Rybakov, M S.

BESSONOV, L.A., prof., doktor tekhn.nauk; RYBAKOV, M.S., dotsent, kand. tekhn.nauk

Magnetic setups operating under asymmetric conditions. Trudy VZEI no.9:103-115 '58. (MIRA 12:10)
(Magnetic amplifiers)

RYBAKOV, M.S.

RYBAKOV, M. S. -- "Investigation of Pressure Conditions and of the Initial Ionization Potential of Gas-Filled Cables." Sub 28 Mar 52, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Vechernaya Moskva, January-December 1952

1. RYBAKOV, N.

2. USSR 600

4. Navigation

7. Ship at sea, Tekh. molod, 21, No. 1, 1953.

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

RYBALOV, N.A.

Helicopters in the service of geodesists. Geod.i kart. no.3:52-53 Mr '60. (MIRA 13:6)
(Helicopters) (Aeronautics in surveying)

RYBAKOV, N.F.

Ten-year experience with the use of solicol ointment in psoriasis. (MIRA 18:10)
Sov. med. 28 no.3:76-78 Mr '65.

1. Poliklinika (nachal'nik M.K.Golikova) stantsii Moskva-Kiyevskaya Moskovskoy zheleznoy dorogi.

RYBAKOV, N.F.

Treating eczema in infants. Pediatriia 37 no.5:90 My '59. (MIRA 12:8)

1. Iz kozhno-venerologicheskogo dispansera No.10 Moskvy.
(ECZEMA) (INFANTS--DISEASES)

USSR / Farm Animals. General Problems. Q

Abs Jour : Ref Zhur - Biologiya, No 5, 1959, No. 21181

Author : Rybakov, P.
Inst : Not given
Title : The System of Animal Husbandry in the Alma-Atinskaya Oblast'

Orig Pub : S. kh. Kazakhstana, No 2, 6-13

Abstract : No abstract given

Card 1/1

RYBAKOV, N. F.

Morskaia lotsiia. [Pilot guides]. Izd. 3 perer. i dop Moskva, Voenmorizdat, 1942-. v(1), illus., plates (1 col., 1 fold.) fold. map. DLC VK802. R912

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

RYBAKOV, N.F., kapitan pervogo ranga v/o

On sea lanes. Tekh.mol. 22 no.7:29-31 Jl '54. (MLRA 7:6)
(Navigation)

RYBAKOV, N.F., klinicheskiy ordinator.

Results of ST salve therapy of psoriasis. Vest.ven.i derm. no.6: 34-36 N-D '53. (MLRA 6:12)

1. Iz otdela dermatologii (ispolnyayushchiy obyazannost'zaveduyushchego - zaslushennyy vrach RSFSR dotsent V.A.Laptev) Tsentral'nogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta (direktor - kandidat meditsinskikh nauk N.M.Turanov) Ministerstva zdravookhraneniya SSSR.

(Psoriasis)

RYBAKOV, N.F.

Ointment ST in the treatment of psoriasis. Sovet. med. 17 no.5:40-41 May 1953. (CIML 24:5)

1. Of the Clinic for Skin and Venereal Diseases (Director -- Prof. V. A. Rakhmanov), First Moscow Order of Lenin Medical Institute.

12

ACCESSION NR: AT4042681 S/0000/63/000/000/0185/0188

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Yazdovskiy, V. I.; Pekhov, A. P.; Ry*bakov, N. I.; Tribulev, G. P.; Saksonov, P. P.; Dobrov, N. N.; Antipov, V. V.; Kozlov, V. A.; Vy*sotskiy, V. G.; Mishenko, B. A. Ry*bakova, D. K.; Parfenov, G. P.; Pantyukhova, V. V.; Yudin, Ye. V.; Aniskin, Ye. D.

TITLE: The evaluation of the biological effectiveness of space-flight factors with the aid of lysogenic bacteria

SOURCE: Konferentsiya po aviatsionnoy i kosmicheskoy meditsine, 1963. Aviatsionnaya i kosmicheskaya meditsina (Aviation and space medicine); materialy* konferentsii. Moscow, 1963, 185-188

TOPIC TAGS: lysogenic bacteria, biological sensor, radiation detector, bacteriophage, phage, vibration, irradiation/Vostok III, Vostok IV

ABSTRACT: Lysogenic bacteria, E. coli K-12 (λ), was carried on spaceships

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Vostok III and Vostok IV as a biological sensor. The advantages of lysogenic bacteria as biological sensors stem not only from their extreme sensitivity to various types of radiation, but also from the fact that induced changes are directly proportional to the dose of irradiation. In addition, E. coli was subjected to the combined effects of radiation and vibration in ground experiments. Vibration was produced by means of a vibrator with frequencies of 35, 70, and 700 cps, an amplitude ranging from 0.4 to 0.005 mm with a load equal to 10 g, for periods of 15, 30, and 60 min. Co^{60} in doses of 100 r at a rate of 21 r per min served as a source of radiation. Lysogenic bacteria carried on spaceships Vostok III and Vostok IV revealed induction of genetic changes produced by space-flight factors which was indicated by a significant increase in the number of phage particles. The induced effect was more pronounced on Vostok III than on Vostck IV. Forty-eight hours after its return to earth, the bacteria carried by Vostok III had produced 4.6 times as many phage particles as controls which had remained on earth. Ground experiments with vibration indicate that the combined vibration and gamma irradiation, followed by a second exposure to vibration, double the biological effectiveness of gamma rays.

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However, when the bacteria is subjected to only a single dose of vibration following irradiation, there is no increase in the number of phage particles as compared to samples which were exposed to irradiation alone. This fact indicates that under space flight c nditions vibration sensitizes the lysogenic bacteria to the effect of ionizing radiation. This as yet hypothetical explanation should be substantiated by additional experiments.

