APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

Summary of the Work of the All-Union Scientific and Technical Conference on Advanced Methods of Manufacture of Gear Wheels

maintained by means of indirect control embracing scheduled checking of machine tools, cutting tools and setting-up operations. The adoption in industry of preventive methods of inspection for production equipment and measuring instruments is recommended. Composite inspection methods, the construction of precision gear-cutting machines and cutting tools and of tooth measuring devices is advocated. Recently, advanced types of gear transmissions and engagements have been developed and adopted, distinguished by high performance such as the M.L. Novikov transmissions, globoid transmissions with corrected engagement and others. The expansion of the manufacture of gear-cutting machines in the number of types and sizes and in the quantity produced, and the improvement of their precision and productivity, are to be continued. Existing designs are to be revised for stiffness, precision, cutting speed and automation. The automation of machine loading operations is under development. Manufacturing facilities for gear-cutting

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machinery construction must be increased. Special shops with temperature control for the production of high-precision gear cutting machines and cutting tools must be erected. Increased circumferential speeds demand better finishing. The construction of gear-shaving and gear-grinding machines and the manufacture of special grinding wheels for the sharpening of carbide tools should be organised. Recent work on the effect of cutting tools shows that gear-cutting tools with their high labour content should not be made of substitute steels. The endurance of the tool can be increased by a more uniform distribution of the load among the cutting edges. The endurance of gear hobbing cutters can be increased by increasing their diameter, by profile modifications, better grinding methods and appropriate displacement of the cutter along its axis, which can be manual or automatic. The problems of standardisation and centralisation of the production of gear wheels in the

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system of local economic Councils within the Economic Regions received much attention at the conference. The manufacture of reduction gear boxes is considered inadequate and production should be concentrated in special plants.

RYZHOV, M.A.

Determining the radii of gear-tooth curves for involute splined joints. Stan. i instr. 28 no.5:23-25 My '57. (MLRA 10:6)
(Gearing)

AYRAPETOV, E. L., inzh.; GENKIN, M. D., kand. tekhn. nauk;
RYZHOV, M. A., kand. tekhn. nauk

Effect of grinding burns on the fatigue strength of gears.
Vest. mashinostr. 42 no.10:70-72 O '62. (MIRA 15:10)

(Grinding and polishing)

Ryzhov, M. A.

"Investigation of the effectiveness of various forms of flanking for straight-toothed cylindrical gear wheels." Min Higher Education USSR. Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences).

Knizhnaya letopis'
No. 15, 1956. Moscow.

KARPACHEVA, S. M.; RYZHOV, M. N.; SMELOV, V. D.; et al.

"Extraction of Some Elements with Phosphorus-Containing Monobasic Acids."

report submitted for 2nd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

DEDOV, V.B.; LEBEDEV, I.A.; RYZHOV, M.N.; TRUKHLYAYEV, P.S.; YAKOVLEV, G.N.

Americium and curium complexing with α-hydroxyisobutyric acid.
Radiokhimiia 3 no.6:701-705 '61. (MIRA 14:12)
(Americium compounds)
(Curium)
(Isobutyric acid)

SOV/111-59-9-18/31

6(2)
AUTHOR: Ryzhov, M.V., Chief

TITLE: Reinforce Communications Organs with Qualified Cadres

PERIODICAL: Vestnik svyazi, 1959, Nr9, pp 24-25 (USSR)

ABSTRACT: This article deals with the supply and training of qualified personnel in communications enterprises and organs of the central Asian republics, some aspects of the present situation, deficiencies, and measures being taken to eliminate existing shortcomings; the author concentrates on the Turkmen, Tadzhik and Uzbek republics (SSR). Briefly dealt with is supply of trained specialists to these republics through the Ministry of Communications of the USSR; treated at greater length is local training of republic nationals in communications specialties, and study by workers in communications enterprises in order to raise their qualifications. Numerous statistics and illustrative figures are quoted. The author states, however, that the work done in reinforcing cadre forces does not yet answer the requirements, and quotes figures

Reinforce Communications Organs with Qualified Cadres

to show the deficiency of specially trained personnel on the staffs of many communications enterprises, particularly in the rayons. He also mentions the low proportion of republic nationals filling responsible posts in the ministries, administrations and enterprises. Educational work in communications enterprises is poorly conducted, particularly in rayon organs, he states. The author reports that in December 1958 the Ministries of Communications of these republics discussed the state of work with cadres of communications enterprises, and outlined measures for improving this work. For example, he states, the Board (kollegiya) of the Ministry of Communications of the Turkmen SSR obliged the cadre section to staff the rayon communications offices of Kizyl-Atrek, Gasan-Kuli, Serakhs and Kirovsk with diplomaed specialists from among the graduates of the Ashkhabadskiy politekhnikum (Ashkhabad Polytechnic School) in the current year; and a

Reinforce Communications Organs with Qualified Cadres

resolution was adopted to set up courses under the Ministry for preparation and additional training of workers in the mass professions, and cadre training of local nationals. The author concludes with a note stressing the importance of improving placement and education of cadres. Mentioned in the article are G.M. Shinkin, chief of the Ashkhabadskaya telegrafno-telefonnaya kontora (Ashkhabad Telegraph and Telephone Office), G.G. Kubalov, chief of the Turkmen Republic Telecentre, I.V. Lokhtin, chief engineer of the Ashkhabad Radiocenter, and N.F. Svirskiy, chief engineer of the Ashkhabad GTS; Yaryyev, chief, Brechkevich, deputy chief, and Zuyeva, aid to the chief, all of the Tashauzskaya oblastnaya kontora svyazi (Tashauz Oblast Communications Office).

ASSOCIATION: Otdel rukovodyashchikh i inzhenerno-tekhnicheskikh kadrov ministerstva svyazi SSSR (Administrative and Engineering Technician Cadres Section of the Ministry of

RYZHOV, M.V.

Let's improve the work with managerial personnel, engineers, and technicians of communication enterprises. Vest. sviazi 23 no.6:30-31 Je '63. (MIRA 16:8)

1. Nachal'nik otdela Upravleniya rukovodyashchikh kadrov i uchebnykh zavedeniy Ministerstva svyazi SSSR.

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

RYZHOV, M. V.

"To Fulfill Obligations Undertaken at Collective Agreements," Vest. Svyazi, No.4, 1954.

Translation M-644, 26 Jul 55

In charge of the division of mass production work of the Central Committee of the Communication Trade Union.

RYZHOV, M.V.

Improving the quality of communication in villages is the duty of labor unions. Vest.sviazi 14 no.1:22 Ja '54. (MLRA 7:5)

1. Zaveduyushchiy otdelom proizvodstvenno-massovoy raboty TsK profsoyuza rabotnikov svyazi. (Radio in agriculture) (Telephone)

RYZHOV, M.V.

Greater attention should be paid to the correspondence courses of the communication workers. Vest. sviazi 22 no.9:10 S '62. (MIRA 15:9)

1. Nachal'nik otdela Upravleniya rukovodyashchikh kadrov i uchebnykh zavedeniy Ministerstva svyazi SSSR.
(Telecommunication--Employees)

RYZHOV, M. V.

"Dissemination of Advanced Labor Methods in Communication Enterprises of the Ukrainian SSR," Vest. Svyazi, No.11, pp 18-19, 1953

In charge of the division of mass-production work of the Central Committee of the Trade Union of the USSR Communications Workers.

Translation No. 420, 22 Jun 55

RYZHOV, M.V.

More attention to collective agreements. Vest.sviazi 16 no.5: 24-25 My '56. (MLRA 9:8)

1. Zaveduyushchiy otdelom proizvodstvenno-massovoy raboty TSentral'nogo komiteta profsoyuza rabotnikov svyazi.
(Labor contract)

RYZHOV, M.V.

Employ qualified workers in communication enterprises. Vest. sviazi 21 no.6:26-27 Je 61. (MIRA 14:9)

1. Nachal'nik otdela Upravleniya rukovodyashchikh kadrov i uchebnykh zavedeniy Ministerstva svyazi SSSR.
(Azerbaijan--Telecommunication--Employees)
(Georgia--Telecommunication--Employees)

RYZHOV, M.V.

The communication enterprises of Kirghizistan should be provided with qualified workers. Vest. sviazi 22 no.3:19-20 Mr '62. (MIRA 15:2)

1. Nachal'nik otdela Upravleniya rukovodyashchikh kadrov i uchebnykh zavedeniy Ministerstva svyazi SSSR.
(Kirghizistan--Telecommunication--Employees)

RYZHOV, M.V.

District communication centers should be provided with well qualified administrative workers. Vest. sviazi 24 no.8: 20-21 Ag '64. (MIRA 17:10)

1. Nachal'nik otdela Upravleniya rukovodyashchikh kadrov i uchebnykh zavedeniy Ministerstva svyazi SSSR.

RYZHOV, N.I.

