

Emission line width of a maser

S/109/62/007/005/021/021
D230/D308

can extrapolate the curve towards zero-intensity beam and obtain a value for the initial frequency band width. Expressions are obtained for the maser pass band in terms of the mean transit time of the molecules through the resonator, the self-excitation parameter, and for the amplification factor, in terms of detuning with respect to line peak frequency. Two cases of maser were investigated experimentally, (i), using a beam of ND_3 molecules, (ii) using a beam of NH_3 molecules. For the grid-type beam source 0.05 mm thick and aperture 0.05 x 0.05 mm, the line-width for ND_3 was equal to 800 c/s, for the resonant length 40 cm and temperature 300°K ; this is twice the calculated value. In the case of NH_3 the line-width was 5 kc/s, for the resonant length 80 mm and temperature 300°K ; this is 2.5 times the calculated value. Linear pass band narrowing was observed for both masers; this was from 750 to 20 c/s for ND_3 and, from 4.5 kc/s to 100 c/s for NH_3 . Deviation from linearity was not observed. The measurements showed that for a beam formed by a channel with large aperture (dia. 2 mm and length 10 mm) the emission line-width in-

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creases considerably only for those pressures in the beam source which secure the maximum power output. Useful discussions with N.G. Basov and G.M. Strakhovskiy are acknowledged.

ASSOCIATION: Fizicheskiy institut im. P.N. Lebedeva AN SSSR (Institute of Physics im. P.N. Lebedev AS USSR)

SUBMITTED: October 11, 1961

Card 3/3

STRAKHOVSKIY, G.M.; CHEREMISKIN, I.V.

Characteristics of masers. Trudy Fiz. inst. 21:68-106 '65.
(MIRA 16:8)

(Masers)

L 18029-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k)/EWA(h) IJP(c) WG/WW/CG
ACC NR: AP6007012 SOURCE CODE: UR/0051/66/020/002/0342/0344

AUTHOR: Cheremiskin, I. V.; Makeyev, V. S.; Soboлев, I. V.

50
55
B

ORG: none

TITLE: Experimental determination of the light amplification factor in a gas discharge

SOURCE: Optika i spektroskopiya, v. 20, no. 2, 1966, 342-344

TOPIC TAGS: gas discharge, gas laser, laser emission, helium neon laser

ABSTRACT: The authors study the ^{21,44,55}coefficient of light amplification in a gas discharge ^{21,44,55}using a source with a continuous emission spectrum for modulating the discharge and a receiver consisting of a spectroscope, a photomultiplier, and a synchronous detector. A brief description of the experimental equipment is given. The intensity of spontaneous emission on the line being studied was measured and used as the initial value for the signal reading. The light source was then switched on and amplified by population inversion in the discharge tube or attenuated in the absence of population inversion. For small amplification factors (or absorption coefficients) the change in the indicator readings is proportional to the amplification

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UDC: 621.375.9 : 534 2

L 18029-66

ACC NR: AP6007012

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factor (or absorption coefficient). The amplification factor was measured with an absolute error of approximately 0.4%. The measurements were made in a helium-neon gas discharge. The pressure in the discharge tube was held at approximately 3.5 mm Hg with a helium:neon partial pressure ratio of 8:1. The power of the high frequency discharge was approximately 250 w. The tabulated results indicate lines which may be used for laser emission. "In conclusion, the authors are grateful to I. N. Deryugin for interest in the work." Orig. art. has: 1 figure, 1 table. [14]

SUB CODE: 20/ SUBM DATE: 10May65/ ORIG REF: 003/ OTH REF: 003/ ATD PRESS: 4212

Card 2/2 vmb

KAS'YANOV, P.I.; CHEREMISKIN, P.A.

Role of veterinary specialists in the successes of the collective farm. Veterinariia 37 no.9:27-30 S '60. (MIRA 14:11)

1. Predsedatel' kolkhoza "Zavety Il'icha", Kirovskoy obl. (for Kas'yanov).
2. Glavnyy veterinarnyy vrach Novo-Vyatskogo rayona, Kirovskoy oblasti (for Cheremiskin).
(Veterinarians)

L 22119-66 EWT(1)/EWT(m)/EPF(n)-2/EWP(t)/ETC(m)-6 IJP(c) JD/WW/GG
ACC NR: AP6004919 SOURCE CODE: UR/0056/66/050/001/0058/0061

AUTHORS: Tsakadze, Dzh. S.; Cheremisina, L. V.

ORG: Institute of Physics, Academy of Sciences, Georgian SSR
(Institut fiziki Akademii nauk Gruzinskoy SSR)

TITLE: Some features of the twisting of quantum and classical liquids

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 1, 1966, 58-61

TOPIC TAGS: liquid helium, quantum liquid, vortex, rotation, fluid dynamics

ABSTRACT: This is a continuation of earlier work (ZhETF v. 46, 1563, 1964), dealing with differences in the depth of the meniscus produced in helium II on one hand, and helium I and water on the other. In the present investigation the measurements are repeated and the depth is measured not visually, as in the first study, but by photography. The frequency of the measurement is also changed from every 15 seconds to every 3 seconds. The photography method

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ACC NR: AP6004919

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has made it possible to study the time dependence of the depth of the meniscus in greater detail. The results confirm that the turbulent twisting of quantum and classical liquids differs appreciably and a qualitative explanation of the twisting of the quantum liquid is proposed on the basis of the Onsager-Feynman theory of quantum vortices. The authors thank E. L. Andronikashvili for stimulating interest in the research, Yu. M. Kagan and Yu. G. Mamaladze for discussions of the results, and the members of the Second Baku Colloquium on Superfluids and Superconductivity Problems for useful discussions. Orig. art. has: 8 figures and 1 formula.

SUB CODE: 20/ SUBM DATE: 05Aug65/ ORIG REF: 005/ OTH REF: 001

Card 2/2 BK

CHEREMISOV, B.M.

Effect of growing conditions in fall on the transformation of
durum wheat into soft wheat. *Agrobiologia* no.2:285-287
Mr-Apr '59. (MIRA 12:6)

1. Donskoy sosal'nyy nauchno-issledovatel'skiy institut sel'skogo
khozaystva, g.Rostov-na-Donu.
(Wheat)

CHREMISOV, F. (Rostov-na-Donu)

New forms of commerce in Rostov Province. Sov. torg. 34 no.10:30-31
0 '60.

(Rostov Province--Retail trade)

(MIRA 13:10)

L 08704-67 EWT(d)/EWP(c)/EWP(v)/EWP(k)/EWP(h)/EWP(l)
ACC NR: AP7001642

SOURCE CODE: UR/0025/66/000/007/0006/0009

AUTHOR: Choromisov, I. (Engineer; Department chief)

ORG: Scientific Research Institute of Heavy Electric Machine Building (Nauchno-
isslodovatel'skiy institut po tyazholom elektromashinostroyeniyu) 14

TITLE: Power giant

SOURCE: Nauka i zhizn', no. 7, 1966, 6-9

TOPIC TAGS: electric power production, thermoelectric power plant, turbine cooling

ABSTRACT: Since 85% of the electric power produced in the USSR is produced in thermal electric stations, and since the amount of equipment and capital required per kilowatt of power produced is reduced with increasing size of individual turbines, it is natural that the tendency in the USSR today is to increase individual turbine capacity. Increasing unit production of power without increasing size, however, means increasing current level. This creates a problem in cooling. The latest solution has been cooling by high pressure hydrogen, forced through hollow copper conductors in rotor and stator. Now, for the first time, a five hundred thousand kilowatt turbogenerator (the type TGV-500) has been designed using water cooling with distilled water circulating through the hollow conductors. The turbogenerator operates at 3000 rpm, and the distilled water circulating within the rotor conductors

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L 08704-67

ACC NR: A7001642

reaches a pressure of 150 atm. After testing is completed, this electric power giant will go to the NAZAROVSKAYA Regional Electric Power Station.

Orig. art. has: 4 figures. [JPRS: 37,811]

SUB CODE: 10 / SUBM DATE: none

Card 2/2 not

CHEREMISOV, K. (M.)

1. PERMYAKOV, S.; ARIYEVICH, Ye.; CHEREMISOV, K., Eng.

2. USSR (600)

4. Ventilation

7. Ventilation of attics in residential buildings through slotted vents. Zhil. -kom. khoz. 3, No. 2, 1953.

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

CHEREMISOV, K.M.

PERMYAKOV, S.I., starshiy nauchnyy sotrudnik; ARIYEVICH, E.M., starshiy nauchnyy sotrudnik; CHEREMISOV, K.M., starshiy nauchnyy sotrudnik.

Increasing the durability of roof constructions and attic ceilings. Gor. khos.Mosk. 27 no.8:16-19 Ag '53. (MLRA 6:8)

1. Akademiya kommunal'nogo khozyaystva imeni K.D.Pamfilova.
(Roofs) (Ceilings)

CHEREMISOV, K. M.