ASSOCIATION: none

SUBMITTED: 27Sep63 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 3/3

L 20792-65 EWG(j)/EWG(r)/EWT(l)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Pe-5/Pa-4/Pb-4 AEDC(a)/AFWL/SSD/ASD(a)-5/ASD(f)-3/ASD(p)-3/AFHDC/AMD/AFETR DD

ACCESSION NR: AR4046193 S/0299/64/000/016/A013/A013

SOURCE: Ref. zh. Biologiya. Svodny*y tom, Abs. 16A106

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Yazdovskiy, V. I.; Peknov, A. P.; Ry*bakov, N. I. 15

TITLE: An evaluation of the biological effectiveness of space flight factors with the help of lysogenic bacteria

CITED SOURCE: Sb. Aviats. i kosmich. meditsina. M., 1963, 185-188

TOPIC TAGS: space biology, bacteriophage, vibration induced tissue change, space radiation, biological effect, Escherichia coli, Vostok 3, Vostok 4

TRANSLATION: Investigation results are presented on induced phage production in Escherichia coli K-12 (λ) samples, exposed at time of the Vostok 3 and Vostok 4 space flights; also presented are laboratory investigation results on the combined effect of vibration and ionizing irradiation. In the experiments aboard Vostok 3 and Vostok 4, the inducing action of space flight factors on lysogenic bacteria was

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ACCESSION NR: AR4046193

expressed in the form of increased phage production. Induced phage production was expressed to a higher degree in experiments aboard Vostok 3 than aboard Vostok 4, which apparently is related to the more prolonged flight of the former. With lysogenic bacteria the effect of ionizing radiation can be found within the limits of 0.2-0.4 r. Biological action intensity of ionizing radiation was almost doubled with combined action of ionizing radiation and following vibration (a simulation of space flight conditions). However, with only vibration action, the induced effect was not found. Under space flight conditions vibration action apparently increases the sensitivity of lysogenic bacteria to ionizing radiation, which enables finding the induced effect of ionizing radiation with doses in the range of 0.2-0.4 r. [Translator's note: 0.2-0.04 is the range given in the text, but appears to be a typographical error.]

SUB CODE: LS, SV ENCL: 00

Card 2/2

Rybakov N.I.

RYBAKOV, N.I.

Effect of a living culture of B. prodigiosus on transplanted tumors in experimental animals [with summary in English]. Biul.eksp.biol. i med. 43 no.4:87-90 Ap '57. (MIRA 10:10)

1. Iz otdela immunobiologii (zav. - deystvitel'nyy chlen AMN SSSR prof. N.N.Zhukov-Vereshnikov) Instituta eksperimental'noy biologii (dir. - prof. I.N.Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR prof. N.N.Zhukovym-Vereshnikovym.

(NEOPLASMS, exper.
eff. of live culture of Serratia marcescens on transplanted tumors in rats & rabbits)
(SERRATIA
marcescens, eff. of live culture on transplanted tumors in rats & rabbits)

RYBAKOV, N. I. Cand Med Sci -- "On the effect of Bact. prodigiosum upon malignant tumors in experiment." Saratov, 1960 (Min of Health USSR. All-Union Sci Res Inst "Mikrob"). (KL, 1-61, 210)

RYBAKOV, N.I.

Comparative study of the action of living cultures of B. prodigiosum (Serratia marcescens) and its products on the growth of Brown-Pearce tumor in rabbits. Biul. eksp. biol. i med. 49 no. 4:87-92 Sp '60. (MIRA 13:10)

1. Iz otdela immunobiologii (zav. - deystvitel'nyy chlen AMN SSSR N.N. Zhukov-Verezhnikov) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva.
(TUMORS) (SERRATIA MARCESCENS)

21740

S/025/61/000/006/002/007
D244/D305

27.0000 4112

AUTHOR: Rybakov, N. I., Candidate of Medical Sciences

TITLE: Micro-organisms in space

PERIODICAL: Nauka i zhizn', no. 6, 1961, 8-9

TEXT: In this article the author explains why it has been necessary to use micro-organisms and submicroscopic substances in space experiments. The principal reason is the fact that radiation capable of causing serious cellular injuries may exist in interplanetary space. There is, moreover, the additional though less important problem of the influence of cosmic radiation on heredity. Micro-organisms are suitable for these purposes on account of their large range of sensitivity to ionizing radiation which permits the study of the biological effect of different doses of radiation (up to several thousand r) that a cosmonaut would encounter in orbit. Various types of microbes - the intestinal bacillus, the staphylococcus, the bacillus of butyric acid fermentation and others, have been employed in tests aboard

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S/025/61/000/006/002/007
D244/D305

Micro-organisms in space

Soviet spaceships. The hereditary properties of bacteria, particularly those of the intestinal bacillus K-12, were studied in detail with the help of precise microbiological methods. Bacterial cells with a pathologically changed hereditary were exposed to large doses of ionizing radiation, not only to ascertain the effect of such radiation, but also to determine whether its constituent protons, alpha-particles and heavy-element nuclei can induce serious cellular injuries. Mutation phenomena in bacteria are related to the loss of their cell-capacity to synthesize amino-acids and vitamins; the discovery of large numbers of these bacterial cells would readily define the risks that a cosmonaut must guard against during space flight. The latest methods - techniques involving ultra-fine microsections and their electronoscopic study, have been used in these investigations. The sputniks also contained the highly-sensitive lysogen bacteria capable of reacting to small doses of radiation (1 r) through the formation of bacteriofagi; under such conditions the lysogens

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S/025/61/000/006/002/007
D244/D305

Micro-organisms in space.

acquire the capacity for an increased production of bacteriofagi, when the number of affected bacteria may then be determined by means of specific procedures, thus establishing the hereditary reaction of bacteria to the influence of external factors. Special miniature autodevices or bioelements were constructed to ascertain the life period of cells in spaceflights. They were placed on the sputniks and recorded the main functions of bacterial activity, this information being transmitted back to earth whenever necessary in the form of radiosignals. It would appear that microbes can exist in the automatic bioelements for long periods - months or even years at a time. Since they require little nutrition, these and other types of micro-organisms are a very suitable model for cosmic biology. A comparison of micro-biological data with the results of spaceship experiments on the use of the cultures of human cancer cells is of great interest; these latter occupy an intermediate position between the lysogen and non-lysogen cells of the intestinal bacillus and have attracted

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D244/D305

Micro-organisms in space

the attention of scientists in view of their capacity for vigorous growth in artificial nutritious media. Finally, this method enables the amount of injured cells preserved in tissue cultures that have been subjected to the effects of acceleration, vibration and weightlessness to be accurately taken into account. There are 3 figures.