25087 RYZHOV, N.I. Priyemy Povysheniya Polevoy Vs Vskhozhesti Semyan Mnogoletnikh Trav. V Sb: Voprosy Kormodobyvaniya. Vyp.2.M.,1949,101-04.

SO: Letopis', No.33,1949

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RYZHOV, N. I.

DAIRY CATTLE

Organization of milking on the "Krasnyi Oktiabr," Collective Farm. Sots.zhiv. 14 no. 9, 1952

Monthly List of Russian Accessions, Library of Congress, December 1952, Unclassified.

USSR / Human and Animal Physiology. Effect of Physical Factors. T-13

Abs Jour : Ref Zhur - Biologiya, No 1, 1959, No. 3962D

Author : Ryzhov, N. I.
Inst : Academy of Medical Sciences, USSR
Title : The Influence of Temperature on the Course of Acute Radiation Sickness in Dogs

Orig Pub : Avtoref. dis. kand. med. n., Akad. med. Nauk SSSR, M., 1958

Abstract : No abstract given

Card 1/1

RYZHOV, N.I., Cand Med Sci -- (diss) "The influence of temperature upon the course of acute radiation sickness in dogs." Mos,1958. 16 pp (Acad Med Sci USSR). 250 copies (KL, 12-58, 103)

LEBEDINSKIY, A.V. [deceased]; NEFEDOV, Yu.G.; DOMSHLAK, M.P.; RYZHOV, N.I.; DARENSKAYA, N.G.; BIBIKOVA, A.F.; GANSHINA, A.M.; LEBEDEV, B.I.

Biological effect of 510 MEV protons in fractional irradiation. Radiobiologiia 5 no.1:72-76 '65. (MIRA 18:3)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6

L 31342-65 EWT(m) DIAAP

ACCESSION NR: AP5005523 S/0205/65/005/001/0072/0076

AUTHOR: Lebedinskiy, A. V. (Deceased); Nefedov, Yu. G.; Domshlak, M. P.; Ryzhov, N. I.; Darenskaya, N. G.; Bibikova, A. F.; Ganshina, A. N.; Lebedev, B. I.

TITLE: The biological effects of fractional irradiation by 510-Mev protons on dogs

SOURCE: Radiobiologiya, v. 5, no. 1, 1965, 72-76

TOPIC TAGS: high energy proton, biological effect, dog

ABSTRACT: Little data has been published on the effect of high-energy protons on larger animals. It is theorized by the authors that the biological effectiveness of protons on larger animals would be more pronounced than on small animals. To test this theory, the authors investigated 12 dogs divided into two groups (6 dogs each) according to conditions of irradiation; the first group was irradiated 19 times over a period of 40 days with a total dose of 650 r. The second group was irradiated 8 times over a period of 15 days with a total dose of 690 r. The radiation doses in the first group ranged from 10 to 79 r and in the second group from 71 to 109 r. The experiments were conducted at the Joint Institute of Nuclear Research on the LYaP synchrocyclotron. The unit was arranged so that a 510-Mev proton beam hit a section 40 cm in diameter at 1 rad/sec. It was found that both

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L 31342-65

ACCESSION NR: AP5005523

groups exhibited functional and morphological symptoms of severe radiation sickness, typical of this type of radiation. In comparison with clinical data on the effects of x-rays, protons generally had the same effects. However, dogs irradiated with protons exhibited some symptoms peculiar to this radiation; the hemorrhagic syndrome was more pronounced, and, when death took place, there was a relatively higher leukocyte content in the peripheral blood and generally lower bone-marrow blood formation in the form of a somewhat greater depth of damage to cells of the erythroblastic system. An examination of the structures of the central nervous system revealed damage to neural and glial structures and disruption of blood and fluid circulation. Orig. art. has: 5 figures. [CD]

ASSOCIATION: none

SUBMITTED: 19Feb63	ENCL: 00	SUB CODE: LS
NO REF SOV: 003	OTHER: 007	ATD PRESS: 3201

Card 2/2

L 04615-67 EWT(m)/T GD

ACC NR: AT6029632 SOURCE CODE: UR/0000/66/000/000/0235/0241

AUTHOR: Darenskaya, N. G.; Derbeneva, N. I.; Nefedov, Yu. G.; Ryzhov, N. I.; Seraya, V. M.; Domshlak, M. P. (Professor)

36
B+1

ORG: none

TITLE: The RBE of high-energy protons

SOURCE: Voprosy obshchey radiobiologii (Problems of general radiobiology). Moscow, Atomizdat, 1966, 235-241

TOPIC TAGS: proton, radiation biologic effect, dog, rat, mouse, relative biologic efficiency

ABSTRACT: The RBE of 510-, 240-, and 126-Mev protons was studied in comparative experiments with dogs, rats, and mice. A proton flux generated by the OIYaI synchrocyclotron at Dubna was used. Polyethylene and lead absorbers were used to decrease proton energies from 660 Mev, at the same time increasing the beam diameter to enable irradiation of large animals. The dose rate varied from 0.3—1.5 rad/sec. Rats and mice were irradiated in a rotating chamber and dogs were irradiated from two sides in order to equalize the dose distribution. RBE values were determined during both single and multiple irradiation: during multiple irradiation dogs were exposed 8—19 times in the course of 2—5 weeks for total doses of 200-690 rad, and rats were exposed 20 times in the course of 4 weeks for total doses of 750 and 1115 rad. Single

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ACC NR: AT6029632 O

proton doses amounted to 136—550 rad for dogs and 100—1200 rad for rats and mice. It was observed that irradiation of dogs with small doses of protons altered their immunological reactivity, as indicated by the depressed phagocytic activity of neutrophils in the first days after irradiation. In proton-irradiated dogs a decrease in oxidative processes was also noted; CO_2 liberation and oxygen consumption dropped 35—50% shortly after irradiation and remained depressed until the animal died or until most radiation sickness symptoms disappeared. Experimental results showed the same periods of appearance of various symptoms of radiation sickness (such as increased temperature, diarrhea, changes in peripheral blood, etc.) for proton- and gamma-irradiated dogs (except that dogs irradiated once with 510-Mev protons developed symptoms somewhat earlier). RBE values for protons in the energy range indicated were based on comparison of percentage survival, duration of life of surviving animals, severity of individual symptoms and results of laboratory tests. It was concluded that the RBE for dogs during multiple irradiation with 510- and 126-Mev protons is 1.0. For single irradiation, the RBE is 1.15 for 510- and 240-Mev protons, and 1 for 126-Mev protons. It should be noted that these RBE determinations are made on the basis of direct radiation effects, and may have to be altered for long-term radiation effects. Analogous experiments were conducted with white rats weighing 180—220 g and mice weighing 18—22 g. It was found that the RBE of 510-, and 240-, and 126-Mev protons for rats was 0.75, 0.73 and 0.69, respectively, based on the $LD_{50/30}$. The RBE based on the $LD_{100/30}$ was 0.75 for 510-Mev protons, and 0.79 for 240- and 126-Mev protons. For mice the RBE value for 126-Mev protons was set

L 04625-67

ACC NR: AT6029632

at 0.7. The difference in RBE values obtained for small and large animals is considerable, and indicates the danger of extrapolating data from small animals for study of the spaceflight radiation hazard to man. Orig. art. has: 2 figures and 2 tables. [JS]

SUB CODE: 06/ SUBM DATE: 23Apr66/ ORIG REF: 006/ OTH REF: 006/ ATD PRESS: 5063

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

L 11275-67 EWT(1)/ [illegible] DD/HW

ACC NR: AT6029633 SOURCE CODE: UR/0000/66/000/000/0242/0254

AUTHOR: Lebedinskiy, A. V. (deceased); Nefedov, Yu. G.; Domshlak, M. P.; Kamparskaya, N. N.; Moskalev, Yu. I.; Ryzhov, N. I.; Daronskaya, N. G.; Bibikova, A. P.; Ganshina, [illegible]; Lebedev, B. I.; L'vitsyna, G. M.; Shashkov, I. F.; Derbenova, N. I.; Gerasimova, G. K.

ORG: none

TITLE: Model investigations of cosmic radiation biologic effect

SOURCE: Voprosy obshchey radiobiologii (Problems of general radiobiology). Moscow, Atomizdat, 1966, 242-254

TOPIC TAGS: dog, rat, induced radiation effect, cosmic radiation biologic effect, proton radiation biologic effect, relative biologic efficiency

ABSTRACT: With space flights of longer duration, cosmic rays, radiation belts and solar flares present an increasing danger to astronauts. However, relatively little is known of the biologic effect of cosmic radiation and its components, particularly high energy protons. In the present study the RBE of high energy protons was compared in large laboratory animals (dogs) and small laboratory animals (rats) to determine possible RBE differences. In a series of experiments groups of dogs were irradiated with high energy protons and X-irradiation (or gamma irradiation) in fractional and

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L 11275-67

ACC NR: AT6029633

single doses of 250 to 650 rads; groups of rats (Wistar line) were also irradiated in fractional and single doses of 300 to 1200 rads. A synchrocyclotron was used for proton irradiation (510 Mev, field diameter 40 cm, dose rate of 1 rad/sec). Clinical symptoms, histological investigations, EEG data, mean survival periods, and post mortem examinations served as indices. Results show that with fractional dose irradiation of dogs, the RBE of proton irradiation (510 Mev) and X-irradiation (180 kv) is the same (1.0). With fractional irradiation of rats, the RBE of proton irradiation is 0.8. With single dose irradiation of dogs, the RBE of protons is 1.15 compared to gamma irradiation. With single dose irradiation of rats, the RBE of protons is 0.75 compared to gamma irradiation. No conclusions are drawn. Orig. art. has: 4 tables and 6 figures.