"An Investigation of the Temperature-Humidity Course of the Wooden
Roofs of Dwellings." Cand Tech Sci, Acad of Communal Economy imeni K. D.
Pamfilov, 6 Dec 54. (VM, 24 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher
Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

CHEREMISOV, K.M.

POLYAKOV, Ye.V., kandidat tekhnicheskikh nauk; CHEREMISOV, K.M., inzhener.

Durability of roofing made of cast iron plates. Stroi.prom. 32 no.6:
36-40 Je '54. (MIRA 7:6)

1. Akademiya komsunal'nogo khozyaystva im. K.D.Panfilova.
(Roofing, Iron and steel)

CHEREMISOV, K., kandidat tekhnicheskikh nauk.

**Improve the heating of attic roofs. Zhil.-kom.khoz. 6 no.3:15-18
'56. (MLRA 9:8)**

**Nauchnyy sotrudnik Akademii kommunal'nogo khozyaystva.
(Roofs)**

CHEREMISOV, K. M.

ARIYEVICH, E., starshiy nauchnyy sotrudnik; CHEREMISOV, K., starshiy
nauchnyy sotrudnik.

Floor construction for steam baths and laundries. Zhil.-kom.
khoz. 6 no.8:24-25 '56. (MLRA 10:2)

1. Akademiya kommunal'nogo khozyaystva.
(Floors, Concrete)

Cheremisov, K.

ARIYEVICH, B.; CHEREMISOV, K.

Using glass blocks to increase humidity in establishments
providing public services. Zhil.-khoz. 7 no.9:20-21

(MIRA 10:10)

'57.

(Glass construction) (Humidity)

CHERNISOV, K.M., kandidat tekhnicheskikh nauk.

~~Preventing~~ heat loss of ceilings in apartment houses. Ger. zhes. Mosk.
31 no.2:23-26 P '57. (MIRA 10:4)
(Moscow--Apartment houses) (Insulation (Heat))

CHEREMISOV, K.M., kand.tekhn.nauk, dotsent

Ways to improve the operational qualities of sloped reinforced
concrete roofs. Trudy MIIT no.140:116-129 '62. (MIRA 15:7)
(Roofing, Concrete)

ARIYEVICH, Eleozar Moiseyevich; GORBACHEV, Vladimir Vasil'yevich;
CHEREMISOV, K.M., red.

[Designing and operating baths] Proektirovanie i eksplu-
atatsiia ban', Moskva, Stroiisdat, 1965. 141 p.
(MIRA 18:12)

CHEREMISOV, M.M., red.; ROMANOVA, N.V., vedushchiy red.; TROFIMOV, A.V.,
tekhn. red.

[For an increase in output from present industrial space operational
experience of the collective of the Leningrad Machine Plant of the
Ministry of the Petroleum Industry] Za uvelichenie vypuska produk-
tsii s sushchestvuiushchikh proizvodstvennykh ploshchadei; opyt
raboty kollektiva Leningradskogo mekhanicheskogo zavoda Minister-
stva neftianoi promyshlennosti, Moskva, Gos. nauchno-tekhn. izd-
vo nef. i gorno-toplivnoi lit-ry, 1954. 55 p. (MIRA 11:9)
(Efficiency, Industrial) (Machine-shop practice)

CHEREMISOV, V.P.

Vibration spectra and structure of certain oxides in the
crystalline and vitreous states. Trudy Fiz. inst. 25:153-208 '64.
(MIRA 17:4)

L 16803-63 EPA(b)/EWT(1)/FCG(w)/FS(v)-2/BDS/ES(v) AFFTC/AFMDC/ESD-3/
APGG/SSD Pd-l/Pe-l/Pg-l/Po-l/Pq-l GW S/2560/63/000/016/0246/0251

82

ACCESSION NR: AT3006851
AUTHOR: Lur'ye, A. I.; Cheremkhin, M. K.

TITLE: Motion of a mass point in a central gravitation field under a small transverse thrust

SOURCE: AN SSSR, Iskusst. sputniki Zemli, no. 16, 1963, 246-251

TOPIC TAGS: mass point motion, central gravitation field, orbital takeoff, transverse thrust takeoff, tangential-thrust takeoff, escape trajectory computation

ABSTRACT: The takeoff from orbit of a powered aerospace vehicle (treated as a mass point) in a central gravitational field by means of a small transverse thrust is discussed. A more exact computation of the escape trajectory is obtained by introducing a correction member with a factor ϵ^2 (ϵ is the thrust-to-gravity ratio) in the equations of motion. The influence of the correction member is shown by comparing in tables the trajectory parameters obtained by the proposed method with those obtained by other methods. The possibility of applying the method in the cases of a large transverse thrust and of a small tangential thrust is mentioned. Orig. art. has: 35 formulas and 2 tables.

Card 1/1

CHEREMKHIN, S.S.

Forests of the upper Vilyuy Valley. Trudy Inst. biol. IAFAN
SSSR no.7:243-259 '61. (MIRA 14:5)
(Vilyuy Valley--Forests and forestry)

ARKHIPOV, A. (Bol'shoye Murashkino, Gor'kovskaya oblast'); KUTUZOV, Valeriy
(Cherkessk, Stavropol'skiy kray); CHEREMKHIN, Yu. (g. Nakhodka,
Primorskiy kray).

Young helpers of firemen. Posh.delo 4 no.12:16-17 D '58.

(MIRA 11:12)

1. Nachal'nik Yunosheskoj dobrovol'noy pozharnoy druzhiny shkoly
No.6 (for Kutuzov). 2. Starshiy inspektor pozharnoy chasti (for
Cheremkhin).

(Firemen) (Youth)

SOV/26-59-5-28/47

30(1)

AUTHOR: Cheremkin, R.G.

TITLE: ~~Ovis Canadensis~~ in Yakutiya

PERIODICAL: Priroda, 1959, Nr 5, pp 107 - 108 (USSR)

ABSTRACT: The author describes the wild "snow" ram living on the elevated grounds of Yakutiya (Sakkyrskiy, Verkhoyanskiy, Bulunskiy, Tomponskiy, Oymyakonskiy, Momskiy and Verkhne-Kolymskiy rayons). This animal lives in small flocks headed by an old ram. In winter it keeps to high rocks, in summer to the edge of the forests and rivers. It loses its thick coat in May - June and becomes brown-grey. In winter it changes back to ruddy-grey. Its average weight is 40 to 50 kg. Its meat is very tasty and nourishing. The hides are used for making chamois (suede), sleeping bags, etc. Mushrooms are its favorite food. There is 1 photograph.

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SOV/26-59-5-28/47

Ovis Canadensis in Yakutiya

ASSOCIATION: Kafedra anatomii sel'skokhozyaystvennykh zhiivotnykh
Yakutskogo gosudarstvennogo universiteta (The Chair
of Anatomy of Agricultural Animals at the Yakutsk
State University)

Card 2/2

CHEREMNYKH, A.A. (Leningrad)

Changes in the capillary bed of the liver in fetuses and newborn of white rats in asphyxia. Arkh. pat. 25 no. 7:53-61'63
(MIRA 16:12)

1. Iz laboratorii normal'noy i patologicheskoy fiziologii (zav. - prof. N.L. Garmasheva) i laboratorii normal'noy i patologicheskoy morfologii (zav. - prof. B.V. Kulyabko) Instituta akusherstva i ginekologii AMN SSSR (dir. - prof. M.A. Petrov-maslakow).

CHEREMNYKH, A.A. (Leningrad, S-124, ulitsa Krasnykh Tekstil'shchikov, 3/10, kvartira 5)

Quantitative changes in the capillary channels of the liver in fetuses of white rats during the transition to extrauterine life. Arkh. anat., gist. i embr. 45 no.7:108-115 Je '63.

(MIRA 17:4)

1. Laboratoriya normal'noy i patologicheskoy fiziologii (zav. - prof. N.L. Garmesheva) i Laboratorii normal'noy i patologicheskoy morfologii (zav. - prof. B.V. Kulyabko) Instituta akusherstva i ginekologii AMN SSSR, Leningrad.

CHERENNYKH, ALEKSANDR IVANOVICH
SAMAROV, Grigoriy Abramovich; CHERENNYKH, Aleksandr Ivanovich; SOSULINA, V.N.,
redaktor; MEDVEDEV, L.Ya., Tekhnicheskii redaktor

[The modeling and cutting of men's suits and coats] Modelirovanie
i konstruirovaniye muzhskoi verkhnei odezhdy. Izd. 3-e dop. i perer.
Moskva, Gos.nauchno-tekhn.isd-vo Ministerstva promyshlennykh tovarov
shirokogo potrebleniya SSSR, 1955. 234 p. (MIRA 8:4)
(Tailoring)

CHEREMNYKH, Aleksandr Ivanovich; SAMAROV, Grigoriy Abramovich; RAZBASH,
Isaak Yakovlevich, dotsent; VINOGRADOV, S.K., retsentsent;
ISLANKINA, T.F., red.; MEDVEDEV, L.Ya., tekhn.red.

