + \frac{H_x H_y}{4\pi\rho}\frac{\partial^2 v_{2y}}{\partial x^2} = f(x, t), \tag{1.16}$$

$$\frac{\partial^2 v_{2y}}{\partial t^2} - u_1^2 \frac{\partial^2 v_{2y}}{\partial x^2} + \frac{H_x H_y}{4\pi\rho}\frac{\partial^2 v_{2x}}{\partial x^2} = \varphi(x, t), \tag{1.17}$$

$$\frac{\partial^2 v_{2z}}{\partial t^2} - u_1^2 \frac{\partial^2 v_{2z}}{\partial x^2} = \psi(x, t), \tag{1.18}$$

where

$$f(x, t) = -\frac{1}{4\pi\rho}\frac{\partial}{\partial t}\left(H_{1z}\frac{\partial H_{1z}}{\partial x}\right), \quad \varphi(x, t) = 0, \quad \psi(x, t) = 0 \tag{1.19}$$

for the Alfvèn wave and

Card 3/6

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

$$f(x,t) = -\frac{\partial}{\partial t}\left(\frac{\rho_1}{\rho}\frac{\partial v_{1x}}{\partial t} + v_{1x}\frac{\partial v_{1x}}{\partial x} + \frac{H_{1y}}{4\pi\rho}\frac{\partial H_{1y}}{\partial x} - \frac{c}{\rho}\frac{dc}{d\rho}\frac{\partial \rho_1^2}{\partial x}\right) - \frac{\partial^2}{\partial x^2}\left(\frac{c^2}{\rho}\rho_1 v_{1x} + \frac{H_y}{4\pi\rho}v_{1x}H_{1y}\right),$$

$$\varphi(x,t) = -\frac{\partial}{\partial t}\left(\frac{\rho_1}{\rho}\frac{\partial v_{1y}}{\partial t} + v_{1x}\frac{\partial v_{1y}}{\partial x}\right) - \frac{H_x}{4\pi\rho}\frac{\partial^2}{\partial x^2}(v_{1x}H_{1y}), \quad \psi(x,t) = 0 \qquad (1.20)$$

for the magneto-acoustic wave. After some transformations one obtains for the Alfvèn wave the solution

$$\rho_2 = 0, \quad H_{2y} = -\frac{h^2}{2H_y}\cos 2k(x-u_1t), \quad v_{2y} = -\frac{H_x}{4\pi\rho u_1}H_{2y}. \qquad (1.29)$$

Hence in the second-order approximation an Alfvèn wave arises with double frequency and plane of oscillation perpendicular to that of the first-order wave. The magneto-acoustic wave which arises has harmonics. If in the first-order approximation both the Alfvèn and magneto-acoustic waves propagate, the solution has the form

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

$$v_{2x} = \frac{\alpha\gamma}{2u_2}\left\{1-\cos k(u_2-u_1)t + \frac{u_2^2-u_1^2+2u_1u_2}{(3u_1+u_2)(u_1-u_2)}\cos 2k\left(x-\frac{u_1+u_2}{2}t\right) - \right.$$
$$\left. -\frac{u_2^2-u_1^2+2u_1u_2}{4u_1}\left[\frac{1}{3u_1-u_2}\cos 2k(x+u_1t)+\frac{1}{u_1-u_2}\cos 2k(x-u_1t)\right]\right\} + (1.37) \qquad (1.37)$$

an analogous term in which α is replaced by β, and u_2 by u_3. A peculiar feature of this solution is the aperiodic term which might be interpreted as a "wave wind". Further computations, which are not given in their entirety, lead to waves of unchanging amplitude with a velocity not only depending on u_2 and u_3, but also on u_1: another harmonic which has an amplitude proportional with time, also appears. The magnetohydrodynamics equations in the approximation of G.F. Chew, M.L. Goldberger and F.S. Low are also considered (Ref. 7: Pros. Roy. Soc. A 236, 112, 1956). The reasoning applied to these equations is similar to the foregoing. The conclusions reached are also similar, with the sole difference that the expressions for the amplitudes are more cumbersome. The author thanks

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

23-90

S/185/61/006/003/002/010
D208/D302

Magnetohydrodynamic waves...

Professor V.L. German and Yu.F. Filippov for their help and advice. There are 9 references: 7 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: C. Eckart, Phys. Rev., 73, 68, (1948); G.F. Chew, M.L. Goldberger, F.S. Low, Pros. Roy. Soc., A 236, 112, 1956 (translated in PSF, no.7, p. 139, 1957).