SUB CODE: 06/ SUBM DATE: 23Apr66/ ORIG REF: 004/ OTH REF: 004

Card 2/2 jb

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

L 41008-66

ACC NR: AP6018730 SOURCE CODE: UR/0057/66/036/006/1049/1054

AUTHOR: Zolototrubov, I.M.; Skoblik, I.P.; Skibenko, A.I.; Ryzhov, N.M.

ORG: none

60 56 B

TITLE: Structure of the plasmas emitted by a coaxial plasma gun with different electrode polarities

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 6, 1966, 1049-1054

TOPIC TAGS: plasma gun, hydrogen plasma, plasma velocity, plasma density, electrode polarity, PLASMA STRUCTURE

ABSTRACT: The authors investigated the influence of electrode polarity and duration of the delay between gas injection and discharge of the gun on the structure of the plasmas ejected during the first half-period (6.5 microsec) of operation of a 60 cm long coaxial plasma gun with electrode diameters of 3 and 6.5 cm. The gas was admitted during the course of 80 microsec through a single opening in the center of the outer electrode, and the gun was fired after a delay ranging from 100 to 260 microsec by the discharge of a 20 kV, 12 microfarad capacitor. The plasmas were investigated in a 10 cm diameter, 1.2 m long glass drift tube with the aid of two diamagnetic probes, an 8 mm wavelength microwave interferometer, a 4 mm wavelength microwave beam, and a thermal probe. Under all conditions there was observed a jet of unionized gas with a

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6

ACC NR: AT6029610 SOURCE CODE: UR/0000/66/000/000/0097/0098

AUTHOR: Vasil'yev, I. S.; Ryzhov, N. I.; Dorboneva, N. N.; Portman, A. I.; Dorofeyeva, N. Zh.; Khlaponina, V. F.; Kabachenko, A. S.

ORG: none

TITLE: Effect of proton and gamma irradiation on the mitotic activity of transplanted human cell cultures [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24 to 27 May 1966.]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 97-98

TOPIC TAGS: proton radiation biologic effect, ionizing radiation biologic effect, relative biologic efficiency, human cell culture, radiation tissue effect, mitosis

ABSTRACT: Transplanted cell cultures are a valuable object of radiobiological study because of their high radiosensitivity. They are sometimes the only biological objects available for study of low-energy radiation effects. This series of experiments was conducted to determine the comparative effect of proton and gamma irradiation on the mitotic activity of human amniotic cells. Two-day-old cultures of amniotic cells, in single layer or in suspension, were irradiated with 630-Mev protons from an OIYAI

synchrocyclotron or with Co^{60} gamma rays. The dose power of protons was 35 rad/sec and of gamma rays, 3 rad/sec. The activation and luminescent methods of proton dosimetry were used. Ionization chambers were used to monitor the beam. Mitotic activity was determined immediately after gamma irradiation, and then at intervals of 12, 24, 36, and 48 hr: Similar determinations were made 10, 20, 40, and 60 hr after proton irradiation.

A definite change in mitotic activity due to gamma and proton irradiation was observed in these experiments. Immediately after gamma irradiation with all doses the mitotic index decreased, reaching 1.6—1.3 with a 1000—1500 rad dose, as compared with 5.5 in the control. With doses of gamma rays from 750 to 1500 rad the mitotic index fell to 0.5—0.6 within 12 hr. A different pattern was observed following proton irradiation: within 10 hr of irradiation with 40—450 rad the mitotic index increased approximately 50% as compared with the control. Only with large proton doses did mitotic activity decrease. Twenty hr after proton irradiation with 40—1000 rad, the mitotic index reached a low of 1.4—0.07 (1.9 in the control).

Intensive recovery of the mitotic index in the postradiation period was

ACC NR: AT6030629 SOURCE CODE: UR/0000/66/000/000/0331/0332

AUTHOR: Ryzhov, N. I.; Derbeneva, N. N.; Seraya, V. M.; Mashinskaya, T. Ye.; Oparina, D. Ya.; Govoruk, R. D.

ORG: none

TITLE: Relative biological effectiveness of 126-Mev protons in repeated exposures imitating the frequency of solar flares [Paper presented at the Conference on Problems of Space medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 331-332

TOPIC TAGS: cosmic radiation biologic effect, proton radiation biologic effect, radiation hematologic effect

ABSTRACT:
A study was made of the RBE of protons during repeated exposures approximating the frequency of solar flares in years of maximum solar activity. Half of the test group of 360 Wistar rats were irradiated with

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126-Mev protons, and the other half with 180-kv x-rays in single doses of 25, 50, 100, 200, and 400 rad. In the course of a year the animals received nine-fold exposure, amounting to total doses of 225, 450, 900, 1800, and 3600 rad, respectively. The dose power of proton radiation was 24—48 rad/min, and of x-ray radiation, 36 rad/min. It was found that nine-fold irradiation with protons and x-rays caused radiation sickness, the severity of which depended on the magnitude of single and total doses.

Definite differences were observed between the effects of protons and x-rays: protons caused greater depression of leukocytosis, and also further retarded the rate of recovery processes. Observed changes in the leukocyte count basically depended on corresponding shifts in the lumphocyte count. The content of neutrophils and other blood elements changed less under the influence of both types of radiation. Repeated irradiation with protons and x-rays caused progressive decrease in erythrocyte and hemoglobin content; the degree of decrease (which was slightly less pronounced for proton irradiation) depended directly on the magnitude of single and total doses. Changes in reticulocyte and thrombocyte content were less regular, and no reliable difference in the effects of protons and x-rays on these elements could be established. In many cases the formation of malignant tumors was a remote aftereffect of irradiation. Irradiation in a total dose of 3600 rad caused 100% death of rats with both x-ray and

ACC NR: AT6036629

proton irradiation: the average time of life was 236 and 247 days, respectively. It was concluded that the RBE of 126-Mev protons does not differ essentially from 180-kv x-rays, and thus equals 1.0 under the given conditions.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

ACC NR: AT6036635 SOURCE CODE: UR/0000/66/000/000/0340/0341

AUTHOR: Seraya, V. M.; Ryzhov, N. I.; Dorbenova, N. N.; Mashinskaya, T. Ye.; Oparina, D. Ya.; Sychkov, M. A.

ORG: none

TITLE: Changes in the hematopoietic system of rats irradiated with 126-Mev protons and Co^{60} gamma rays [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 340-341

TOPIC TAGS: proton radiation biologic effect, ionizing radiation biologic effect, relative biologic efficiency, hematopoiesis, bone marrow, radiation tissue effect

ABSTRACT:

The comparative effect of single whole-body irradiation with 126-Mev protons and Co^{60} gamma rays on the cellular composition of peripheral blood, bone marrow, and spleen was studied using 618 male rats. Animals

were irradiated with 126-Mev protons from an OIYAI synchrocyclotron in doses of 100, 200, 400, 550, 700, and 1000 rad, and with the same doses of gamma rays from an EGO-2 apparatus. The dose power of protons was 0.57 rad/sec and of gamma rays, 3.1 rad/sec.

The following indices of hemodynamic change were used: total number of leukocytes, absolute number of neutrophils and lymphocytes, absolute number of karyocytes (normoblasts), and impressions of femoral bone marrow. Tests were conducted 1, 3, 6, and 12 hr, and 1, 2, 4, 7, 12, 20, and 30 days after irradiation.

Identical processes of disruption of hematopoiesis were observed under the influence of both protons and gamma rays. Change in the number of leukocytes and the number of nucleated bone-marrow cells in the first hours and days after irradiation had a phase character. During the first phase, the bone-marrow cell level was maintained near the normal level. In this period a considerable increase in the number of leukocytes in the peripheral blood was observed and neutrophilia developed. These phenomena may be connected with reflex reaction to irradiation and with redistribution of blood.

The duration of leukocytosis and the degree of its development depended on the radiation dose. The second phase of postradiation change was characterized by disintegration of young bone-marrow cell elements and by disintegration of lymphocytes. Considerable decrease in the number of bone-marrow cells occurred in this period. The number of leukocytes was close to normal with doses of 700 and 1000 rad and somewhat lower with doses up to 400 rad.