[Designing of women's clothing] Konstruirovaniye verkhnei zhenskoi
odeshdy. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi pro-
myshl., 1959. 142 p. (MIRA 13:9)
(Dressmaking--Pattern design)

3(4)

AUTHOR:

Cheremnykh, G. D., Junior Staff Member

SOV/154-59-4-9/17

TITLE:

Determination of Current Directions and Speeds on the Surface During the Floating of Drift Ice According to the Data of Aerial Photographs (Opredeleniye napravleniya poverkhnostnykh struy i skorostey techeniya na rekakh v period ledokhoda po materialam aerofotos"yenki)

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yenka, 1959, Nr 4, pp 71-78 (USSR)

ABSTRACT:

In their treatises (Refs 1,2) Rodionov and Malyavskiy presented a method for the photogrammetrical evaluation of aerial photographs of river surfaces. By this method it is possible to determine the speed and the direction of superficial currents. For this purpose floaters are used which are photographed at fixed intervals. Here the author describes such an experiment which he made at one of the great rivers of the USSR in order to obtain preliminary hydrological characteristics for the planning of large-scale hydraulic constructions. The investigations were made at two different parts of the river, each part being 100 kilometers long.

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Determination of Current Directions and Speeds on the SOV/154-59-4-9/17
Surface During the Floating of Drift Ice According to the Data of Aerial
Photographs

In the spring of 1954 aerial photographs were repeatedly taken from these two parts and so it was possible to record the characteristic stages of the beginning ice flow. The photographs were taken from an airplane of the "LI-2" type by means of a AFA-TE camera with $f_k = 100$ millimeters, with a size of 18×18 centimeters and a time photo recorder. The fore-and-aft overlap amounted to 60 to 80 % according to the velocity of flow. In order to facilitate the field work it is suitable to make a diagram. With the river width, the ceiling and the scale of the map given, the most favorable focal distance of the objective of the aerial camera is determined according to this diagram (Fig 2). It is recommendable to use aerial cameras with $f_k = 35$ to 55 millimeters since it is possible to take photographs of parts of a river with a width of 1,800 meters even if the ceiling is only 600 to 900 meters high. If the stretch of the river to be investigated is very long and has many bends it is divided into straight-lined subsections. The beginning and the end of the

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**Determination of Current Directions and Speeds on the SOV/154-59-4-9/17
Surface During the Floating of Drift Ice According to the Data of Aerial
Photographs**

aerial photograph is made together with the reading of the waterlevel mark by the hydrologist on duty. The investigations made in the office work are described. A method is suggested how to obtain cartograms of the directions of surface currents according to the data of the aerial photographs. The work showed that the use of aerial photographs for hydraulic investigations considerably increases their accuracy and efficiency, and besides gives a complete picture of the state of the river. Better results can be obtained if helicopters are used for this purpose. There are 7 figures and 2 Soviet references.

ASSOCIATION: Institut geografii Akademii nauk SSSR (Geographical Institute of the Academy of Sciences, USSR)

SUBMITTED: October 14, 1958

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SOV/10-59-5-12/25

AUTHOR: Sil'nitskaya, V.I. and Cheremnykh, G.D.

TITLE: On Methods of Measuring the Speed of Ice Motion of the Surface Parts of Certain Antarctic Glaciers From Data Obtained by an Aero-Photographic Survey Carried out Twice

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1959, Nr 5, pp 90-95 (USSR)

ABSTRACT: The authors describe how, by photogrammetric processing of two aerial photographs of the same glaciers the second photograph taken 12 1/2 months later, the speed of ice motion in the surface parts of Antarctic glaciers can be calculated. The coordinated photogrammetric processing of photographs of the R. Scott and V.A. Obruchev Glaciers, obtained in 1956 and again in 1957 by the section of aero-photographic survey of the Kompleksnaya antarkticheskaya ekspeditsiya AN SSSR (Multi-purpose Antarctic Expedition of the AS USSR), was done by plane phototriangulation conducted with

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On Methods of Measuring the Speed of Ice Motion of the Surface Parts of Certain Antarctic Glaciers From Data Obtained by an Aero-Photographic Survey Carried out Twice

simultaneous inclusion in a thus-obtained rhombic net of all identical points on the identified glaciers' surfaces. This processing was done in the Stereofotogrammetricheskaya laboratoriya (Stereophotogrammetric Laboratory) of the Institute of Geography of the AS USSR under the direction of V.I. Avgeevich. After reducing the free photogrammetric nets to the scale of the base, all working centers of the processed aerial photographs and all auxiliary photogrammetric points were transposed on the base. As a result of processing of two photographs of the same glacier taken at 12 1/2 months interval, the identical points on the photogrammetric base were doubled and the distance between them represented the vectors (chart 1) which characterized the direction and the dimensions of a lineal shifting of identical points which occurred during the

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On Methods of Measuring the Speed of Ice Motion of the Surface Parts of Certain Antarctic Glaciers From Data Obtained by an Aero-Photographic Survey Carried out Twice

mentioned interval. From the measured dimension of each vector, the time factor being known, the speed of each identified point on the ice surface could be calculated. Then, using this data, isoline of equal velocity lines could be traced which would determine the zones of equal surface velocities of the ice motion. Taking into consideration a compound error margin occurring in the course of processing and transposition of identical points, there is a possible error of ± 0.56 m, in the calculation of the monthly speed of the ice surface motion. The method of calculating this error is described in detail. The names of L.D. Dolgushin and Yu.I. Fuki-na are mentioned in this article. There is 1 chart,

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On Methods of Measuring the Speed of Ice Motion of the Surface Parts of Certain Antarctic Glaciers From Data Obtained by an Aero-Photographic Survey Carried out Twice

1 graph, 2 tables and 1 Soviet reference.

ASSOCIATION: Institut geografii AN SSSR (Institute of Geography of the AS USSR).

Card 4/4

TSVETKOV, D.G.; CHEREMNYKH, G.D.

Using F.V.Drobyshev's reduction printer without pantograph.

Geod. i kart. no.9:36-40 S '60.

(MIRA 13:11)

(Aerial photogrammetry)

CHEREMNYKH, G.D.

Increasing the scope of the work of the SD-1 stereograph. Good. i kart.
no.6:48-50 Je '63. (MIRA 16:9)
(Stereoscope)

CHEREMNYKH, G.D.

New possibilities for using aerial photography in glaciological research. Izv. AN SSSR. Ser. geog. no. 6:89-94
N-D '63. (MIRA 17:1)

1. Institut geografii AN SSSR.

OPARIN, A.I., akademik; STUDITSKIY, A.N., prof.; NAUMOV, N.P.,
prof.; KOVAL'SKIY, V.V.; YUROVA, I.L., dots.; PLATONOV, G.V.,
prof.; KAGANOV, V.M.; FURMAN, A.Ye., dots.; MEDVEDEV,
N.V., prof.; YAKIMOV, V.P., kand. biol. nauk;
ZHUKOV-VEREZHIKOV, N.N.; BONDARENKO, P.P., prof.;
MAYSKIY, I.N., prof.; TRIBULEV, G.P., dots.;
TSAREGORODTSEV, G.I., dots.; DOBROKHALOV, V.P., kand.
biol. nauk; YAZDOVSKIY, V.I., prof.; VIKTOROVA, V., red.;
CHEREMNYKH, I., mlad. red.; ULANOVA, L., tekhn.red.

[Studies on the dialectic of living nature] Ocherk dia-
lektiki zhivoi prirody. Moskva, Sotsekgiz, 1963. 527 p.
(MIRA 16:12)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokho-
zyaystvennykh nauk imeni V.I.Lenina (for Koval'skiy).
2. Deystvitel'nyy chlen AMN SSSR (for Zhukov-Verezhnikov).
(Biology--Philosophy)

KEYLIN, S.L., prof., SUBBOTIN, M.Ya., prof., LEYTAN, V.I., aspirant,
CHEREMNYKH, L.N., aspirant.

Changes in the placenta in pregnant subjects with nephropathy
[with summary in English]. Akush. i gin. 34 no.5:65-69 S-0 '58
(MIRA 11:10)

1. Iz kafedry akusherstva i ginekologii (sav. - prof. S.L. Keylin)
i kafedry gistologii (sav. - prof. M.Ya. Subbotin) Novosibirskogo
meditsinskogo instituta.

(KIDNEY DISEASES, in pregn.
placental changes (Rus))

(PLACENTA, pathol.
in kidney dis. (Rus))

CHEREMNYKH, L.N.; NAUMOVA, A.N.

Soil temperature conditions and the tomato crop. Izv. AN SSSR Ser.
biol. no.3:452-457 My-Je '61. (MIRA 14:5)

1. Institute of Microbiology, Academy of Sciences of the U.S.S.R.,
Moscow. (TOMATOES) (PLANTS, EFFECT OF SOIL TEMPERATURE ON)

CHEREMNYKH, L. I.