Card 4/4

RYBAKOV, N.I.

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S/560/61/000/011/007/012
E027/E635

AUTHORS: Zhukov-Verezhnikov, N.N., Mayskiy, I.N., Yazdovskiy, V.I., Pokhov, A.P., Gyurdzhian, A.A. Nefed'yeva, N.P., Kapichnikov, M.M., Podoplelov, I.I., Rybakov, N.I., Klemparskaya, N.N., Klimov, V.Yu., Novikov, S.N., Novikova, I.S., Petrov, R.V., Sushko, N.G., Ugryumov, Ye.P., Fedorova, G.I., Zakharov, A.F., Vinogradova, I.N., Chamova, K.G. and Buyko, Ye.A.

TITLE: The results of the first microbiological and cytological experiments in Space in Earth satellites

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli. no. 11. Moscow, 1961. Rezul'taty nauchnykh issledovaniy, provedennykh vo vremya poletov vtorogo i tret'yego kosmicheskikh korabley-sputnikov, 44 - 67

TEXT: The authors report the results of their investigations of biological objects which had been exposed to space conditions in satellite vehicles. The first part of the work was devoted to a study of the survival of cells of differing levels of organisation under the influence of radiation and other

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S/560/61/000/011/007/012
E027/E635

The results of the ---

unfavourable factors, in comparison with control materials which remained in the laboratory over the same period. In experiments with bacteria 2ml. samples of suspensions of Escherichia coli, Aerobacter aerogenes, Staphylococcus aureus and Clostridium butyricum containing 500 million organisms or spores per ml. were sealed in ampoules, and exposed to a space flight of unstated duration; the number of viable individuals after the exposure did not differ significantly from the values for the control samples. A similar experiment was carried out with the T2 phage of E. coli and the 1321 phage of A. aerogenes, which were sent in the second satellite; again, no sigificant reduction in the titre of the phage preparations could be detected after return from space. Similar results were obtained with preparations of phage sent into space in the fourth and fifth satellites. Two bottles and six tubes of HeLa cells, some of which were saturated with oxygen, were exposed to space flight

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The results of the . ..

conditions, after it had first been shown that vibration and acceleration did not detach the cells from the glass. The cultures without oxygen appeared normal on return, whereas in those exposed to oxygen most of the cells had degenerated. Subculture showed that 90% of the cells, whether detached from or remaining on the glass, were dead; however, two tubes gave good growth, and the cells which grew up showed no abnormalities of morphology. No antigenic differences could be detected in the cells in anaphylaxis and desensitization experiments in guinea-pigs. In subsequent space flights fibroblast and human amnion cell cultures were studied, with similar results. Pieces of human and rabbit skin were also used. On August 12th 1960 two pieces of skin 2.5 x 3.5 cm. in size and 0.5 mm. thick were taken from a human donor, placed in Hanks solution and sent into space in the second satellite. On recovery they were regrafted on the original site in the donor and became firmly attached after seven days.

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The results of the ---

Similar results were obtained with two other donors. An apparatus was devised for making a subculture in space, in order to study the ability of bacteria to multiply under space conditions. In experiments with Glostridium butylicum no deviations from the controls were observed. The second part of the work was devoted to a study of possible genetic effects brought about by exposure to space conditions, mainly by looking for the production of auxotrophic mutants and lysogeny in bacteria. The former were detected by inoculation on a layer of minimal medium which was then covered with an overlay of the same medium in order to fix the colonies. When the latter had grown up their position was noted and an overlay of complete medium was then put on, and the colonies which then grew up as a result of the diffusion of essentialnutrients were selected as auxotrophic mutants. No such mutants could be found in suspensions of Escherichia coli recovered from the second satellite. The experiments on the induction of lysogenic bacteria were carried out on a strain of E. coli lysogenized by a λ phage which had been exposed to cosmic

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E027/E635

The results of the ---

radiation in the fifth satellite. Free phage particles were removed by adding phage antiserum; after the end of the latent period the action of the antiserum was cut short by diluting 1:100, streptomycin was added to inhibit the host organisms, and the mixture was plated out on the indicator strain in order to count the phage particles produced. The results obtained, considered in comparison with control experiments, provided no evidence of induction by cosmic radiation during a space flight of ninety minutes. No difference was observed in the plaque morphology. No changes could be detected in the chemical and physical properties of calf thymus deoxyribonucleic acid recovered after a space flight. The results as a whole indicate that no damage was suffered by isolated cells during a brief exposure to space conditions. There are 6 figures and 10 tables.

SUBMITTED: May 23, 1961

Card 5/5

NILOVSKIY, M.N.; RYBAKOV, N.I.

Problem of immunogenesis in rabbits during the process of growth of Brown-Pearce carcinoma. Biul. eksp. biol. i med. 51 no.4:96-98 Ap '61. (MIRA 14:8)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Zhukovym-Verezhnikovym.

(CANCER) (VACCINATION)

KUBAKOV, Nikolay Ivanovich, kand. med. nauk; STAROSTENKOVA, M.M., red.; NAZAROVA, A.S., tekhn. red.