In the third phase of change in blood indices, total depression of hematopoiesis was observed, as shown by the considerable decrease in number of bone-marrow cells and leukocytes in the peripheral blood. Maximum decrease in the number of nucleated cells occurred two days after irradiation with doses of 100, 200, and 400 rad. However, with proton irradiation in doses of 700 and 1000 rad, decrease in the number of nucleated bone marrow cells was less pronounced. The maximum decrease in leukocyte content was noted on the fourth day: it was considerable for gamma rays and dose-dependent for both types of irradiation.

A period of relative stabilization followed at the end of the third phase. With radiation doses of 100, 200, and 400 rad the number of bone-marrow cells in this period was close to normal or slightly higher. There was no

abrupt increase in the number of bone-marrow cells (period of abortive increase). The greater the dose, the less pronounced this abortive phase. The number of leukocytes normalized by the end of this period. The period of abortive increase in bone-marrow cells preceded the period of final normalization with doses of 100, 200, and 400 rad.

Comparing functional changes in rat hematopoiesis during proton and gamma irradiation revealed the same pattern of processes, although the degree of manifestation of phenomena and the sequence of their occurrence were somewhat different. With large radiation doses (700—1000 rad), processes of bone-marrow destruction were more intensive during gamma irradiation; the RBE of protons in this case was less than one. However, with proton doses of 100, 200, and 400 rad, RBE values with respect to the number of nucleated bone-marrow cells was close to one.

[W. A. No. 22; ATD Report 66-116]

SUB CODE: 06 / SUBM DATE: 00May66

GENKIN, M.D., kand.tekhn.nauk; RYZHOV, N.M., inzh.

Means for reducing burns in grinding gear wheels. Vest.mashinostr. 44 no.7:64-67 Jl '64. (MIRA 17:9)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

L 27358-66 EWT(m)/EWA(d)/EWP(t) IJP(c) JD

ACC NR: AP6008701 (N) SOURCE CODE: UR/0380/65/000/006/0086/0095

AUTHORS: Petrusevich, A. I. (Doctor of technical sciences)(Moscow); Karpin, Ye. B. (Moscow); Misharin, Yu. A. (Moscow); Ryzhov, N. M. (Moscow)

ORG: none

TITLE: The contact strength of cement and nitrided steels

SOURCE: Mashinovedeniye, no. 6, 1965, 86-95

TOPIC TAGS: carburization, nitridation, lubricant, case hardening, hardness, steel, lubricating oil, mineral oil/ 12Kh2N4A steel, 12KhN3A steel, EI-712 steel, EP-176 steel, OKhN3MFA steel, 38KhMYuA steel, 30Kh2N2VFA steel

ABSTRACT: The results of contact-strength tests of steels for gears conducted at the State Scientific Research Institute of Mechanical Engineering (Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya) are reported. A roller specimen with a diameter of 30 mm is compressed with a force Q on both sides by pressure disks with a diameter of 120 mm (see Fig. 1). The speed of the roller is 7820 rpm and of the disks 2065 rpm. A negative specific slip of 6% is created on the roller for a slip speed of 0.7 m/sec. The roller receives 982 000 cycles

Card 1/2 UDC: 669.15-194:539.4

ACC NR: AP6008701

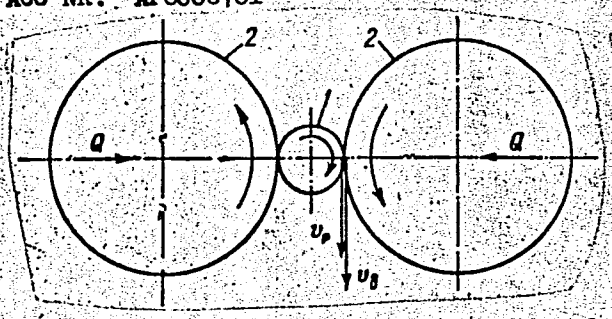


Fig. 1. Testing diagram:
1 - roller specimen;
2 - pressure disks.

per hour. The use of synthetic diester lubrication was found to increase the possible number of cycles (as compared with mineral oil) with 12Kh2N4A cement steel. It is found that parkerizing does not lead to a reduction in the contact strength of 12KhN3A steel. It was also found that oxide coating and oxide parkerizing do not lower the contact strength of 12Kh2N2A and EP-176 steels. The contact strength of OKhN3MF with two-step nitriding is approximately the same as that of 30Kh2N2VFA steel. Electrolytic polishing of OKhN3MFA steel did not give positive results, but it was effective with 30Kh2N2VFA steel. There was no scaling in ground specimens of OKhN3MFA and 30Kh2N2VFA steels. Orig. art. has: 1 diagram, 2 graphs, 2 photographs, and 2 tables.

SUB CODE: 11/ SUBM DATE: 24May65/ ORIG REF: 004

SIDORIN, I.I., zashlushennyy deyatel' nauki i tekhniki, doktor tekhn.nauk, prof.; GENKIN, M.D., kand.tekhn.nauk; RYZHOV, N.M., inzh.

Residual stresses in the surface layer of gear-wheel teeth and their effect on the durability of gears. Vest.mashinostr. 45 no.2:64-67 F '65. (MIRA 18:4)

RYZHOV, N.M.; KOTOV, A.N.; RAKHSHTADT, A.G.

Resonance apparatus for fatigue testing of sheet materials at various temperatures. Zav. lab. 30 no.6:751-752 '64 (MIRA 17:8)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.

ZOLOTOTRUBOV, I.M.; RYZHOV, N.M.; SKOBLIK, I.P.; TOLOK, V.T.

[Properties of a plasma in a magnetic field] Issledovanie svoistv plazmy v magnitnom pole. Khar'kov, Fiziko-tekhn. in-t AN USSR, 1960. 269-279 p. (MIRA 17:1)
(Plasma (Ionized gases)) (Magnetic fields)

DEDOV, V.B.; RYZHOV, M.N.; TRUKHLYAYEV, P.S.; YAKOVLEV, G.N.

[Complex formation of americium and curium with α-hydroxybutyric acid] Issledovanie kompleksoobrazovaniia ameritsiia kiuriia s α-oksiizomaslianoi kislotoi. Moskva, In-t atomnoi energii, 1960. 10 p. (MIRA 17:1)

(Americium compounds) (Curium compounds)
(Propionic acid)

PETRUSEVICH, A.I., doktor tekhn. nauk, prof.; GENKIN, M.D., kand. tekhn. nauk; RYZHOV, N.M., inzh.

Effect of burns caused by grinding on the contact strength of cemented and hardened gear wheels. Vest. mashinostr. 45 no.6: 7-13 Je '65. (MIRA 18:6)

PETRUSEVICH, A.I., doktor tekhn.nauk (Moskva); KARPIN, Ye.B. (Moskva); MISHARIN, Yu.A. (Moskva); RYZHOV, N.M. (Moskva)

Contact strength of case hardened and nitrided steels. Mashinovedenie no.6:86-95 '65. (MIRA 18:11)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

S/781/62/000/000/025/036

AUTHORS: Zolototrubov I. M., Ryzhov N. M., Skoblik I. P., Tolok, V. T.

TITLE: Investigation of the properties of a plasma in a magnetic field

SOURCE: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady I konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tech. inst. AN Ukr. SSR. Kiev, Izd-vo AN Ukr. SSR,. 1962, 123-127

TEXT: A highly-ionized plasma was investigated, produced by an electrodeless discharge in a molybdenum glass tube (100 mm dia and 1 m long) in a vacuum of 10^{-6} mm Hg by an alternating magnetic field resulting from the discharge of a capacitor and producing plasma confinement through trap geometry. The apparatus and the measuring equipment (magnetic probe) are described. The behavior of the magnetic field inside and outside the tube was monitored, along with recording the change in plasma luminosity by means of a photomultiplier. The tests show that noticeable ionization does not set in until the fourth quarter of the oscillation cycle, when a magnetic pressure is produced to detach the plasma from the walls and constrict it toward the center in a radial direction. The plasma density was es-

Card 1/2

timated by probing it with a signal of 8 mm wavelength. It has been found that a plasma of density not less than 10^{13} per cc is confined in the discharge tube for a time corresponding to 10 periods of oscillation of the magnetic field, during which the amplitude of the magnetic field drops to 1/40 of its initial value. Doubling the magnetic field intensity gave rise to radial oscillations in the plasma, the nature of which is not yet clear. There are four figures. The two references pertain to Russian translations of papers by Colgate and Wright and by Tuck.

L 12007-66 EWT(1)/T IJP(c) GW/DS

ACC NR: AP6018729 SOURCE CODE: UR/0057/66/036/006/1040/1048

AUTHOR: Zolototrubov,I.M.; Kiselev,V.A.; Novikov, Yu.M.; Ryzhov, N.M.; Tolok, V. T.