Distribution of hyaluronic acid in the stroma of the ciliated placenta in man. L. P. Cheremnykh (State Med. Inst., Novosibirsk). *Doklady Akad. Nauk S.S.R.* 110, 1103-4 (1958). — In early pregnancy (6-7 weeks), the ciliated stroma of placenta is rich in highly polymeric hyaluronic acid; typical cellular distribution is shown in drawings. Hyaluronidase activity rises with progress of pregnancy. G. M. K.

Med

1

Cheremnykh, L. P.

20-2-42/50

AUTHOR:

Cheremnykh, L. P.

TITLE:

Acid Mucopolysaccharides of the Chorion of Animals Displaying Primitive Placentation (Kislyye mukopolisakharidy khoriona zhi-votnykh s primitivnoy platsentatsiyey)

PERIODICAL:

Doklady AN SSSR, 1957, Vol. 116, Nr 2, pp. 312-314 (USSR)

ABSTRACT:

The particularities of the stroma of the connective tissue and the permeability of the chorion of primitive placentas are only to a small extent researched. These questions are, however, important not only for the understanding of the exchange mechanism between the embryo and the mother of animals with a primitive placenta, but are also able to throw a light on some unexplained problems of the permeability of complicated haemochorial placentas (among these also of the human placenta). The substances mentioned in the title are here of special interest since it is known that the permeability of the fundamental substance of the connective tissue is connected with them. In recent time investigations were carried out in order to study the system hyaluron acid-hyaluronidase in the human placenta. The hyaluronidase quantity increases with advancing pregnancy, whereas the quantity of the high-polymeric acid mucopolysaccharides decreases simultaneously. The author tries to study the question given in the title in various stages of the pregnancy of sheep (desmochorial placentation

Card 1/2

Acid Mucopolysaccharides of the Chorion of Animals Displaying Primitive Placentation. 20-2-42/50

type). If the results of present paper are compared to the cognitions of the author gained by former investigations it can be concluded that in the chorion connective tissue of animals with a primitive placentation much more highpolymeric mucopolysaccharides are contained than in the human chorion where they form considerably finer structures. The quantity of the highpolymeric acid mucopolysaccharides decreases, however, in the human chorion as well as in the chorion of animals with a primitive placentation with the advancing pregnancy. Simultaneously the quantity of the depolymerized mucopolysaccharides increases. The reduction of polymerity of the substances forming a part of the fundamental substance of the connective tissue leads obviously to an increase of the permeability of the latter. There are 4 figures and 8 references, 5 of which are Slavic.

ASSOCIATION: Novosibirsk Medical Institute (Novosibirskiy meditsinskiy institut)

PRESENTED: June 10, 1957 by N. N. Anichkov, Academician

SUBMITTED: March 22, 1957

AVAILABLE: Library of Congress.

Card 2/2

USSR / Human and Animal Morphology, Normal and Patho- S-3
logic -- Histochemistry

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59803

Author : Vinogradov, V. V.; Cheremnykh, L. P.

Inst : Not given

Title : A Method for the Histochemical Detection of Acid
Mucopolysaccharides

Orig Pub: Byul. eksperim. biol. i meditsiny, 1957, 43, No 1,
124-125

Abstract: For more complete histochemical demonstration of
acid mucopolysaccharides, the authors have develo-
ped a modification of Hall's method. The most im-
portant factor determining the success of the reac-
tion is the amount of the colloidal ferric acetate

Card 1/2

USSR / Human and Animal Morphology, Normal and Patho- S-3
logic -- Histochemistry

Abs Jour: Ref Zhur-Biol., No 13, 1958, 59808

reagent. Colloidal iron hydroxide is obtained by adding 8-12 milliliters of a solution of iron chloride in drops to 100 milliliters of boiling distilled water. The dialyzed iron hydroxide is mixed in a ratio of 3:1 or 2:1 with 2 M acetic acid. The authors have increased the time of the processing of the preparation with the ferric acetate reagent and the potassium ferrocyanide solution to 20 to 25 minutes. It is recommended that the ferric acetate reagent be washed out with a 2 M solution of acetic acid. A 1-4 percent solution of lead acetate (or a 0.5 percent solution of acetic acid) in 8 percent formalin should be used as the fixative instead of Carnoy's fluid.
--E. N. Popova

Card 2/2

9

CHEREMNYKH, L. P.: Master Med Sci (diss) -- "The morphology and permeability of the blood vessels and the basic amorphous substance of the chorion of man and certain mammals". Novosibirsk, 1958. 19 pp (Novosibirsk State Med Inst, Chair of Histology and Embryology), 250 copies (KL, No 6, 1959, 146)

CHEREMNYKH, L. P., DASHEVICH, V. S.

"Cytophotometric Research on the Content of DNA in the Nuclei
of Cells of the Animal Organism."

report submitted for the First Conference on the problems of Cyto and
Histochemistry, Moscow, 19-21 Dec 1960.

**Institute of Cytology and Genetics Siberian Division Academy of Sciences USSR,
Novosibirsk.**

VINOGRADOV, V.V.; DONSKIKH, N.V.; SUBBOTIN, M.Ya.; CHEREMNYKH, L.P....

Comparative evaluation of the methods of histochemical detection of mucopolysaccharides in the tissues of provisory organs of man and mammals. Arkh. anat. gist. i embr. 42 no.1:103-109 Ja '62.

(MIRA 15:4)

1. Kafedra gistologii (zav. - prof. M.Ya. Subbotin) Novosibirskogo meditsinskogo instituta. Adres avtorov: Novosibirsk, Krasnyy prosp., 58, Kafedra gistologii i embriologii Novosibirskogo gosudarstvennogo meditsinskogo instituta.

(POLYSACCHARIDES)

(CONNECTIVE TISSUES)

CHEREMNYKH, L.P., kand.med.nauk; PEREL'MAN, R.M.

Clinicomorphological comparisons in chronic primary tuberculosis of the lungs in children. Probl. tub. no.2:74-79 '64.

(MIRA 17:12)

1. Novosibirskiy nauchno-issledovatel'skiy institut tuberkuleza (dir. M.V.Svirezhev).

KAGALOVSKIY, G.M.; CHEREMNYKH, L.P., kand.med.nauk

Pathohistological changes in the bronchi at the site of trans-
section during pulmonary resection for tuberculosis. Probl. tub.
42 no.8:70-74 '64. (MIRA 18:12)

1. Novosibirskaya gorodskaya protivotuberkuleznaya bol'nitsa
No.26 (glavnyy vrach V.V.Semenova).

V'YUKOVA, R.N., kand. med. nauk; CHEREMNYKH, L.P.

Results of lung resections in patients with fibrous-cavernous tuberculosis in relation to the genesis of the cavern. Probl. tub. 42 no.10:25-29 '64. (MIRA 18:11)

1. Protivotuberkuleznyy dispanser (glavnyy vrach F.G. Grigorenko) Kirovskogo rayona Novosibirsk i Novosibirskiy nauchno-issledovatel'skiy institut tuberkuleza (direktor - kand. med. nauk M.V. Svirezhev).

CHEREMNYKH, M.A.

Calculating broadband step transit from a Π -shaped wave
guide to rectangular wave guides. Izv. tekh. no.2:50-54
F 165. (MIRA 18:6)

LEKHTIMYAKI, E.V.; CHEREMNYKH, M.G.

Device for measurement the amount of water absorbed by absorption wells. Izv.vys.ucheb.zav.; geol. i razv. 5 no.5:109-115 My '62.
(MIRA 15:6)

1. Leningradskiy gornyy institut imeni G.V. Plekhanova.
(Mine drainage)

SKRYL'NIKOV, G. (Kuybyshev); KONOVALOV, V. (Gor'kiy); KUPRIYANOV, N., inzh. (Tuapse); YAKOVLEV, V., inzh. (Tuapse); CHABANENKO, A. (Kemerovo); STRUL', B. (Voronezh); BOGDANOV, L. (Barnaul); CHEREMNYKH, M., tekhninformator (Krasnyy Sulin Rostovskoy obl.); SEREGINA, Yu. (Orel); TOKAR', S.; TISHCHENKO, A. (Kiyev); CHAYKA, D. (Kiyev)

Advertisement board. Izobr. i rats. no.10:10-11 '63. (MIRA 17:2)

1. Rabotnik kabel'nogo zavoda, g. Saransk, Mordovskoy ASSR (for Tokar').

CHEREMNYKH, M.

KOCHERGIN, G.; *CHEREMNYKH, M.*; KONONTSEV, I.; MALIOVANOV, D.; MALEVICH, N.;
RATS, A.; *LESIK, M.*; KHOKHLOVKIN, D.; FEDOTOV, A.