ASSOCIATION: Kharkivs'kyy derzhavnyy universytet (Kharkov State University)

SUBMITTED: September 19, 1960

Card 6/6

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

GORDON, I.M.; [illegible], [illegible].D.

Emission of hydrogen atoms [illegible] of relativistic electrons. [illegible] Ja-F '61. ([illegible])

(Stars-- [illegible])

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

89324

S/033/61/038/001/007/019
E032/E314

3,1570 (1062, 1182, 1172)

AUTHORS: Gordon, I.M and Lichakhchi, L.D.

TITLE: Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electrons

PERIODICAL: Astronomicheskiy zhurnal, 1961, Vol. 38, No. 1 pp. 87 - 90

TEXT: The first of the present authors has shown (Refs. 1 2) that the principal features of the emission spectra of late spectral class dwarfs, giving rise to ultraviolet radiation can be explained by assuming that they are excited by high intensity synchrotron radiation in a relatively small portion of the atmosphere of the star, i.e. its active zone. It was suggested that the ionisation of hydrogen is due to the ultraviolet part of the spectrum of the synchrotron radiation, while the infrared part is due to induced transitions from the continuum to the upper energy levels. This leads to an increase in the population of the upper levels and the associated anomalies in the Balmer decrement, as well as the broadening and blending of higher members of the Balmer series

Card 1/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

P932a

S/033/61/038/001/007/019
E032/E314

Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electrons

forming the so-called Balmer quasi-continuum. Furthermore a method was put forward in Refs. 1 and 2 which can be used to determine the spectrum of the synchrotron emission from the observed hydrogen emission spectrum. The aim of the present work is to compute the distribution of hydrogen atoms over excited states in the field of synchrotron radiation whose spectrum is of the form:

$$I_\nu = A \cdot \nu^{-\alpha} \qquad (1)$$

where $\alpha = 1/2$ and $A = 1.65 \times 10^7$ (Gordon - Ref. 2). It is assumed that the electrons obey a Maxwell velocity distribution and that the synchrotron radiation spectrum is cut off on the low-frequency side in accordance with the condition

$$I_\nu = 0; \quad \nu < \nu_{min} = 0.57 \times 10^{13} \text{ c p s.} \quad (3)$$

Card 2/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

89324

S/033/61/038/001/007/010
E032/E314

Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electrons

Calculations have shown that all the induced transitions for $m > n$ are forbidden if $n \geqslant 23$. The problem has been solved numerically with the aid of the electronic computer "Урал" ("Ural") of the Laboratory of Computational Mathematics of Khar'kovskiy gosudarstvennyy universitet (Khar kov State University). The numerical results obtained for $a = 0.56$ and $T_e = 5\ 000\ ^{\circ}K$ are summarised in the table on p. 89. The first column gives the level number the second gives the values of b_n indicating the factor by which the population of the given level differs from the population in thermodynamic equilibrium at $T_e = 5\ 000\ ^{\circ}K$ and the third column gives the quantity b'_n which is a measure of the level population. Fig. 1 gives $\log b_n$ (lower curve) and b'_n (upper curve) as a function of n for hydrogen atoms in the

Card 3/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

89324
S/033/61/038/001/007/019
E032/E314

Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electons

field of synchrotron radiation in the active zone of a T Tau type star with anomalous emission in the ultraviolet. A consideration of the table and figure shows that a minimum occurs at n = 2 as a result of which all the Balmer series lines should appear as negative absorption lines. It is noticeable that the monotinoc increase in the population is reversed at about n = 15, which is due to the cut-off applied to the synchrotron emission spectrum on the low-frequency side. The Paschen series will also be observed as a series of negative absorption lines, since the population of the third level, although greater than that of the second level is nevertheless lower than the population of higher levels. The striking feature of the distribution is the over-population of the upper levels. This was predicted by the first of the present authors in Ref. 1 and leads to the appearance of a Balmer quasi-continuum in the emission spectra of the active zone. Calculations show that the rapid increase in the

Card 4/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

S/033/61/038/001/007/019
E032/E314

Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electrons

population of the upper levels masks the reduction in the absorption coefficient, as a result of which the intensity in the quasi-continuum increases towards the Balmer limit, which is in agreement with spectrophotometric data for stars with anomalous ultraviolet emission. It is known that the majority of T Tau type stars do not exhibit the anomalous emission in the ultraviolet and their spectra contain only the discrete hydrogen emission lines. It is suggested that the emission spectra of this type are excited by synchrotron radiation with a less intense infra-red region. This problem will be considered in a further paper. Acknowledgments are made to Yu.A. Kovalevskaya and S.A. Masalov of the Computational Centre of Khar'kov State University for their assistance in the present work. There are 1 figure, 1 table and 7 references: 4 Soviet and 3 non-Soviet.