ORG: none

60
58
B

TITLE: A coaxial plasma gun in a longitudinal magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 6, 1966, 1040-1048

TOPIC TAGS: plasma gun, hydrogen plasma, contamination, longitudinal magnetic field,

ABSTRACT: In an effort to improve the purity and the uniformity with regard to velocity, density, and total number of particles of the plasma bursts from a coaxial plasma gun, the authors investigated the influence of a longitudinal magnetic field on the performance of the gun. It was anticipated that the rotation of the plasma within the gun, due to the Lorentz force on the radial current in the longitudinal magnetic field, would improve the azimuthal uniformity of the current sheet. The diameters of the inner and outer stainless steel electrodes of the 70 cm long coaxial gun were 3 and 7 cm, respectively. The gas (0.1 cm^3 of hydrogen) was admitted through six openings in the inner electrode near its center, and the gun was fired by the 20 kV discharge of a 12 microfarad capacitor. The plasma gun was located in the uniform portion of the field of a 1.4 m long solenoid. The magnetic field rose to its maximum strength of up to 8 kOe in 28 millisec and subsequently decayed exponentially with a time constant of 72 millisec. The processes taking place within the plasma gun

UDC: 533.9

ACC NR: AP6018729

were investigated with the aid of a magnetic probe and by recording the discharge current, and the plasmas ejected from the gun were investigated with an external magnetic probe, a spectrograph, a photomultiplier, a monochrometer with the aid of which the intensities of different spectrum lines were displayed on an oscillograph, and a thermal probe. The rather involved processes that took place within the gun are discussed at some length. The rotation of the plasma gave rise to a magnetic trap within which a considerable portion of the gas was confined. Two plasma bursts were usually produced, but under some conditions it was possible to obtain only one burst containing some 2×10^{16} particles at a density of 2.4×10^{13} cm^{-3} and moving with a velocity of 3×10^{7} cm/sec. The purity of the plasma bursts increased with increasing longitudinal magnetic field strength; at a magnetic field strength of 6.4 kOe there were no lines due to electrode materials in the spectrum, and the lines due to carbon, oxygen, and nitrogen were considerably weaker than in the spectra of plasmas produced without the magnetic field. It is concluded that with the aid of a longitudinal magnetic field one can obtain from a coaxial plasma gun pure high energy plasmas free of slow and contaminated tails, but at the cost of inefficient use of the energy stored in the capacitor bank. The authors thank O.M.Shvets, and Ya.F.Volkov for discussions and criticism. Orig. art. has: 3 formulas and 7 figures.

SUB CODE: 20/ SUBM DATE: 26Apr65/ ORIG. REF: 004/ OTH REF: 002

RYZHOV, N.M., inzh.

Selecting optimum conditions for grinding gears. Vest.mashinostr. 44 no.1:66-71 Ja '64. (MIRA 17:4)

ACCESSION NR: AP4013436 S/0057/64/034/002/0382/0384

AUTHOR: Zolototrubov, I.M.; Ryazhov, N.M.; Skoblik, I.P.; Tolok, V.T.

TITLE: Plasma injection into an opposed field magnetic trap (Letter to the editor)

SOURCE: Zhurnal tekhn, fiz., v.34, no.2, 1964, 382-384

TOPIC TAGS: plasma, magnetic trap, opposed field magnetic trap, magnetic trap injection, magnetic trap escape, x-ray, x-ray burst

ABSTRACT: The injection of plasma into an opposed field magnetic trap of the type discussed by John E. Osher (Phys.Rev.Letters,8,305,1962) and others was investigated experimentally. The trap was formed in a 70 cm long 30 cm diameter vacuum chamber by the discharge of a bank of capacitors through two windings, each about one half of the chamber. The rise time of the magnetic field was 4.4 millisec and the subsequent decay time was 16 millisec. This behavior was achieved with the aid of a shunt circuit. The maximum magnetic field was 5 kOe in the mirror regions and 4.2 kOe in the gap. The plasma was injected axially through the magnetic mirror at the time of maximum field strength by an ordinary coaxial plasma gun. The gun was operated in two different modes. In one mode ("short delay") the plasma was emitted in

ACCESSION NR: AP4013436

several bursts having different velocities. The velocity of the most rapid of these bursts was 8.8×10^7 cm/sec, corresponding to a hydrogen ion energy of 3.9 keV. The x-rays produced in the apparatus were recorded with a cesium iodide crystal, shielded from light by aluminum foil and located in the magnetic gap. A short burst of x-rays was always observed at the moment of injection. When the plasma gun was operated in the "short delay" mode there was observed, in addition to this, an intense emission of x-rays beginning 840 microsec after injection, reaching its peak at about 1500 microsec, and decaying with a 3 millisec time constant. The spatial and energy distributions of these x-rays were investigated with a photographic film and a step absorber. The x-rays were found to originate within the magnetic gap. The mean energy of the x-rays was 3.8 keV, corresponding to the energy of the injected hydrogen ions. It is concluded that the x-rays were produced by impact with the wall of the chamber of charged particles that were imprisoned for a time and then escaped through the magnetic gap. Orig.art.has: 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN UkrSSR,Khar'kov (Physical Technical Institute, AN UkrSSR)

SUBMITTED: 04Jul63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: PH, SD NR REF SOV: 000 OTHER: 003

Card 2/2

S/057/60/030/07/03/014
B019/B054 8221.1

10.2000(A)

AUTHORS: Zolototrubov, I. M., Ryzhov, N. M., Skoblik, I. P., Tolok, V. T.

TITLE: Behavior of a Plasma in a Magnetic Alternating Field

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 7, pp. 769 - 773

TEXT: In the present paper, the authors investigate the gas discharge without electrodes in a magnetic field of two single-turn coils fed by a capacitor battery. Fig. 1 shows the scheme of the experimental arrangement. It consists of a glass discharge tube with 100 mm diameter onto which the two copper windings are slipped. The capacitor battery has a capacity of 12.7 microfarad, and is charged to 30 kv. The maximum discharge current is 175 ka (with a central maximum magnetic field of 11 kilogauss). The oscillation period of the field is 13.5 microseconds. The photographs of discharges in Figs. 2a and 2b show that on amplification of the magnetic field the plasma gets loose from the walls, and contracts in a radial direction. Fig. 3a shows an oscillogram of the

magnetic field measured with the measuring coil fixed outside to the glass tube, and Fig. 3b shows the axial magnetic field measured with a probe. Hence it appears that, on a reduction of the external magnetic field, the field in the interior of the plasma is reduced. If the external field becomes zero, the internal one is not zero and increases; its direction is opposite to that of the external one. In a brief theoretical deliberation it is shown that the product of the magnetic field intensity and the oscillation period is constant which also corresponds to the results of measurement (Table 1). A gamma emission with an intensity of 10^6 - 10^7 quanta with energies of up to 50 kev was observed in the discharges. The most intensive emission was found at a pressure of $5 \cdot 10^{-3}$ torr. The authors thank K. D. Sinel'nikov, Academician of the AS UkrSSR, for valuable hints in the conduction of investigation. There are 3 figures, 1 table, and 2 non-Soviet references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR Khar'kov (Institute of Physics and Technology of the AS UkrSSR, Khar'kov)

SUBMITTED: November 30, 1959

S/057/61/031/005/002/020
B104/B205

34.2120(1049,1141)
26.2321

AUTHORS: Zolotatrubov, I. M., Novikov, Yu. M., Ryzhov, N. M., Skoblik, I. P., and Tolok, V. T.

TITLE: Magnetic compression of plasma

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 5, 1961, 516-521

TEXT: The heating of plasma by magnetic fields slowly varying in time is discussed in the introduction. It is shown that, if the variation is slow with respect to the Larmor period, the final energy of the particles will be determined only by their initial energy and by the ratio of field strengths at the beginning and at the end of the cycle of compressions. As the holding time is very short for small initial energies, compression must be done quickly. This can be achieved either by the use of strong and rapidly varying magnetic fields which ionize the gas through the induced eddy emf and compress the resulting plasma, or by means of two magnetic fields, one rapidly varying and heating the gas and the other slowly varying and compressing the plasma. The second method is more convenient for practical purposes. The authors dwell upon several papers

Magnetic compression of plasma

including those by A. C. Colb (Phys. Rev., 112, 291, 1958), Colb et al. (Phys. Rev. Letters, 3, 5, (1959)) and Boyer et al. (Phys. Rev. 119, 831, 1960). Experiments with both kinds of plasma heating have shown that neutrons and soft X-rays are emitted as soon as maximum compression is attained, which is indicative of plasma heating. Colb's statement that the plasma is stable was refuted by I. F. Kvartskhava et al. (ZhETF, 38, 1641, 1960; ZhTF, XXX, 11, 1321, 1960). Here, an experiment is described, in which compression was effected by a slowly varying magnetic field. The experimental arrangement does not differ essentially from that used by Colb and others. The only difference is that the preliminary ionization was brought about by a shock wave produced by an induction discharge without electrodes (Fig. 1). The shock wave was produced by coil 1 (one winding) over which a capacitance of 6.3 μf charged up to 30 kv was discharged. The discharge took 6 μsec. The maximum magnetic field had a strength of 60 koe. The principal magnetic field was generated by coil 2 which consisted of 15 windings and generated a field of 85 koe. A camera was installed in the middle of this coil, between the windings. As the capacitance of the coil was much higher than that of the discharge circuit, the energy of the capacitor could be utilized up to 95%.