Remarks on the book "Machines and equipment in mining." Vol. 1. "Mining equipment." F.G.Boiko and others. Reviewed by G.Kochergin, M.Chernykh, I.Konontsev, D.Maliovanov, N.Malevich, A.Rats, M.Lesik, D.Khokhlovkin, A.Fedotov. Ugol' 29 no.11:46-48 '54. (MLRA 7:11)

1. Glavnyy mekhanik Upravleniya po stroitel'stvu shakht v Donbasse Ministerstva ugol'noy promyshlennosti SSSR (for Kochergin). 2. Glavnyy Konstruktor Glavstroymekhanizatsii (for Chernykh). 3. Nachal'nik otdela novykh mashin GUES (for Konontsev). 4. Direktor instituta Giprosakhtostroy mash (for Maliovanov). 5. Glavnyy inzhener Giprosakhtostroy masha (for Malevich). 6. Nachal'nik otdelov Giprosakhtostroy masha (for Rats, Lesik & Khokhlovkin). 7. Glavnyy konstruktor Giprosakhtostroy masha (for Fedotov).

(Coal--Mining machinery) (Boiko, F.G.)

FEYGIN, L. inshener; CHEREMNYKH, M. inshener

New bits for the rotary drilling of large diameter boreholes.
Mast. ugl. 4 no. 5:20-22 My '55. (MLRA 8:7)
(Boring machinery)

CHEREMNYKH

**CHEREMNYKH, Mikhail Inokent'yevich; KITAYSKIY, Ye.V., redaktor; PROZOROV-
SKAYA, V.L., tekhnicheskiy redaktor**

**[Pneumatic loaders of the BCh type] Pnevmaticheskie grushiki tipa
BCh. Moskva, Ugletekhizdat, 1955. 27 p. (MIRA 9:1)
(Coal-handling machinery)**

~~CHERNOBYL N. I.~~

"Prokhodchik" rock loader. Shakht.stroi, no.5:21 My '57. (MIRA 10:7)
(Mining machinery)

MALIOVANOVA, D.I., kand.tekhn.nauk, otv.red.; LIDSKIY, B.N., red.;
PRUZHINER, V.L., red.; CHERNOBYKH, M.I., red.; CHECHKOV,
L.V., red.isd-va; SHALYAR, S.Ia., tekhn.red.

[Mechanization of drifting in mine construction] Mekhani-
zatsia gornoprokhodcheskikh rabot pri stroitel'stve shakht.
Moskva, Ugletekhnizdat, 1959. 293 p. (MIRA 12:6)
(Coal mining machinery)

CHEREMNYKH, N., inzhener

Aeronautics today. Tekh.mol. 23 no.8:14-19 Ag'55. (MLRA 8:11)
(Aeronautics)

CHEREMNYKH

AID P - 3112

Subject : USSR/Aeronautics

Card 1/1 Pub. 58 - 17/19

Author : Not given

Title : New books

Periodical : Kryn. rod., 8, 24, Ag 1955

Abstract : This is a brief review of a book: Cheremnykh, N. and Shipilov, I.,
A. F. Mozhayskiy - sozdatel' pervogo v mire samoleta (A. F. Mozhayskiy
- Creator of the First Aircraft in the World) Moscow, 1955.

Institution : None

Submitted : No date

I. 27297-65 EWT(d)/EPA/EWT(i)/EWP(f)/T-2/EPR/EWA(c) Paa-4 LBF

ACCESSION NR: AP5002958

S/0209/65/000/001/0077/0082

AUTHOR: Cheremnykh, N. (Engineer, Colonel)

TITLE: The first ramjet

SOURCE: Aviatsiya i kosmonavtika, no. 1, 1965, 77-82TOPIC TAGS: ramjet, ramjet engine, ramjet test, jet motor, jet propulsion/ DM 2 ramjet, DM 4 ramjet

ABSTRACT: The author describes the sequence of events leading to the first successful use of a ramjet engine on an actual aircraft flight. The date given for this test is 25 January 1940. I. A. Merkulov proposed the use of a ramjet as a supplementary means of aircraft propulsion. His calculations showed that a ramjet engine weighing 40-50 kg could increase the velocity of a propeller-driven aircraft from about 700 km/hr to 850-900 km/hr. On 3 July 1939, Merkulov, with the assistance of V. Vetchinkin, H. Stechkin, K. Putilov, A. Kvasnikov, N. Inozemtsev, A. Mikhailov, K. Bayev, and others, began tests and construction at the scientific research Soviet NKAP. Stationary ground tests were carried out on 17 September 1939. The object of the tests was to determine the reliability of the model under sustained ignition. The tests were successful, as the motor performed perfectly and without damage for 31 minutes. A second model (DM-2) was ready at the end of the same month. A
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ACCESSION NR: AP5002958

special wind tunnel was constructed to test the DM-2. Its thrust was measured by means of a dynamometer device. In December 1939 the ramjet was mounted upon an I-152 aircraft. Studies were first conducted to determine the flight stability of the plane carrying the ramjet. Tests were then conducted with the ramjet ignited. An increase of speed from 320-340 km/hr to 338-362 km/hr was observed. By August 1940 the DM-4, a similar but larger model, was ready for trials. It was mounted on an I-153 aircraft and produced an increase in speed of 51 km/hr. In May 1941 work was begun to adapt the use of the ramjet to faster military aircraft. Tests were eventually conducted using aircraft models I-207, Yak-1, and Yak-7, but the German invasion of the USSR slowed the progress of development. Additional participants mentioned are A. Maslov, A. Mel'nikov, B. Nikolayevskiy, A. Gonsovsckaya, Z. Tolstikova, I. Charnyy, P. Kerev, N. P. Yakov, G. L. Nikitin, and K. Putilov. Orig. art. has: 6 photographs.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: PR

NO REF SOV: 000

OTHER: 000

Card 2/2

AKHMATOV, A.P.; BLINOV, P.I.; BOLOTIN, V.F.; BORODIN, A.V.;
GAVRIN, P.P.; ZAVOYSKIY, Ye.K.; KOVAN, I.A.; OGANOV, M.N.;
PATRUSHEV, B.I.; PISKAREV, Ye.V.; RUSANOV, V.D.; SMOLKIN,
G.Ye.; STRIGANOV, A.R.; FRANK-KAMENETSKIY, D.A.; CHEREMNYKH,
P.A.; CHIKIN, R.V.

[Magnetoacoustic resonance in a plasma] Magnito-zvukovoi
rezonans v plazme. Moskva, In-t atomnoi energii, 1960. 23 p.
(MIRA 17:2)

CHEREMNYKH, P. A.

36/410
63751
4/046/401/019/001/002/045
004/000

Author: A. P. Blinov, P. I. Bolotin, V. P. Popov, P. A. Chermnykh, V. I. Zolotarev, G. I. Kuznetsov, A. A. Kuznetsov, V. M. Solov'ev, G. G. Stetsko, A. N. Tikhonchuk, D. A. Zhuravlev, P. A. Zhuravlev, N. V. Zhuravlev

TITLE: Magnetostatic Resonance in the Plasma
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5 (9), pp. 596-964

Card 1/4
The authors wanted to study the penetration of oscillations into the plasma and plate resonantly to a static magnetic field. From the plasma point of view, this process has a course similar to acoustic oscillations, with the difference that the magnetic pressure $H^2/8\pi$, and not the gas pressure, is effective here. (1) is written down as a resonance condition: $\omega_0/\omega = 1$, where ω is a dimensionless number characterizing the type of oscillations, ω_0 the strength of the

static magnetic field, ρ the density of the plasma, ω the optic frequency, and R the radius of the plasma cylinder. The following is written down for the radial amplitude of the plasma motion velocity: $V_r \approx \omega R \rho_0 / \rho_0 \omega_0 \sqrt{1 - \omega_0^2/\omega^2}$ (2) - strength of the magnetic alternating field, v_{ph} - phase velocity of the magnetic field). The interaction of an electromagnetic high-frequency field H with a cold plasma was experimentally investigated in a cylinder in the presence of an axial magnetic field. The results of the experiment are compared with the theory and for the experiment. In our such experimental setup of the alternating field had a frequency of 12.5 Mc/sec, while in another series the frequency was 50 Mc/sec. The plasma flow was recorded by means of an O^2 -19 (F2U-19) photomultiplier and an OK-17M (OK-17M) oscilloscope, while the penetration of high-frequency oscillations into the plasma and the radial amplitude distribution of the magnetic alternating field were studied with the aid of a magnetic probe. The experiments were conducted with hydrogen, helium, argon, and air at an initial pressure of

Card 2/4
10⁻⁴ - 6.10⁻⁵ torr. The oscillograms of Figs. 2, 3 show that resonance phenomena appear in the range between 100 cps and 5 kilocps. Fig. 4 shows the effect of resonance on the spectral lines of hydrogen. There is a dependence of the amplitude H_0 of the magnetic resonance field on the amplitude of the H-field. Fig. 5 shows the spatial distribution of the amplitude H_0 of the resonance field in hydrogen and argon. As may be seen from Fig. 6, the resonance shows a fine structure. This effect is being further investigated. A gas temperature of 2.5 eV was calculated from the Doppler broadening of the H α line (Figs. 7, 8) corresponding to 0.8 A. Experimental data for H α confirmed the validity of equation (1). Experiments with argon at frequencies above the hybrid frequency yielded the same results. The authors conclude that the resonance experiments above the hybrid frequency are similar to the experiments on the hybrid frequency, not perpendicular to H_0 . This was confirmed by measurement of the azimuthal component of the magnetic field H_θ (Fig. 9). The authors thank L. V. Kuznetsov, Academician, for interest displayed in the work. There are 9 Figures and 4 references: 2 Soviet, 1 US, and 1 German.