SUBMITTED: July 1, 1960

Card 5/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

89424

S/033/61/038/001/007/019
E032/E314

Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electrons

Table:

n	b_n	$b_n' = b_n e^{h\nu_n/kT}$	n	b_n	$b_n' = b_n e^{h\nu_n/kT}$
1	$2.3 \cdot 10^{-14}$	0.919	12	0.518	0.645
2	$2.49 \cdot 10^{-4}$	0.624	13	0.523	0.628
3	$1.96 \cdot 10^{-2}$	0.635	14	0.558	0.642
4	$9.05 \cdot 10^{-2}$	0.640	15	0.587	0.671
5	0.183	0.640	16	0.547	0.619
6	0.269	0.640	17	0.545	0.606
7	0.257	0.639	18	0.620	0.628
8	0.301	0.639	19	0.623	0.630
9	0.437	0.639	20	0.712	0.718
10	0.467	0.633	21	0.722	0.778
11	0.487		22	0.771	0.776

Card 6/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

S/033/61/036/001/007/019
E032/E314

Atomic Hydrogen Emission Excited by Synchrotron Radiation Due to Relativistic Electrons

Fig. 1:

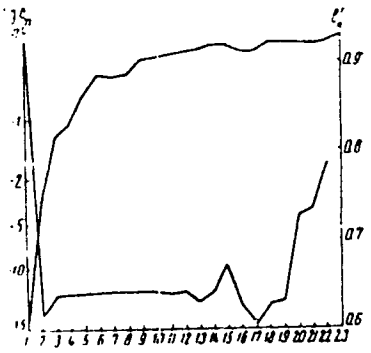

Рис. 1. Распределение по состояниям атомов водорода в поле синхротронной радиации в активной зоне звезд типа Т Тельца с аномальной эмиссией в ультрафиолете. Верхняя кривая — b'_n, нижняя кривая — $\lg b_n$

Card 7/7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

PICHAKHCHI, L.D.

Caps in a rarefied plasma in the approximation of Chew, Goldberger and Low. Ukr. kiz. zhur. 5 no. 4:450-457 Jl-Ag '60. (MIRA 13:11)

1. Khar'kovskiy gosudarstvennyy universitet.
(Plasma (Ionized gases))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

RYBALKO, Ye.P.; PICHAKHCHI, L.D.; KREMER, V.A.; VAYL', Ye.I.

Automatic apparatus for the optentiometric titration. Zav. lab. 25 no.10:1262-1266 '59. (MIRA 13:1)

1. Khar'khovskiy gosudarstvennyy universitet im. A.M.Gor'kogo i Khar'kovskiy gornyy institut.
(Potentiometric analysis)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

05756

[illegible]

[illegible] [illegible]ylalko, [illegible]
[illegible] Kremer, [illegible] Vayl[illegible], [illegible]

TITLE An automatic device [illegible] potentiometric titration

PERI[illegible] [illegible] [illegible], Nr [illegible], pp [illegible]

[illegible] Two varieties of [illegible] were worked out, which [illegible] used in [illegible] ordinary laboratory potentiometer [illegible] permit an automat[illegible] [illegible]tric determinati[illegible]s. Titration is carried [illegible] to a certain potential value, [illegible] that it is [illegible] with various electrode combina-tions, and titr[illegible] [illegible] for different methods of [illegible] potentiometric [illegible] [illegible]tial of the equivalence point [illegible] either [illegible] [illegible]ly from the titrati[illegible] or it is calculate[illegible] [illegible] scheme (Fig 1) of the [illegible] constructional variant [illegible] that the potentiometer [illegible] titration cell are arranged in series and connected to [illegible] amplifier, [illegible] difference of potential is led to the amplifier, from where [illegible] a relay system (after [illegible] amplified) [illegible] which an indicator voltmeter is connected in parallel [illegible] the course of the titrati[illegible]