Magnetic compression of plasma

Discharge tube 3 was made of quartz and had an inner diameter of 3 cm and a length of 1 m. During the experiment the pressure could be measured within the range of $10^{-1} - 5 \cdot 10^{-2}$ mm Hg. A photograph [Abstracter's note: Not reproducible] shows that the velocity of the shock wave in the first semiperiod was not especially high but increased with increasing discharge. In the part of the shock wave where the gas was ionized by the preceding shock wave, its velocity was 5-6 times higher than in the part where the gas was not ionized. As the amplitude of the magnetic field diminished, the velocity of the shock wave tended toward a limit, i.e., the velocity of sound. Fig. 3 shows oscillograms of the magnetic field (a) and of the intensity of X-ray emission (б) and (в). The first pulse in 3б appeared in the second semiperiod of the principal magnetic field. 3в shows X-ray emission with a very long delay time. The optimum delay time was attained when the principal field was switched on after the sixth semiperiod. In this state, the velocity of waves produced by coil 1 was constant. It may be seen that the compression of the plasma by the principal field leads to instabilities accompanied by X-ray emission. A photographic film was used to study the regions of X-ray emission. The blackenings had a local character and were unevenly distributed between the middle of the coil and

Magnetic compression of plasma

that end which was opposite to coil 1. K. D. Sinel'nikov, Member of the AS UkrSSR, is thanked for a discussion. There are 4 figures and 10 references: 7 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR Khar'kov (Institute of Physics and Technology, AS UkrSSR, Khar'kov)

SUBMITTED: July 15, 1960

Fig 1

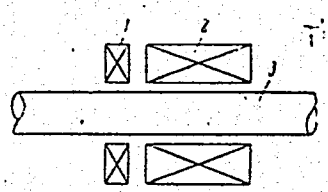
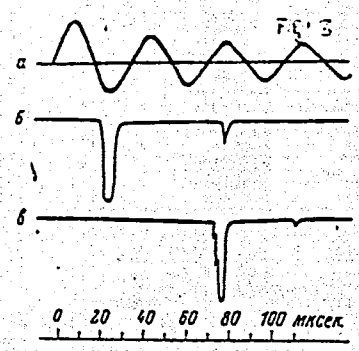


Fig 3



RYZHOV,N.N.

[Lectures on descriptive geometry] [Lektsii po nachertatel'-noi geometrii. Moskva, Univ. druzhby narodov imeni Patrisa Lumumby, No.1. 1963. 45 p. (MIRA 17:5)

POSVYANSKIY, Aleksandr Davidovich; RYZHOV, Nikolay Nikolayevich; Prinimal uchastiye RYZHOV, N.N.; BOCHAROVA, Yu.F., red. izd-va; VORONINA, R.K., tekhn. red.

[Problems in descriptive geometry] Sbornik zadach po nachertatel'noi geometrii. Pod red. N.F.Chetverukhina. Izd.2, Moskva, Vysshaia shkola, 1963. 288 p. (MIRA 16:4)
(Geometry, Descriptive)

RYZHOV, APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

Dissertation: "On the Geometry of Topographical Surfaces." Cand Tech Sci, Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze, 26 Apr 54. (Vecherayaya Moskva, Moscow, 16 Apr 54)

SO: SUM 243, 19 Oct 1954

POSVYANSKIY, A.D.; RYZHOV, N.M.; CHETVERUKHIN, N.F., redaktor; TSVETKOV, A.T., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[A collection of problems in descriptive geometry] Sbornik zadach po nachertatel'noi geometrii. Pod red. N.F.Chetverukhina. Moskva, izd-vo tekhniko-teoret. lit-ry, 1956. 280 p. (MLRA 10:3)
(Geometry, Discriptive--Problems, exercises, etc.)

4176. VARIABLE-FREQUENCY OSCILLATOR OF HIGH FREQUENCY-STABILITY. S.Rytko, H.Nowak and J.Formaniak. Arch. elektrotech. (Warsaw), Vol. 5, No. 4, 759-67 (1956). In Polish.

An oscillator based on the Gouriet–Clapp circuit is described and a detailed circuit diagram is given. Inductance tuning, thermal compensation, automatic amplitude control and stabilization of supply voltage is used. Following data are provided: frequency range 1.5-3 Mc/s; frequency–temperature coefficient 4.10^{-6} per deg C; frequency–voltage coefficient 1.10^{-4} for supply voltage changes of ±10%; frequency fluctuations over one hour less than 3.10^{-6}.

W.Bezdel

RYZHOV, N.S.

High-production milling of gear wheels made of titanium steels. (MIRA 14:12)
Stan.i instr. 32 no.12:15-17 D '61.
(Gear cutting)

RYZHOV, N.S.; SHIROKOV, A.V.

Gas cyanidation of gears made of 18KhGT and 30 KhGT steels. Stroi. i dor.mash. 7 no.2:36-37 F '62. (MIRA 15:5)
(Gearing) (Case hardening)

RYZHOV, N.S.

Textile industry in 1954. Tekst.prom.14 no.1:1-5 Ja '54. (MLRA 7:2)

1. Zamestitel' Ministra promyshlennykh tovarov shirokogo potrebleniya SSSR. (Textile industry)

RYZHOV, N.S.

Expansion of the textile industry during the sixth five-year plan.
Tekst. prom. 16 no.3:1-9 Mr '56. (MLRA 9:6)

1.Ministr tekstil'noy promyshlennosti SSSR.
(Textile industry)

S/121/61/000/012/002/007
D040/D112

AUTHOR: Ryzhov, N.S.

TITLE: High-production milling of titanium-steel gears

PERIODICAL: Stanki i instrument, no. 12, 1961, 15-17

TEXT: The Orlovskiy zavod Dormash (Orel Road-Machinery Plant), which produces large numbers of gears from 18ХГТ (18KhGT) and 30ХГТ (30KhGT) steel, is using a new method for rough gearcutting. Chips of these steels tend to stick together and become welded to the front of the cutting tools. Rough milling previously took 60-80% of the total cutting time. The new high-speed roughing method consists in using a set of two milling cutters with soldered-on cutting blades, and a horizontal milling machine with an indexing device and vertical table feed. One milling cutter is illustrated (Fig. 3). ВК 8 (VK8) carbide proved to be the most durable material for the cutting blades. The geometry of the cutters was selected in accordance with recommendations made in two previous publications (Ref. 1: Margulis, D.K. and Korchak, S.N., Skorostnoye zubofrezerovaniye po metodu deleniya [High-speed gear-milling by

Card 1/4

the indexing method], Chelyabgiz, 1957; Ref. 2: Tambovtsev, S.P., Novosti instrumental'noy tekhniki [New developments in tool-engineering], Mashgiz, 1959). The major angles are: 10° radial rake angle, 15° peripheral relief angle, 10° relief angle on lateral cutting edges. The efficiency of a set of two milling cutters with VK8 blades is compared with the efficiency of a hob of P 18 (R18) steel:

	Hob of R18 steel	Set of two milling cutters with VK8 blades
Cutting speed, m/min	27	100
Feed, mm/rev	1	2
Diameter of the milling cutter, mm ...	150	180
Output per shift, in pieces	2	4

The new milling cutters have the following drawback: the cutting edges cannot be finished by lapping, and the whole cutter has to be discarded if one

High production milling ...

tooth is damaged. The author recommends the use of 4T3 (ChTZ) milling cutters with removable cutting blades; these blades can be removed from the cutter for lapping. In addition, the ChTZ milling cutters have blades with different profiles mounted one behind the other so that the perimeter of the chip is divided into five portions, which reduces the wear of the cutters and cuts down the cutting forces and vibration. On the basis of the experience gained at the Orel Road-Machinery Plant, the new method is recommended for small plants. The article also includes brief general information on the principles of the three existing methods of initial rough gearcutting. Details of the sharpening process used for the new milling cutters with soldered blades are given. There are 3 figures and 2 Soviet references.

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D040/D112

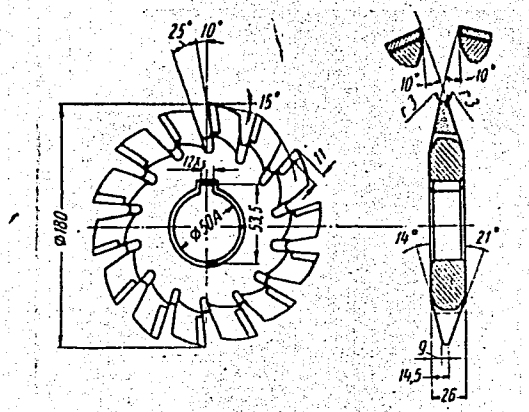

Fig. 3
The new milling cutter used at the Orlov Road-Machin
Plant

MARKARYAN, M.K.; RYZHOV, N.V.; STANNIKOV, I.V.