[Microbes and space]Mikroby i kosmos. Moskva, Izd-vo "Znanie," 1962. 28 p. (Novoe v zhizni, nauke, tekhnike. VIII Seriia: Biologiia i meditsina, no.14) (MIRA 15:9)
(Space microbiology)

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; PEKHOV, A.P.; RYBAKOV, N.I.; KLEMPARSKAYA, N.N.; GYURDZHIAN, A.A.; TRIBULEV, G.P.; NEFED'YEVA, N.P.; KAPICHNIKOV, M.M.; PODOPLELOV, I.I.; ANTIPOV, V.V.; NOVIKOVA, I.S.; KOP'YEV, V.Ya.

Problems of space microbiology and cytology. Probl.kosm.biol. 1:118-136 '62. (MIRA 15:12)
(SPACE MICROBIOLOGY) (CYTOLOGY)

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; YAZDOVSKIY, V.I.; PEKHOV, A.P.; GYURDZHIAN, A.A.; RYBAKOV, N.I.; ANTIPOV, V.V.

Microbiological and cytological studies in spaceships. Probl. ksom.biol. 2:140-148 '62. (MIRA 16:4)
(SPACE BIOLOGY)

ZHUKOV-VEREZHNIKOV, N. N.; VOLKOV, M. N.; MAYSKIY, I. N.; TRIBULEV, G. P.; RYBAKOV, N. I.; SAKSONOV, P. P.; ANTIPOV, V. V.; KOZLOV, V. A.; PODOPLELOV, I. I.

"Results of microbiological and cytological investigation on Vostok type space-craft."

paper presented at the 15th Intl Astronautical Cong, Warsaw, 7-12 Sep 64.

ZHUKOV-VEREZHNIKOV, N.N.; YAZDOVSKIY, V.I.; MAYSKIY, I.N.; TRIBULEV, G.P.
PEKHOV, A.P.; SAKSONOV, P.P.; RYBAKOV, N.I.; ANTIPOV, V.V.;
ARTEM'YEV, N.S.; KOZLOV, V.A.; MISHCHENKO, B.A.; YUDIN, Ye.V.
RYBAKOVA, K.D.; ANICKIN, Ye.D.

Microbiological and cytological studies in conquering space.
Probl. kosm. biol. 3:184-192 '64. (MIRA 17:6)

L 16634-65 EEO-2/EWG(j)/FSF(h)/FSS-2/EWG(r)/EWT(l)/FS(v)-3/EEC(k)-2/EWG(v)/ 80
FCC/EWA(d)/EEC-4/EEC(t)/EWG(a)/EWG(c)/EWA(h) Pe-4/Pc-5/Pq-4/Pac-4/Pae-2/ 79
Peb/Pi-4/Pb-4 ESD(si)/SSD/BSD/AFWL/AS(mp)-2/AMD/AFMDC/AFETR/AFTC(b)/AFTC(a) B
TT/DD/GW/WS
ACCESSION NR: AP4046443 S/0205/64/004/005/0738/0742

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Pekhov, A. P.; Ry*bakov, N. I.; Saksonov, P. P.; Mishchenko, B. A.; Kozlov, V. A.; Ry*bakova, K. D.; Aniskin, Ye. D.

TITLE: Effect of antiradiation drugs on phage production of lysogenic bacteria induced by x-irradiation

SOURCE: Radiobiologiya, v. 4, no. 5, 1964, 738-742

TOPIC TAGS: antiradiation drugs, radioprotectors, phage production, lysogenic bacteria, E. coli K-12(λ), x-ray, irradiation, biological radiation sensor, space flight, 2-mercaptopropylamine, mercamine disulfide, urethane

ABSTRACT: Experiments have been performed to determine the effects of antiradiation drugs and urethane on biological objects capable of warning of radiogenetic damage. Lysogenic bacteria E. coli K-12(λ) was selected because it proved to be a reliable and sensitive biological radiation sensor in space flight experiments by producing

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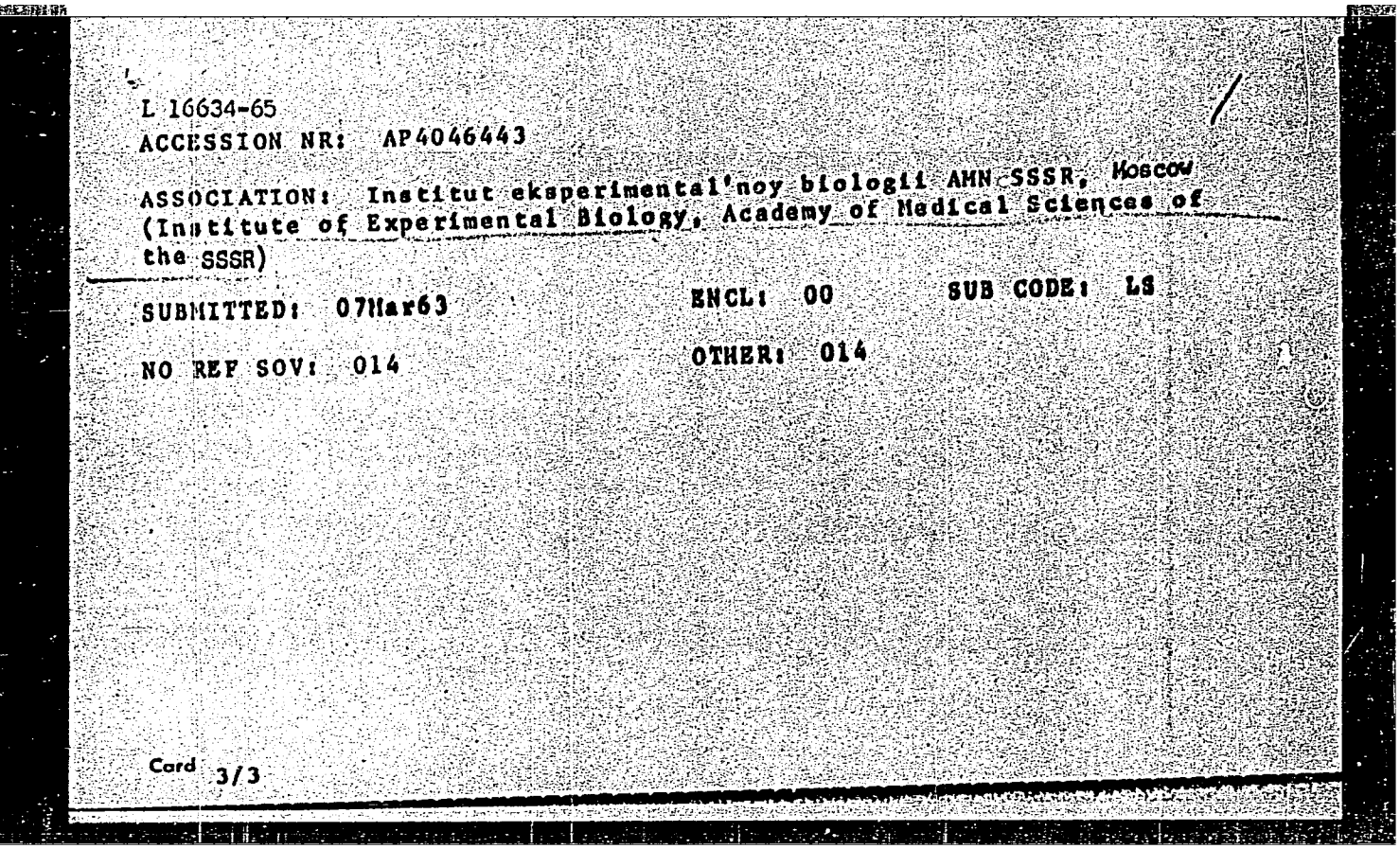
ACCESSION NR: AP4046443