Card 1/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

05760

An Automatic Device for Potentiometric Titration SOV/32-25-10-4[illegible]

be followed visually. For the protection of the voltmeter from being overloaded, a diode stopping device is [illegible] in parallel to the measuring instrument. By means of the relay system, which contains a cascade amplifier and a [illegible] the connection between the reagent and the titration cell [illegible] interrupted as soon as the equivalence point is reached, [illegible] titration is ended. The basic scheme of the device [illegible] shows that an indicator microammeter of the type [illegible], the diode stopping device with germanium diodes of the type [illegible], as well as germanium diodes of the type DGTs-27 are used. Various titration variants are described and the results obtained are mentioned (Table). In the case of the second variety (Fig 3) (block scheme) the titration liquid is, after adjustment of a tumbler to "titration", then automatically introduced slowly into the cell by means of a servo-mechanism and near the equivalence point more slowly. The end of titration is indicated by means of a bell signal. This variant contains an internal and an external potentiometer, the titration cell, and a breaker, from which the voltage is conveyed over a voltage amplifier to a thyratron with 2 relays. The operation of the device as well as a wiring scheme (Fig 4)

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

05766

An Automatic Device for [illegible] Titration SOV/32-[illegible]

and the [illegible] automatic alkali titrati[illegible] acids by means [illegible] calomel-electrodes are given (Table). There are [illegible] figures and 1 table.

ASSOCIATION: Khar'kovskiy [illegible] universitet im. A. M. Gor'kiy (Khar'kov State University imeni A. M. Gor'kiy)
Khar'kovskiy [illegible] (Khar'kov Mining Institute)

Card 4/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

AUTHORS: Gordon, I. M., Pichakhchi, L. D. SOV/2[illegible]

TITLE: On the Problem of the Polarization of Light in the Emission Lines of Unsteady Stars Excited by a Synchrotron Radiation of Relativistic Electrons (K voprosu o polyarizatsii veta v emissionnykh liniyakh nestatsionarnykh zvezd, vozbuzhdayemykh sinkhrotronnym izlucheniyem relyativistskikh elektronov)

PERIODICAL: Doklady Akademii nauk SSSR, 1[illegible], Vol. 120, Nr 1, pp. 55 - 5[illegible] (USSR)

ABSTRACT: The aim of the present paper is the calculation of the depolarization of the emission lines of hydrogen occurring on various conditions of scattering of a linearly polarized synchrotron radiation at excited hydrogen atoms. This calculation also holds for other atoms similar to hydrogen The polarization properties of the light scattered at excited atoms was investigated by V.L.German (Ref 4). The same author gives a formula for the probability of the scattering of light. The author investigates the case where the excited state of the hydrogen atom occurs in consequence of the absorption of the linearly polarized light; the corresponding formula for the probability of scattering of light is given and transformed for the reason of simplifica-

Card 1/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

On the Problem of the Polarization of Light in the [illegible] SOV/20-[illegible]
Emission Lines of Unsteady States Excited by a Synchrotron Radiation of
Relativistic Electrons

tion. An expression is also written down for the depolarization coefficient corresponding to this case. The minimum depolarization coefficient has the value 7% at $\alpha = \pi/2$. Then the author derives the formulae for the scattering probability for the following cases: The excited state occurs at the transition of the electron from the continuous spectrum to the second level; the excitation is caused by unpolarized light, and the polarized radiation in the line H_α is scattered; the excitation takes place under the influence of a linearly polarized light, and that unpolarized light is scattered. The latter case could be of interest for the theory of the spectra of unsteady states. In this case the minimum depolarization coefficient is 75%. Correspondingly the minimum polarization in the line H_α excited by the scattering of natural light on hydrogen atoms (polarized by linearly polarized light) is 25%. The formulae derived for the depolarization coefficient of the line H_α maintain their form also for the corresponding cases of the radiation of other

Card 2/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3

On the Problem of the Polarization of Light in the SOV/[illegible]-1-[illegible]
Emission Lines of Unsteady Stars Excited by a Synchrotron Radiation of
Relativistic Electrons

lines of the Balmer series with the only difference that other radial integrals enter the expression for the scattering matrix. The depolarization of the scattered light depends only on the symmetry of the state of the scattering atom and not on the frequency of the scattered light. Immediate observations of the Lyman lines and of the Lyman continuum of the spectra of unsteady stars are not possible at present as such observations have to be made outside the earth's atmosphere. There are 7 references, 6 of which are Soviet.

PRESENTED: February 6, 1958, by V.A.Ambartsumyan, Member, Academy of Sciences, USSR

SUBMITTED: February 3, 1958

1. Light--Polarization 2. Stars--Radiation 3. Hydrogen atoms--Excitation 4. Mathematics--Applications

Card 3/3

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240720020-3"