Card 3/4
SUMMARY: April 3, 1960

AFONIN, I. P.; GAVRILOV, B. I.; ZAVOYSKIY, Ye. K.; KARMANOV, F. V.;
MAKSIMOV, G. P.; FLAKHOV, A. G.; CHEREMNYKH, P. A.;
SHAPKIN, V. V.

The experimental plasma apparatus C-1 with screw magnetic
fields. Atom. energ. 14 no.2:143-150 F '63.
(MIRA 16:1)

(Plasma(Ionized gases)) (Magnetic fields)

L 11885-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP5028024

SOURCE CODE: UR/0386/65/002/008/0398/0402

AUTHOR: ^{44 55} Blinov, P. I.; ^{44 55} Gavrilov, B. I.; ^{44 55} Zakatov, L. P.; ^{44 55} Cheremnykh, P. A.

ORG: none

TITLE: Electron heating in the TN-1 installation

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 8, 1965, 398-402

TOPIC TAGS: plasma heating, plasma injection, plasma electron temperature, plasma acceleration, microwave plasma/ ~~TR-F~~

ABSTRACT: The authors discuss results obtained with the TN-1 installation (Fig. 1), which was constructed to heat the electronic component of a plasma by means of a high-frequency shock circuit. The quasistatic field H_0 reached a maximum within 5 μ sec, after which it decreased with a 20 msec time constant. The mirror ratio was 2, the maximum value of the field H_0 in the center of the trap was 8 koe. The plasma was injected in the trap by a coaxial injector with electrodes made of deuterium-impregnated titanium. By varying the injector voltage it is possible to vary the plasma density from $n_e > 2 \times 10^{13} \text{ cm}^{-3}$ to $n_e < 10^{11} \text{ cm}^{-3}$. A single-turn loop with frequency $\nu = 3.5 \text{ Mc}$ at a voltage $u_c = 120 \text{ kv}$ on a capacitor $C_c = 3 \times 10^{-8} \text{ F}$ produced a field of $H = 900 \text{ oe}$. By varying the time interval between the operation of the high-frequency loop and the application of the magnetic field, it was possible to study the heating of the electrons at different H/H_0 . It was expected that the electrons with $n_e = 2 \times 10^{12} \text{ cm}^{-3}$ would be heated to $T_e = 3 \text{ kev}$, and that further adiabatic compression

Card 1/2

L 11885-66

ACC NR: AP5028024

would raise the temperature to ~30 kev. The experiment has shown that the cold plasma filling the trap chamber decayed as a result of recombination with a time constant $\tau_c = 300 \mu\text{sec}$. Not more than 10% of the high-frequency field energy goes into plasma heating, and the authors' data have so far not confirmed the conclusion that turbulent heating of a plasma by means of a shock circuit is highly effective. The x-rays of energy ~20 kev emitted from the chamber after the closing of the circuit are due to the presence of an accelerating mechanism and do not prove the existence of high electron temperatures. Authors thank Ye. K. Za-

voyskiy for suggesting the topic and interest in the work, and L. I. Rudakov, G. V. Sholin, A. V. Gordeyev, and L. V. Korablev for useful discussions. Orig. art. has: 3 figures.

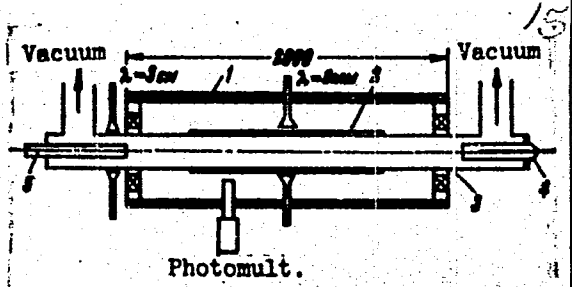


Fig. 1. Diagram of TN-1 installation. 1 - Solenoid, 2 - high-frequency shock circuit, 3 - vacuum glass chamber, 4 - plasma injector, 5 - grid probe or x-ray detector.

SUB CODE: 20/ HUMB DATE: 07Sep63/ ORIG REF: 007

RC
Card 2/2

L 20386-66 EWT(1)/ETC(f)/EPF(n)-2/ENG(m) IJP(c) AT

ACC NR: AT6001561

SOURCE CODE: UR/3136/65/000/912/0001/0008

AUTHOR: Blinov, P. I.; Gavrilov, B. I.; Zakatov, L. P.; Cheremnykh, P. A. ⁶⁹ ₅₈

ORG: Institute of Atomic Energy im. I. V. Kurchatov (Institut atomnoy energii) ⁶⁹ ₅₈

TITLE: Heating of electrons in the TN-1 installation

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-912, 1965. Nagrev elektronov v ustanovke TN-1, 1-8

TOPIC TAGS: plasma heating, electron temperature, plasma injection, magnetohydrodynamics, plasma wave propagation, plasma discharge, x ray emission/ TN 1

ABSTRACT: The authors describe apparatus ^{21, 44-5} TN-1⁷⁸ (Fig. 1), designed for heating the electronic component of a plasma by means of a high frequency shock circuit. The quasistatic field reached a maximum within 5.0 msec, after which it dropped off with a time constant of 20 msec. The mirror ratio was 2, and the maximum field in the center of the trap was 8 koe. A single-turn loop with frequency 3.5 Mcs with a discharge of 3×10^{-8} F capacitor at a voltage of 120 kv, produced a field of 900 oe. The plasma was injected in traps by means of a coaxial injector. The plasma density could be varied from 2×10^{13} to 10^{11} cm^{-3} by varying the injector voltage. The heating was investigated in the electron density region 10^{12} - 10^{13} cm^{-3} . The tests have shown that a radial magnetohydrodynamic wave propagated in

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L 20386-66

ACC NR: AT6001561

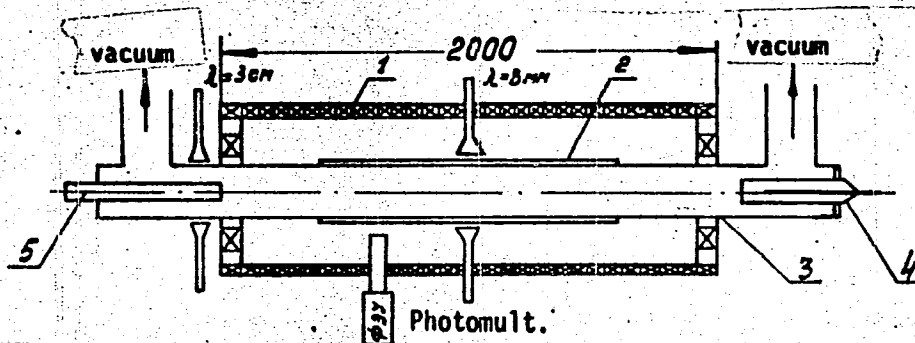


Fig. 1. Diagram of TN-1 installation. 1 - Solenoid, 2 - high frequency shock circuit, 3 - vacuum glass chamber, 4 - plasma injector, 5 - grid probe or end-window x-ray detector.

the plasma, and that the wave front becomes steeper upon heating. The electron distribution function relative to the longitudinal energy disclose the presence of two groups of electrons, a main group with average energy 100--250 ev, and a

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L 20386-66

ACC NR: AT6001561

secondary group (25%) with energy of the order of 1 kev. Discharge of the plasma filled with the aid of the injector gave rise to emission of x-rays of energy 20 kev from the chamber, the x-radiation lasting as much as 25 msec. These x-rays are shown to be the result of the acceleration mechanism in the plasma. The authors thank Ye. K. Zavoytsky for suggesting the topic and interest in the work, and L. I. Rudakov, L. V. Korablev, G. V. Sholin, and A. V. Gordeyev for useful discussions. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001

Card 3/3 *MAS*

L 25592-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: A16001558 SOURCE CODE: UR/3136/65/000/907/0001/0035

AUTHOR: Blinov, P. I.; Gavrilov, B. I.; Cherenykh, P.A.; Yashin, N. M.