phage particles in proportion to the dose of ionizing radiation. The mechanism of phage production by lysogenic bacteria constitutes a molecular-genetic reaction related to transformation-type genetic anomolies. The highest permissable concentration of each substance was used which did not have a bacteriostatic effect on E. coli K-12(λ). The concentrations for 2-mercaptopropylamine and mercamine disulfide were 0.05% and 0.8% for urethane. Irradiation of bacterial cultures was produced by an RUM-7 generator with a dose rate of 4050 r/min, a voltage of 50 kv, an amperage of 15 mamps, an irradiation distance of 8 cm, and using a 0.1-mm Al filter. It was found that 2-mercaptopropylamine and mercamine disulfide exert a substantial protective action on the prophage, but that they have no protective effect on mature phage particles. Urethane shows no radioprotective effect on lysogenic bacteria. The results obtained coincide with those obtained with other biological objects, and the ease of working with lysogenic bacteria indicate that E. coli K-12(λ) can serve as a useful subject for the fast primary identification of chemical compounds capable of protecting against genetic injury by radiation. Orig. art. has: 1 figure and 3 tables.

Card 2/3



L 16634-65
ACCESSION NR: AP4046443

ASSOCIATION: Institut eksperimental'noy biologii AMN SSSR, Moscow (Institute of Experimental Biology, Academy of Medical Sciences of the SSSR)

SUBMITTED: 07Mar63 ENCL: 00 SUB CODE: LS

NO REF SOV: 014 OTHER: 014

Card 3/3

L 14245-66 FSS-2/EWT(1)/EWA(j)/FS(v)-3/EEC(k)-2/EWA(d)/T/EWA(b)-2 SCTB TT/DD/JK/RD/GW

ACC NR: AT6003860 SOURCE CODE: UR/2865/65/004/000/0261/0269

AUTHOR: Zhukov-Verezhnikov, N. N.; Rybakov, N. I.; Kozlov, V. A.; Saksonov, P. P.; Dobrov, N. N.; Antipov, V. V.; Podoplelov, I. I.; Parfenov, G. P. 76 71 B+1

ORG: none

TITLE: Results of microbiological and cytological investigations conducted during the flights of "Vostok" type vehicles 24155

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 261-269

TOPIC TAGS: bacteria, genetics, bacterial genetics, gamma irradiation, cobalt, radioisotope, microbiology, cytology, space biologic experiment, radiation biologic effect, biologic vibration effect

ABSTRACT: The biological objects used for space research are carefully selected genetic indicators. E. coli K-12 (λ), frequently chosen for these experiments, is a reliable biological dosimeter of the genetic effectiveness of spaceflight factors. When normal and cancerous human cells were exposed in the Vostok series, it was found that these experimental samples did not differ essentially from control samples kept on earth However, some tendency to intensification of phage production was observed in cultures

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ACC NR: AT6003860

of E. coli in this series (an increase by a factor of 1.2 on Vostok-2, 4.6 on Vostok-3, and 1.96 on Vostok-4). Data from repeated exposure of the same biological object indicate accumulation of the spaceflight effect, although the character of this accumulation is not clear. In a comparison of the results of Vostoks 3-6, it was not possible to establish a linear dependence of biological effect on time of exposure in space. However, factors causing a genetic effect (an increase in the phage-producing activity of a lysogenic culture) definitely operated during these flights.

The following derived values of induced phage production were calculated: ~3 for Vostoks 3 and 5 (corresponding to the inducing effect of 3.2 rad of gamma-rays), and 1.8 for Vostoks 4 and 6 (corresponding to 0.8 rad of gamma-rays). Since the doses quoted are higher than those encountered in spaceflight, the observed genetic effect must therefore be partially due to other factors (such as weightlessness, acceleration, vibration, etc.).