Decontamination of water infected with botulin toxin. J.hyg.epidem. Praha 4 no.4:385-389 '60.

1. Akademie S.M.Kirov, Leningrad.
(WATER POLLUTION prev. & control)
(CLOSTRIDIUM BOTULINUM pharmacol)

ACC NR: AP7001386 (A,N) SOURCE CODE: UR/0413/66/000/021/0056/0056

INVENTORS: Denisov, N. I.; Zhernov, V. S.; Nabatnikov, A. A.; Murashov, Ye. P.; Ryzhov, N. V.; Serzhantov, V. P.; Skatkin, V. M.

ORG: none

TITLE: Multichannel pulse counting rate meter. Class 21, No. 187843 [announced by Union Scientific Research Institute for Instrument Manufacture (Soyuznyy nauchno-issledovatel'skiy institut priborostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 56

TOPIC TAGS: pulse counter, pulse rate, count rate meter

ABSTRACT: This Author Certificate presents a multichannel pulse counting rate meter containing a cathode ray tube, pulse registers, a high-speed electronic switch, and a vertical and horizontal deflection amplifier for the cathode ray tube. To measure counting rate differences varying over a wide range simultaneously in all channels without switching subranges, electronic commutator switches are connected to the outputs of wide-band linear differential counting rate meters, one for each channel (see Fig. 1). The switch outputs are connected through current-setting resistors and isolating capacitors to the input of a collecting stage consisting of a grounded base transistor. The output of the collecting stage is connected to the input of a linear-logarithmic CRT vertical deflection amplifier.

Card 1/2 UDC: 621.374

ACC NR: AP7001386

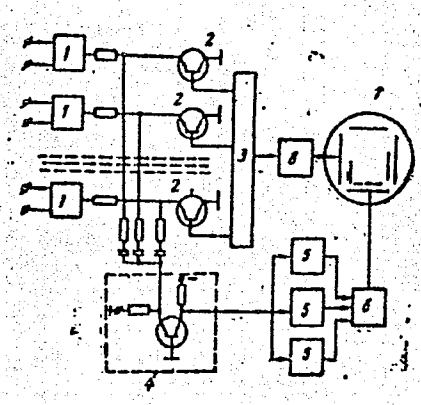

Fig. 1. 1 - counting rate meters; 2 - switches; 3 - decoder; 4 - electronic commutator; 5 - clipper amplifiers; 6 - summing stage; 7 - cathode ray tube; 8 - horizontal deflection amplifier

Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 22Nov63

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

MARKARIAN, M.K., polkovnik meditsinskoy sluzhby, prof.; RYZHOV, N.V., polkovnik meditsinskoy sluzhby, dotsent; SHTANNIKOV, Ye.V., mayor meditsinskoy sluzhby, kand.med.nauk

Mechanism of the detoxifying action of the preparation. Voen.-med. zhur. no.5:83-84 My '61. (MIRA 14:8)

(VIRUSES)

RYZHOV, N.V., polkovnik meditsinskoy sluzhby; SHTANNIKOV, Ye.V., mayor meditsinskoy sluzhby, kand.med.nauk

Use of UNF-30 for purifying water contaminated with some microbes. Voen.-med. zhur. no.8:47-48 Ag '61. (MIRA 15:2)
(WATER--PURIFICATION) (FILTERS AND FILTRATION)

RYZHOV, N.V.

Experimental effectiveness of combined vaccination against virus encephalitis, tularemia and brucellosis. Report No.1: Study of combined vaccination against virus encephalitis, tularemia and brucellosis in rabbits. Zhur. mikrobiol., epid. i immun. 33 no.12:120-122. D '62. (MIRA 16:5)

1. Iz Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(ENCEPHALITIS—PREVENTIVE INOCULATION)
(TULAREMIA—PREVENTIVE INOCULATION)
(BRUCELLOSIS—PREVENTIVE INOCULATION)

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

ACC NR: AP5022633 UR/0089/65/019/002/0157/0161
614.8:539.12.08

AUTHORS: Zhernov, V. S.; Ryzhov, N. V.; Skatkin, V. M.; Starovoytov, V. S.

28
B

TITLE: Continuous centralized monitoring of personal radiation doses

SOURCE: Atomnaya energiya, v. 19, no. 2, 1965, 157-161

19

TOPIC TAGS: radiation dosimetry, radiation monitor

ABSTRACT: The present article is an abbreviated version of the report presented in September 1964 to the international conference in Budapest. This conference was attended by the countries belonging to the Council for Mutual Economic Aid. Various possible developments of a centralized system for personal monitoring were discussed and some alternative control methods were reviewed. The use of individual and stationary dosimeters was considered. Possibilities for an automatic processing of personal doses were examined and the use of computors and analyzers were recommended. The use of computing equipment was recommended also for collecting information on personal doses and for calculating cumulative doses. A general electronic computing arrangement

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APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6"

ACC NR: AP5022633

was described and schematically presented. The use of stationary dosimeters for area and room monitoring by means of a remote control equipment is discussed and a formula for the determination of pulse reading errors is given. The fundamental aspects of determining personal doses by means of telemetering devices were reviewed and one of the possible arrangements was illustrated. In conclusion, it is stated that the proposed devices and arrangements can be realized by using existing standard instruments and equipment. Orig. art. has: 1 table and 3 diagrams.

ASSOCIATION: None

SUBMITTED: 25Nov65 ENCL: 00 SUB CODE: NP

NO REF SOV: 003 OTHER: 002

Card 2/2 Md

ZHERNOV, V.S.; MURASHOV, Ye.P.; RYZHOV, N.V.; SERZHANTOV, A.P.

The electronic commutator. IAd.-prib. no.1:139-150 '64. (MIRA 18:5)

L 38848-66 EWT(m)

ACC NR: AP6029716 SOURCE CODE: UR/0089/66/020/001/0082/0084

AUTHOR: Zhernov, V. S.; Murashov, Ye. P.; Ryzhov, N. V.; Skatkin, V. M.

ORG: none

TITLE: Multipoint control of radiation levels

SOURCE: Atomnaya energiya, v. 20, no. 1, 1966, 82-84

TOPIC TAGS: radiation measurement, nuclear safety, automatic control system

ABSTRACT: The tendency toward centralization and automation of control systems extends to the continuous collection of radiation dose data from operating personnel while working. Cathode-ray tubes were found suitable for such centralized collection of radiation safety information. Continuous and simultaneous indication of the radiation levels from several locations, e.g., in the form of vertical lines, the lengths of which are proportional to the dose level, allows a rapid and convenient survey of the situation at any given moment. The system requires suitably placed individual senders, connection systems, and a central control room provided with amplifiers and scanners. A multichannel count-rate device is used, with a linear, rather than logarithmic measuring system. Care was taken to eliminate interaction between channels. The authors thank B. V. Nemirovskiy for useful advice and A. P. Serzhantov for assisting the authors in the working of the multichannel count-rate device. Orig. art. has: 1 figure and 1 formula. [NA]

SUB CODE: 18 / SUBM DATE: 01Oct65 / ORIG REF: 005

Card 1/1 mlp

0918 0194

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001440530002-6

L 34886-65 EWT(d)/EWT(l)/EEC(k)-2/EED-2/EWP(l)/EWA(h) Po-4/Pq-4/Pg-4/Peb/Pk-4
IJP(c) BB/GG

ACCESSION NR: AT5004671 S/3128/64/000/001/0125/0131

AUTHOR: Ryzhov, N. V.; Skatkin 37 B+1/16

TITLE: Multichannel pulse counter with common ferrite-core memory unit

SOURCE: Yadernoye priborostroyeniye; nauchno-tekhnicheskiy sbornik, no. 1, 1964, 125-131

TOPIC TAGS: ferrite core memory, multichannel pulse counter, pulse shaping unit, pulse blocking unit, memory address, memory access technique

ABSTRACT: The article describes a direct-access common-ferrite-core-memory multichannel pulse counter, the block diagram of which is shown in Fig. 1 of the Enclosure. The use of direct access eliminates the need for coding and decoding units, since the pulses traveling over independent channels act directly on the input units of

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L 34886-65

ACCESSION NR: AT5004671

the corresponding lines of the memory. The pulse-shaping and the blocking circuits used are briefly described. A 10-channel counter for 10 digits, constructed on the basis of this block diagram, was tested and found to operate satisfactorily. At a counting rate of 1000 pulses per second, the relative error in each channel did not exceed 10%. Each channel in the bedboard used 10 transistors, constituting a 50% saving compared with the use of 10 single-channel 10-digit counters using ferrite-transistor cells. "The authors thank I. S. Krasheninnikov for interest in the work and for valuable advice." Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 01 SUB CODE: DP, NP