65
B+1

ORG: none

TITLE: Effect of a helical field on the ohmic heating of plasma in the S-1 installation

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-907, 1965. Vliyaniye vintovogo polya na omicheskiy nagrev plazmy v ustanovke, S-1, 1-35

TOPIC TAGS: helical magnetic field, electron beam, plasma discharge, magnetic trap, plasma heating

ABSTRACT: Authors attempt to explain the role of an helical magnetic field in the development of a plasma discharge and retention of plasma in a trap, and the stabilization of the plasma filament. Based on the analysis of the first results of the experiments, a number of changes have been introduced into the S-1 installation. Additional conductors have improved the compensation of the lateral component of the magnetic field, so that the deflection of the electron beam after one turn along the axis of the chamber (L = 617 cm) did not exceed 1.5 mm. Thus the lateral component of a quasi-static magnetic field did not exceed 0.025%. Inside the chamber were installed two diaphragms with varying diameters from 5 to 8 cm, without disturbing the vacuum, in order to limit the discharge aperture. Additional resistance ranging from

Cord 1/2

L 25592-66

ACC NR: AT6001558

0.05 ohm to 0.6 ohm was introduced into the ignitron circuit diagram for ohmic heating. The behavior of plasma during four basic modes of operation of the S-1 installation were compared. The discharge in all four modes of operation was studied at various circuit voltages. The voltages changed according to the cosine law in the form of rectangular impulses lasting 1 μ sec. at $E = 0.1$ v/sec and 100 μ sec at $E = 0.5$ v/cm, after which the voltage dropped again to $E = 0.1$ v/sec and gradually decreased. The authors conclude that the presence of an external helical field improves the conditions for the development of a discharge, particularly at low pressures. The electron temperature is somewhat higher. The external helical field affected slightly the electron concentration, which in the case of this work could be traced to deficiencies in the configuration of the magnetic field. Orig. art. has: 4 formulas, 20 figures, 3 tables.

SUB CODE: 20 / SUBM DATE: 00 / ORIG REF: 005 / OTH REF: 003

Card 2/2/1

L 41033-66 EWT(1) IJP(c) AT

ACC NR: AP6013723

SOURCE CODE: UR/0089/66/020/004/0310/0315

60
B

AUTHOR: Blinov, P. I.; Gavrilov, B. I.; Cheremnykh, P. A.; Yashin, N. M.

ORG: none

TITLE: The influence of the helical magnetic field on ohmic plasma heating in the S-1 installation

SOURCE: *Atomnaya energiya*, v. 20, no. 4, 1966, 310-315

TOPIC TAGS: plasma conductivity, plasma confinement, plasma heating, helical magnetic field

ABSTRACT: Ohmic plasma heating experiments showed earlier that the temperature and confinement time of the plasma depend strongly on the transverse component H_{\perp} of the magnetic field (L. A. Artsimovich, K. B. Kartashov, Dokl. AN SSSR, 146, 1305, 1962). In the present work, which was complete in 1963, the authors investigated experimentally the influence of a helical triple-thread magnetic field (with $H_{\perp} \approx 0$) on the development of the discharge, and the magnitude of the conductivity and the position stabilization of the plasma beam. Results in the form of diagrams cover the voltage and current oscillograms, the pressure dependence of the development time and maximum current, and the time dependence of plasma

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UDC: 533.9

L 41033-66

ACC NR: AP6013723

conductivity, electron concentration, and current. Plasma radiation diagrams are also given. The electron temperature of 20-30 eV and ionic temperature of 10 eV correspond to a conductivity of 10^{15} units (cgse system). The helical field improves the conditions for the development of the discharge and the heating of the plasma, while the confinement time of the plasma remains the same. Orig. art. has: 2 formulas and 6 figures.

SUB CODE: 20/ SUBM DATE: 11Sep65/ ORIG REF: 005/ OTH REF: 002

Card

2/2

Ad

CHEREMNYKH, P.P.

The Korbalkha prospecting party is a party of communist labor.
Razved. i okh. nedr 29 no. 1:62-63 Ja '63. (MIRA 16:2)

1. Zapadno-Sibirskiy territorial'nyy komitet professional'nogo
soyusa rabochikh geologorazvedochnykh rabot.
(Korbalkha region—Prospecting)

L 00075-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM

ACC NR: AP6030808

SOURCE CODE: UR/0424/66/000/003/0033/0039

AUTHOR: Cheremnykh, S. V. (Moscow)

ORG: none

TITLE: Some problems of stability of a rigid body with a liquid filler

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 3, 1966, 33-39

TOPIC TAGS: stability criterion, vibration, solid mechanics, viscous fluid, motion mechanics

ABSTRACT: The two-dimensional perturbation motion of a rigid body with two axisymmetric cavities partially filled with a liquid is analyzed. The cavities are oriented in such a manner that their longitudinal axes fall along the principal moment of inertia axis. In the analysis, only the fundamental vibration mode for the liquid is considered. The linearized perturbation equations of motion for the solid-liquid system are written, and stability criteria are developed for the motion. These correspond to two cases where viscous dissipation in the cavity is at first excluded and then included. For each case the analysis is done first with the assumption that the partial oscillation frequencies of the liquids in both cavities are equal, then subsequently generalized to the case where they are unequal. Solutions are obtained numerically, and the results shown graphically. For the cases where viscous

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B

L 09075-67

ACC NR: AP6030808

dissipation is taken into account, the instability regions are found to be reduced considerably. Orig. art. has: 33 equations and 5 figures.

SUB CODE: 20/ SUBM DATE: 25Oct65/ ORIG REF: 006/ OTH REF: 001

Card 2/2 *LC*

CHEREMNYKH, V., -inzhener-mekhanik

Some operating features of the B6DT148 engine on the motorship
"Borovsk". Rech. transp. 19 no.8:42-43 Ag '60. (MIRA 14:3)

1. Teplokhod "Borovsk" Kamskogo parokhodstva.
(Marine diesel engines)

CHEREMNYKH, V.G.

Selection and arrangement of party and government personnel during
the fourth five-year plan. Trudy Perm. farm. inst. no.1:3-23 '59.
(MIRA 15:1)

1. Permskiy farmatsevticheskiy institut, kafedra marksizma-leninizma,
(COMMUNIST PARTY OF THE SOVIET UNION PARTY WORK)
(AGRICULTURE)

SHKLYAR, F. R.; TIMOFEYEV, V. N.; Prinsipalni uchastiye: PAKHALUYEV,
K. M., inzh.; KOROLEV, N. M., inzh.; ~~CHEREMNYKH, V. I.,~~
laborant; GERASIMOV, G. I., laborant; ROMANTSEVA, E. P.,
laborant; RUZHENTSEVA, T. M., laborant

Experimental investigation of the regenerative heat exchange
process. Sbor. nauch. trud. VNIIMT no.8:119-136 '62.
(MIRA 16:1)

(Air preheaters—Testing)
(Heat—Transmission)

KONOV, V., inzh.; SAKHAROV, S., inzh.; SUBBOTIN, I., inzh.; CHEREMNYKH, Ye., inzh.;
KARYAKO, B., inzh.; RASSHCHEPKIN, V., inzh.; BORISOVA, T., inzh.;
PEREPELTSYN, M., inzh.; GARMASH, V., inzh.; GOLOVENA, V., inzh.

New developments in building practice. Na stroi. Ros. 4 no.1:7,11,14,18,
26,30 Ja '63. (MIRA 16:3)

(Building—Technological innovations)

CHEREMNYKH, YE. M.

14(9) **NAME I BOOK REFERENCE** **NOV/8820**
 Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki
 Muravchikov I. *Proyazovaya geofizika*, 1979, 26 (Exploration and Industrial
 Geophysics, Pt. 26) Moscow, Geotekhnizdat, 1979. 57 p. (Series: Otkry-
 toye nauchnoye opytom) 4,000 copies printed.
 Ed.: M.K. Polakhor; Exec. Ed.: Ye.G. Perel'man; Tech. Ed.: A.S. Polozina.
PAROSIS: This booklet is intended for exploration geophysicists and geologists.
COVERAGE: This collection of articles includes discussions of improvements in
 seismic exploration techniques and interpretations of data obtained by the
 refracted and reflected wave method of seismic exploration. Individual
 articles discuss: the construction of gravimetric maps, improvements in
 seismic record equipment, the standardization of radioactive electro-
 magnetic equipment, and methods for computing labor productivity in geophysical
 operations. A separate section facilitates the interpretation of data and conditions
 when using gamma logging of boreholes is described. Reference accompany
 each article.

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Yarov, Yu.G., and E.P. YEREMOY, Marine Seismic Exploration	21
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NOV/8820
14-34-79

8(1)

SOV/112-59-3-6373

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 301 (USSR)

AUTHOR: Cheremnykh, Yu. M.

TITLE: Methods for Determining the Rate Capacity of Lead Starter-Type Storage Batteries (Metodika opredeleniya privedennoy yeknosti svintsovykh starternykh akkumulyatornykh batarey)

PERIODICAL: Avtotrakt. elektrooborudovaniye, 1958, Nr 2, pp 39-45

ABSTRACT: Since the lead-storage-battery capacity increases with increase in electrolyte temperature, the battery capacity measured under an actual temperature should be reduced to that at 30°C by the formula

$$Q_{30} = \frac{Q_t}{1 + 0.01(t_{sr} - 30)}$$

where t_{sr} is the average electrolyte temperature during discharge; 0.01 is the temperature coefficient of capacity. To analytically determine the average

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SOV/112-59-3-6373

Methods for Determining the Rate Capacity of Lead Starter-Type Storage Batteries
electrolyte temperature during discharge, an equation is derived which, after
simplification, has the form of

$$t_{sr} = t_k + \frac{t_k - t_n}{3},$$

where t_k is the final temperature, t_n is the initial temperature.