To study the operation of one of these factors, E. coli K-12 was subjected to vibrations of 18, 35, 75, 100, and 700 cps for 15—30 min. and, in another series of experiments, to vibration in combination with Co^{60}

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ACC NR: AT6003860 O

gamma-irradiation (dose, 100 rad; dose power, 21 rad/min). The experimental results show that vibration alone does not induce phage production but does increase the sensitivity of lysogenic bacteria to the subsequent influence of gamma-irradiation. It is suggested that vibration helps sensitize cells of a lysogenic culture to the influence of cosmic radiation, although it is also possible that the cause of genetic changes is weightlessness in combination with radiation. Orig. art. has: 1 figure and 4 tables.
[ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 009 / OTH REF: 002

FW
Card 3/3

L 14295-66 EWT(m)/EPF(n)-2 GG/RD

ACC NR: AT6003878 SOURCE CODE: UR/2865/65/004/000/0445/0450

AUTHOR: Zhukov-Verezhnikov, N. N.; Volkov, M. N.; Rybakov, N. I.; Saksonov, P. P.; Kozlov, V. A.; Konstantinov, P. A.; Antipov, V. V.; Dobrov, N. N.; Aniskin, Ye. D.

ORG: none

19,44,55

TITLE: New ways of studying chemical protection against genetic changes

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 445-450

TOPIC TAGS: bacteria, x ray irradiation, bacterial genetics, chemical agent

ABSTRACT: Aminothiols and some pyrimidine analogs were tested for their ability to block development of infectious phage from prophage after induction of E. coli K-12 (λ) with x-rays. Doses with a previously established non-toxic effect (0.05% concentration) were used. The desired chemical preparation was added to a bacterial culture diluted in a physiological medium. Experimental and control samples were subjected to x-ray irradiation (dose, 15,000 r) and then cultured on agar. The number of induced phage particles in irradiated samples with and without each preparation was then compared. 2-Mercaptopropylamine hydrochloride was

Card 1/2

most effective; cultures treated with it produced 119 times fewer phage particles than control samples. Other good inhibitors of induced phage formation were 2-(gamma-aminopropyl) disulfide dihydrobromide, sodium diethyldithiocarbamate and ammonium dithiocarbamate, which reduced phage production 76.3—70.1 times. Less effective were the salts of β -mercaptoethylamine tested: 2-mercaptoethylamine hydrobromide, 2-mercaptoethylamine disulfide hydrochloride, 2-mercaptoethylamine hydroiodide, and 2-mercaptoethylamine hydrochloride.

The experimental data show the essential connection between the chemical structure of the tested preparations and their ability to block the development of infectious phage. The antigenetic effect of β -mercaptoethylamine preparations is determined by their acid radicals as well as by their base. It may be possible to obtain even more effective preparations of this compound by forming salts with other acids. The failure of 3-β -aminoethylisothiuronium hydrobromide to produce an antigenetic effect is especially interesting because in previous experiments this compound decreased the death rate of animals subjected to a lethal radiation dose by 70-100%. Orig. art. has: 1 table. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 013 / OTH REF: 003

L 14294-66

ACC NR: AT6003881

tained in the second generation. However, preparation P-46 completely removed the injurious radiation effect in that generation. Experimental data indicate the possibility of partially or completely removing the depressing effect of β-radiation on plants with the help of physiologically active compounds. Orig. art. has: 4 tables. [ATD PRESS: 4091-F]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 004 / OTH REF: 005

GC

Card 3/3

L 29354-66 EWT(1)/FCC/T SCTB DD/GW/JK

ACC NR: AP6017503 SOURCE CODE: UR/0219/66/061/005/0064/0067

55
54

AUTHOR: Rybakov, N. I.; Kozlov, V. A.

B

ORG: Laboratory of Microbiological Genetics, Institute of Experimental Biology, Moscow (Laboratoriya gentiki mikroorganizmov Instituta eksperimental'noy biologii)

TITLE: The effect of vibration as a spaceflight-related factor on lysogenic culture of E. coli K-12 (λ)

SOURCE: Byulleten' eksperimental'noy biologii i meditsiny, v. 61, no. 5, 1966, 64-67

TOPIC TAGS: spaceflight, combined effect, vibration, radiation, gamma ray, lysogenic culture/E. coli K-12 (λ)

ABSTRACT: Lysogenic cultures of E. coli K-12 (λ) were subjected to vibration alone and in combination with gamma irradiation from a Co^{60} source. Vibration frequencies of 18, 35, 75, 100, or 700 cps were used for periods of 15, 30, or 60 min. It was found that vibration alone did not increase phage production as compared to spontaneous phage formation. The combined effect of vibration and gamma irradiation followed by a second exposure to vibration increased phage production by a factor of 1.4 compared to the effect of irradiation alone. A single exposure to vibration 1 1/2 hr prior to irradiation caused a slight increase in phage production. The effect of vibration after irradiation was negligible. Thus, the induced phage production on the Vostok-3, -4, -5, and -6 flights (which was greater than could be expected from

Card 1/2 UDC: 613.693:613.6441:576.851.095.57

L 29354-66

ACC NR: AP6017503

the physical dose of radiation) can be explained by the combined effect of radiation and vibration. It is assumed that vibration sensitizes lysogenic cultures to the effects of cosmic radiation. Orig. art. has: 2 tables. [BM]

SUB CODE:22,06 SUBM DATE: 15Apr64/ ORIG REF: 002/ ATD PRESS:5009

Card 2/2

L 03777-67 FSS-2/EWT(l)/EEC(k)-2/T SCTB TT/DD/JK/RD/GW

ACC NR: AP6028343 SOURCE CODE: UR/0293/66/004/004/0634/0640

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Delone, N. L.; Rybakov, N. I.; Kozlov, V. A.; Davydov, B. I.; Antipov, V. V.; Saksonov, P. P.; Rybakova, K. D.; Tribulev, G. P.