NR REF SOV: 008 OTHER: 000

Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6

L 34886-65

ACCESSION NR: AT5004671

ENCLOSURE: 01

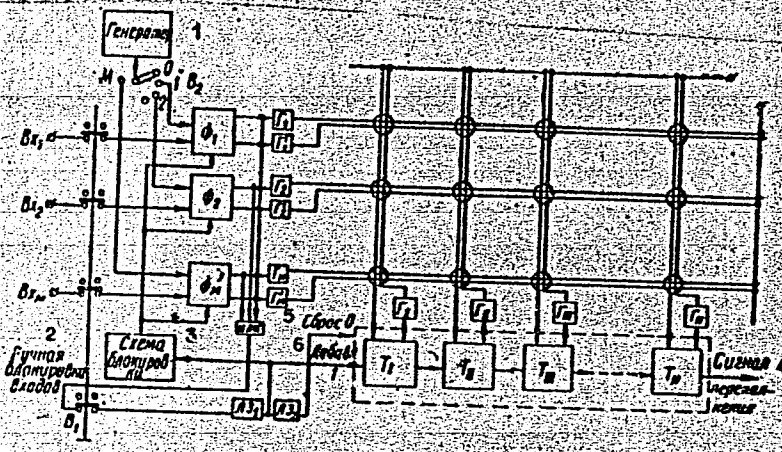

Fig. 1. Block diagram of multichannel counter

Φ - Shaping network, Г- generator, Т - flipflop, М - number of inputs (channels), N - number of bits in register, ЛЗ - delay line, ИЛИ - adding circuit 1 - generator, 2 - manual input blocking, 3 - blocking circ. 4 - overflow signal, 5 - clear 0, 6 - add 1

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L 36506-65 EWA(h)/EWT(1) Peb GG

ACCESSION NR: AT5004672 S/3128/64/000/001/0139/0150 14 12

AUTHOR: Zhernov, V. S.; Murashov, Ye. P.; Ryzhov, N. V.; Serzhantov, A. P. B+1

TITLE: Electronic switch 25

SOURCE: Yadernoye priborostroyeniye; nauchno-tekhnicheskiy sbornik, no. 1, 1964, 139-150

TOPIC TAGS: electronic switch

ABSTRACT: The development of a transistorized electronic switch is reported. The switch is intended for converting several slow-varying d-c voltages into proportional-amplitude pulses and combining these pulses for a common load. It is assumed that all N d-c voltage sources are independent and have an internal impedance of up to 100 kohms. The voltage may vary within 0.005—5 v. The switch comprises (see Enclosure 1) voltage-to-pulse converters K_1, K_2, K_N, a

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ACCESSION NR: AT5004672 2

clock-pulse generator G, a distributor that sends clock pulses to individual converters, and a matching circuit which combines the resulting pulses. An inverse-connected n-p-n Si transistor (P103) is used in the converter. The clock-pulse generator has a conventional blocking-generator circuit; its frequency varies by ±20% with temperature within -10÷50C. The ferrite-transistor distributor circuit is equipped with a noise filter. The matching circuit includes a common-base stage and an emitter follower; the circuit was tested with 50 converters at -10÷50C. "In conclusion, the authors wish to thank V. M. Skatkin for his help in solving some problems, and I. S. Krashennikov for a useful discussion." Orig. art. has: 9 figures and 20 formulas.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: EC

NO REF SOV: 003 OTHER: 002

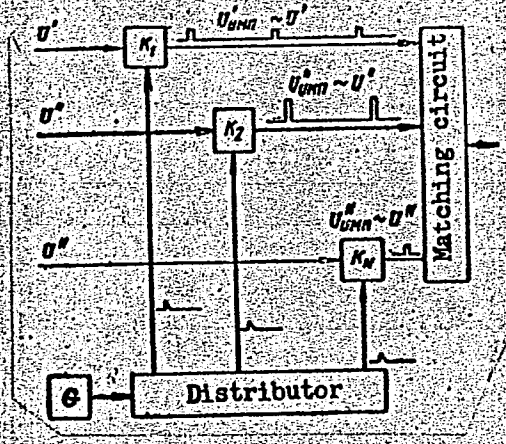
Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6

L 36506-65

ACCESSION NR: AT5004672

ENCLOSURE: 1



An electronic switch for combining several d-c voltages

Card 3/3

RYZHOV, N.V.; SKATKIN, V.M.

Multichannel pulse counter with a general memory device on ferrite cores. IAd. prib. no.1:125-131 '64. (MIRA 18:5)

RYZHOV, O.S.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/3 PG - 543
AUTHOR RYZOV O.S., TAGANOV G.I.
TITLE The second limit case of the problem concerning high-powered explosions.
PERIODICAL Priklad.Mat.Mech. 20, 545-548 (1956)
reviewed 1/1957

The authors consider a punctiform high-powered explosion in an ideal gas, where the temperature of the gas is assumed to be variable with respect to time, however, not with respect to position. Only two of the determining constants are of independent dimension: E - is a magnitude which is proportional to the quantity of energy E_0 which has become free and ϱ_0 is the initial density of the gas. This fact is used in order to bring the equations of the considered motion, according to Sedow's method, to the following form:

$$(1)\quad \frac{dV}{d\zeta} = -\frac{5V}{\zeta}\,\frac{(V-1)(5V-2)\zeta^2-15}{(5V-2)^2\zeta^2-25}\,, \qquad \frac{d\ln R}{d\zeta} = -\frac{5(3V+\frac{dV}{d\zeta})}{\zeta(5V-2)}$$

under assumption of infinite efficiency. Here the velocity v of the particle and the density ϱ depend on V and R, namely

$$v = \frac{r}{t} V(\lambda), \quad \rho = \rho_0 R(\lambda), \quad \lambda = \frac{E}{\rho_0} \frac{t^2}{r^5} \text{ and } \zeta = \frac{1}{\sqrt{k_0}} \frac{1}{\lambda^{1/5}}.$$

As initial conditions for the integration of (1) the authors obtain

$$V_2 = \frac{2}{5(\alpha\varkappa+1)}; \quad R_2 = \frac{\alpha\varkappa+1}{\alpha\varkappa}; \quad \zeta_2 = \frac{5(\alpha\varkappa+1)}{2\sqrt{\alpha\varkappa}}$$

$\varkappa = \frac{c_p}{c_v}$, α - square of the Mach number behind the shock wave in a coordinate system which is connected with it. The magnitudes V_2, R_2 correspond to the velocity and the density behind the shock wave.
The integration of (1) has been carried out numerically, the integral lines for $V>0$, $\zeta>0$ are plotted on a diagram. The discussion of these solutions shows that the flow of the gas behind the considered wave front is similar to a flow under spherical detonation. The difference, however, lies in the fact that in the considered case the velocity of the particles behind the wave front is smaller than the velocity of sound.
Finally in the formula $E_0 = \beta(\varkappa)E$ the coefficient β is determined. The

authors obtain the value 0,90 for $\varkappa = 1,2$ and the value 0,48 for $\varkappa = 1,4$. The results essentially deviate from Taylor's results for the opposite limit case (Proceedings of the Roy.Soc. 201, 159-174 (1950)).

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530002-6

R-12

112/14/2 534.222

Concerning One Precision Solution of Acoustics Equations

Prikl.Mat.Mekh. 21(3),434-437 1957

O.S. Ryzhov.

U.S.S.R.

Discusses the behaviour of weak plane and spherical shock waves in a heterogeneous medium and gives the formulae for excess pressure at the wave fronts in both cases. Bibl.1.

AUTHOR: RYZHOV, O.S. (Moscow) 40-4-15/24

TITLE: On Flows With Degenerated Hodographs (O techeniyakh s vyrozhdennym godografom).

PERIODICAL: Prikladnaya Mat.i Mekh., 1957, Vol.21, Nr 4, pp.564-568 (USSR)

ABSTRACT: The author starts from the tridimensional gas motions which are mapped into the hodograph space by curves or surfaces; they have been investigated by Nikol'skiy (Trudy ZAGI, 1949). The author considers their connection with the theory of characteristics of partial differential equations of hyperbolic type.

SUBMITTED: January 10, 1957

AVAILABLE: Library of Congress

CARD 1/1

AUTHORS: Andriankin, E. I., Ryzhov, O. S. 20-5-9/54

TITLE: The Propagation of a Nearly Spherical Thermal Wave (Rasprostraneniye teplovoy volny, blizkoy k sfericheskoy).

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 115, Nr 5, pp. 882-885 (USSR)

ABSTRACT: The law of heat propagation is here assumed to be nearly automodel-like. The amount of heat Q is assumed to have been separated in a small volume (point) at the initial moment. The authors here investigated the thermal wave propagating in a medium at rest with variable density and exponential dependence of the heat conductivity coefficient on temperature. Density is assumed to be nearly constant, and the initial temperature of the medium is assumed to be equal to zero. At first an equation for the heat influx in the spherical system of coordinates and the condition for the preservation of energy is written down. If density is constant everywhere, the problem is characterized only be the two constants c and C. In this case the problem is automodel-like. In the case of variable density also the dependence of the solution

CARD 1/3