I.A.S.

Card 2/2

16(1) 16.3500

AUTHOR: Cheremnykh, Yu.N.

SOV/38-23-6-7/11

TITLE: On the Asymptotic Behavior of the Solutions of Parabolic Equations

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya, 1959, Vol 23, Nr 6, pp 913 - 924 (USSR)

ABSTRACT: In the domain G , the boundary of which consists of the interval $[a, b]$ of the x -axis and of two non-intersecting smooth curves $x = \varphi(t)$, $x = \psi(t)$, ($\varphi(t) < \psi(t)$, $t \geq 0$) the author considers the equation

$$(1) Lu = a(x, t)u_{xx} + b(x, t)u_x + c(x, t)u - u_t = 0$$

where

- (I) 1.) $a(x, t), b(x, t), c(x, t) \in C^{(0)}$ in G
 2.) $a(x, t) \geq a_0 > 0$, $c(x, t) \leq 0$, $b(x, t) \leq B$ in G

(a_0 , $B > 0$ -constants).

The author investigates the behavior of the solution vanishing

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On the Asymptotic Behavior of the Solutions of
Parabolic Equations

SOV/38-23-6-7/11

on $x = \varphi(t)$ and $x = \psi(t)$ for $t \rightarrow \infty$. Altogether he gives
7 theorems, e.g. :

Theorem 1 : Let the boundary of G_1 consist of the axis t ($t \geq 0$),
of the straight line $x = \varepsilon \leq 1$ and of the interval $[0, \varepsilon]$ of
the x -axis. The solution $u(x, t)$ of (1) is assumed to satisfy
the condition

$$(*) \quad u(x, t)|_{x=\varphi(t)} = u(x, t)|_{x=\psi(t)} = 0 \quad \text{for } t \geq 0.$$

In \bar{G}_1 , then it holds :

$$|u(x, t)| < 2 \max_{0 \leq x \leq \varepsilon} |u(x, 0)| e^{-\frac{a_0}{2H} \cdot \frac{t}{\varepsilon^2}}, \quad \text{where}$$

$$\frac{B}{a_0}$$

$$H = e$$

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On the Asymptotic Behavior of the Solutions of
Parabolic Equations

SOV/38-23-6-7/11

The results of the author meet strongly with [Ref 1].
The author thanks Ye.M. Landis for the guidance of the paper.
There is 1 Polish reference.

PRESENTED: by I.G. Petrovskiy, Academician

SUBMITTED: July 5, 1958

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16(1) 16,3500

67935

AUTHOR: Cheremnykh, Yu.N.

SOV/20-130-1-8/69

TITLE: A Theorem in the Qualitative Theory of Parabolic Equations

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 33-36 (USSR)

ABSTRACT: In the domain $\bar{G} = (0 \leq t \leq T \leq 1; \delta \leq x \leq 1 - \delta, \frac{1}{2} > \delta > 0)$ the author considers the equation

$$(1) \quad \frac{\partial^2 u}{\partial x^2} = a(t, x) \frac{\partial u}{\partial t} + b(t, x) \frac{\partial u}{\partial x} + c(t, x)u.$$

It is assumed that all coefficients are ≤ 1 with respect to their absolute value, $a(t, x) \geq a_0 > 0$, $c(t, x) \geq 0$, and satisfy certain

conditions with respect to the differentiability. It is assumed that the solution $u(t, x)$ is two times continuously differentiable, belongs to $C^{(4)}$ (with respect to x), and that $|u(t, x)| < 1$. As in (1) it is put $G_+ = \{(t, x) \in G, u(t, x) > 0\}$, $G_- = \{(t, x) \in G, u(t, x) < 0\}$. Components of G_+, G_- having accumulation points on both sides of the strip $\Pi_T = (0 < t < T)$ are called essential.

Let $\Sigma = (\delta \leq x \leq 1 - \delta, t = T)$, $0 < \xi < \frac{1-2\delta}{4}$, $\xi_1 = (\delta \leq x < \delta + \xi, t = T)$,

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A Theorem in the Qualitative Theory of Parabolic Equations

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$$\xi_2 = (\delta + \xi \leq x < \delta + 2\xi, t = T), \xi_3 = (1 - \delta - 2\xi < x \leq 1 - \delta - \xi, t = T),$$

$$\xi_4 = (1 - \delta - \xi < x \leq 1 - \delta, t = T); \Sigma^* = \Sigma \setminus \xi_1 \setminus \xi_2 \setminus \xi_3 \setminus \xi_4$$

Let N_1 essential components have accumulation points on Σ^* .

Theorem: Let $N_1 \frac{32M_1^2 M_2^2 (1-2\delta)}{T^2}$, $M_1 = 80^2$, $M_2 > 640^2$ (absolute constants of [Ref 1]). Then

$$\max_{\Sigma} |u(T, x)| < MN_1^{-2/3} \xi^{-3},$$

where M depends only on the domain G and on the coefficients of (1).

The author mentions A.S.Kronrod. He thanks Ye.M.Landis for aid. There are 3 Soviet references.

PRESENTED: July 20, 1959, by I.G.Petrovskiy, Academician
SUBMITTED: July 18, 1959



Card 2/2

16.3500

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S/020/62/143/003/007/029
B112/B102AUTHOR: Cheremnykh, Yu. N.

TITLE: The behavior of the solution of the first boundary value problem with zero boundary conditions for the general parabolic equation

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 3, 1962, 547 - 550

TEXT: The author considers the asymptotic ($t \rightarrow +\infty$) behavior of the solution of the boundary value problem

$$\mathcal{L}u \equiv \sum_{i,j=1}^n a_{ij}(x,t) \partial^2 u / \partial x_i \partial x_j + \sum_{i=1}^n b_i(x,t) \partial u / \partial x_i + c(x,t)u - \partial u / \partial t = 0,$$

$u(x,t) = 0$ on the boundary of a certain domain G . The following two inequalities are derived:

$$|u(x,t)| < 2 \max_{(x,0)} |u(x,0)| \exp \left[-\frac{a_0}{8H} \int_0^t \frac{d\tau}{\psi^2(\tau)} \right],$$

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The behavior of the solution ...

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B112/B102

$$u(x,t) \gg k_2 \cos^2(\pi r^2 / 2\psi^2(t)) \exp \left[-\gamma \int_0^t \frac{d\tau}{\psi^2(\tau)} \right].$$

There are 4 references: 2 Soviet and 2 non-Soviet. The English-language references are: L. Nirenberg, Comm. Pure and Appl. Math., 6, 167 (1953), A. Friedman, J. Math. and Mech., 8, no. 1, 57 (1959).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: November 15, 1961, by I. G. Petrovskiy, Academician

SUBMITTED: November 14, 1961

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ACCESSION NR: AP4040945

S/0020/64/156/005/1037/1040

AUTHOR: Cheremnykh, Yu. N.

TITLE: The behavior of solutions to the first boundary value problem for some quasi-linear parabolic equations

SOURCE: AN SSSR. Doklady*, v. 156, no. 5, 1964, 1037-1040

TOPIC TAGS: analysis, univariate equation, multivariate equation, second order equation, second order parabolic equation, second order elliptic equation, quasi-linear parabolic equation, degenerate parabolic equation

ABSTRACT: The author derives the upper bounds, which are uniform in ϵ , for the absolute value of the solution $u(x, t, \epsilon)$ to the problem (*) for the equation (univariate)

$$\mathcal{L}_\epsilon u(x, t; \epsilon) - \frac{\partial u(x, t; \epsilon)}{\partial t} = 0, \quad (1)$$

and the equation (multivariate)

$$\sum_{i,j=1}^n \frac{\partial}{\partial x_i} \left(a_{ij}(x, t, u) \frac{\partial u}{\partial x_j} \right) + \epsilon \Delta u - \frac{\partial u}{\partial t} = 0. \quad (2)$$

The solution to $u(x, t, \epsilon)$ is a priori assumed to be existent. The basic inequalities

$$a_0(\epsilon_0) (m(\epsilon))^{p+1} < \frac{(p_2 G_T)^{p+1}}{T^{p+2}} CM, \quad (3)$$

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and

$$u_n(t_0) m(t) < C_n M/T^{(1-n)/2}, \quad C_n = C(n). \quad (4)$$

are valid for the generalized solutions $u(x, t) \equiv u(x, t, 0)$ for degenerate quasi-linear parabolic equations which are obtained as the limit of the classical solutions to equations (1) and (2). Inequalities (3) and (4) are proved by a technique which was used by Ye. M. Landis in qualitative theory of elliptic and parabolic second order equations (DAN, 123, No. 5 (1958) 787); UMN, 14, No. 1 (85) 8 (1959), 21). "In conclusion, author expresses his sincere thanks to Ye. M. Landis for helpful discussion." Orig. art. has: 16 equations.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 21Jan64

ENGL: 00

SUB CODE: MA

NO REF SOV: 011

OTHER: 000

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