ORG: none

TITLE: Biological investigations on the Voskhod-1 and Voskhod-2 spaceships

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 634-640

TOPIC TAGS: biologic spaceflight, ~~effect~~, ~~lysogenic~~ bacteria, ~~E. coli, DNA~~, ~~radio protective~~ drug, ~~β-mercaptopropylamine~~, spaceflight, ~~fructose~~, ~~pine seed~~, wheat ~~seed~~/ Voskhod 1, Voskhod 2

ABSTRACT: Experiments were performed on the Voskhod-1 and Voskhod-2 spaceships to test the effects of spaceflight on lysogenic cultures of E. coli K-12 (λ). The cultures were carried in 1.5-ml ampules on board spaceships and in Leonov's spacesuit pocket during his EVA. Some of the ampules contained the radioprotective drug β-mercaptopropylamine. Controls were kept at the cosmodrome and at the home laboratory. Results showed that on the basis of viability there was no difference between samples carried on Voskhod-1 and the controls. Experiments on Voskhod-2 resulted in a slightly higher viability on the part of experimental cultures as compared to controls. Phage production of experimental cultures carried on the two flights also did

Card 1/2 UDC: 629.198.621:576.8

L 03777-67

ACC NR: AP6028343

0

not exceed phage production of controls. Thus, it was not possible to demonstrate the protective properties of β-mercaptopropylamine. An attempt was made to determine whether spaceflight sensitized lysogenic cultures of E. coli K-12 (λ) to consequent exposure to small doses of x-rays. Results showed that phage production in space-flown samples was almost identical to that of the controls. In addition, air-dried seeds of pine and winter wheat (PPG-186) were carried on Voskhod-2 and in Leonov's pocket during his EVA for the purpose of determining the genetic effects of space-flight factors. Results did not reveal any substantial differences between the two spaceflight-exposed groups of seeds and the controls. It is assumed that the absence of the effects of spaceflight factors on lysogenic bacteria and seeds of higher plants in these two flights is due to the particular conditions under which these flights took place. Orig. art. has: 5 tables. [BM]

SUB CODE: 06/ 22 SUBM DATE: 21Apr66/ ORIG REF: 013/ OTH REF: 002/ ATD PRESS: 5063

Card 2/2

ACC NR: AT6036563 SOURCE CODE: UR/0000/66/000/000/0172/0173

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Tribulev, G. P.; Rybakov, N. I.; Podoplelov, I. I.; Dobrov, N. N.; Antipov, V. V.; Kozlov, V. A.; Saksonov, P. P.; Parfenov, G. P.; Sharyy, N. I.

ORG: none

TITLE: Some results and trends in the study of the biological effect of cosmic radiation and dynamic flight factors using microbiological and cytological models [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, 172-173

TOPIC TAGS: manned space flight, space biologic experiment, tissue culture, lysogenic bacteria, cosmic radiation biologic effect, combined stress/Voskhod-1

ABSTRACT: Systems of lysogenic bacteria and single layer cultures of normal and cancer cells of man have been used on all spaceflights since the second orbital spaceship. This report presents the results of investigations performed on spaceships of the Vostok and Voskhod types. Biological experiments carried out on Vostok-3, -4, -5, and -6 indicate that phage production of lysogenic culture of E. coli K-12 increases with the duration of the flight. However, a direct linear relationship between the biological

Card 1/3

effect and the time of exposure in space was not established. The results obtained make it possible to assume that the biological effect in the above experiments depends on the combined effect of spaceflight factors, and specifically vibration, weightlessness, and radiation.

Ground experiments have indicated that the sensitivity of a lysogenic bacteria system to gamma irradiation (CO^{60}) increases if the bacteria were previously exposed to vibration. These results not only confirm this supposition but make a more differentiated approach to evaluation of various spaceflight factors possible. However, in order to obtain a more complete picture of the genetic and radiation hazard of such flights, it is necessary to consider data obtained with more highly organized biological objects. Consequently, the results of spaceflight experiments performed with single-layer cultures of somatic human cells are of definite interest. In the series of experiments carried out on Vostok-1, -2, and -4, it was found that viability, and such indices as the coefficient of proliferation, the percentage of dead cells, and the morphological, antigenic, and cultural properties of the tissues, did not differ substantially from controls which were kept at the cosmodrome or the laboratory.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001446330006-4"

ACC NR: AT6036563

However, when tissues were subjected to a second spaceflight (on Vostok-4, Vostok-6, and Voskhod-1), the twice-flown tissues showed a definite prolongation in the latent period of the ability to grow, as well as certain other noticeable changes. This makes it possible to surmise that spaceflight factors may have a cumulative effect on human tissue cultures. Further investigations of the biological effects of spaceflight utilizing lysogenic bacteria and tissues of various cultures are contemplated. [W.A. No. 22; ATD Report 66-116]

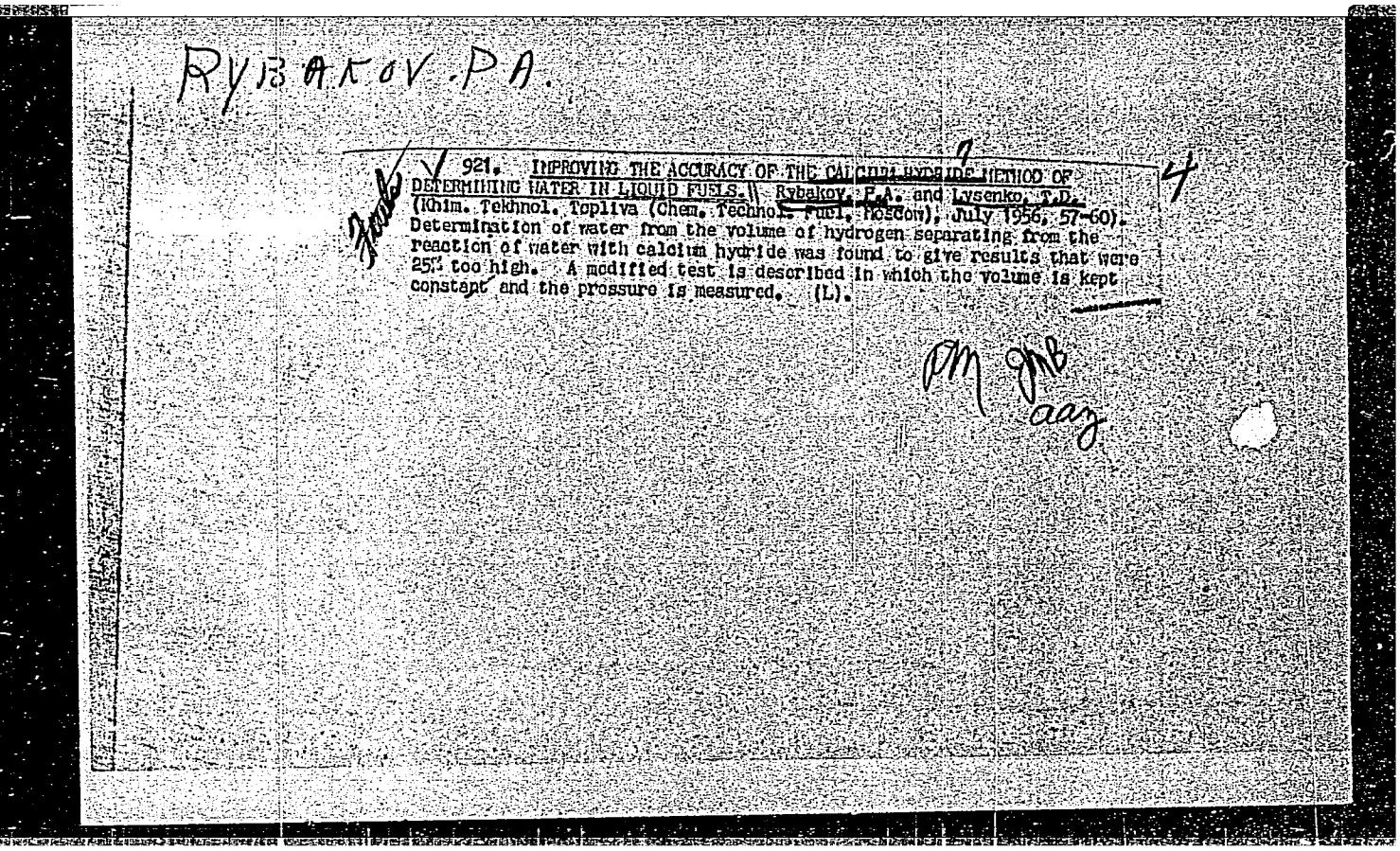
SUB CODE: 06, 22 / SUBM DATE: 00May66

Card 3/3

MOSOLOV, K.; RYBAKOV, P., prepodavatel' spetsial'noy tekhnologii.

Studying progressive technology. Prof.-tekh. obr. 12 no.11: 7-8 N '55. (MLRA 9:2)

1.Direktor remeslennogo uchilishcha No.2 (Leningrad).
(Metal cutting--Study and teaching)



RYBAKOV, P.A.

V 921. IMPROVING THE ACCURACY OF THE CALCIUM HYDRIDE METHOD OF DETERMINING WATER IN LIQUID FUELS. \\ Rybakov, P.A. and Lysenko, T.D. (Khim. Tekhnol. Topliva (Chem. Technol. Fuel, Moscow), July 1956, 57-60). Determination of water from the volume of hydrogen separating from the reaction of water with calcium hydride was found to give results that were 25% too high. A modified test is described in which the volume is kept constant and the pressure is measured. (L).

RYBAKOV, P.A.

YAKOVLEV, V.A.; KUZ'MIN, S.G.; RYBAKOV, P.A.; KORNYUSHIN, A.K.

Induction furnace using industrial frequency and equpped with a cylindrica cast-iron crucible for smelting aluminum alloys. Prom. energ. 14 no.1:39-40 Ja '59. (MIRA 12:1)
(Electric furnaces)

RYBAKOV, P.A.; LYSENKO, T.D.

Calcium hydride method for determining water content in liquid fuels. Khim.i tekh.topl. no.7:57-60 Jl '56. (MLRA 9:9)

1.GK NII VVS.
(Calcium hydride) (Liquid fuels--Analysis)

RYBAKOV, P.A.; ZHUKOV, N.A.; ISAYEVA, N.S.

Improvement of the gravimetric method for determining the content of mechanical impurities in white petroleum products. Khim.i tekh.topl. i masel 7 no.11:68-71 N '62. (MIRA 15:12)
(Petroleum products)

41922
S/065/62/000/011/006/006
E194/E435

11.0100 also 3014

AUTHORS: Rybakov, P.A., Zhukov, N.A., Isayeva, N.S.

TITLE: An improved gravimetric method of determining the amount of solid contaminants in light petroleum products

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.11, 1962, 68-71

TEXT: The usual methods of assessing solid contaminants in light fuels, particularly that of standard ГОСТ 6370-59 (GOST 6370-59) and visual methods, are not sensitive enough and better methods are required for determining amounts of contaminants less than 0.005%. Tests showed that the usual "red band" filter papers are inadequate and tests were made with nitro-cellulose membrane biological filters to standard ГОСТ 8985-59 (GOST 8985-59) which are made in six pore sizes ranging from 0.3 to 5 microns. Filters no.4 (0.9 μ) and no.3 (0.5 μ) were found best for light fuels, finer filters were too slow and coarser ones inadequate. These filters were stable on exposure to the usual fuels and solvents and with the accepted oven drying procedure. When the solids content is less than 0.0003% it is recommended to filter

Card 1/2

An improved gravimetric ...

about a half litre of fuel, when the solids content is greater than 0.0005% the sample may be less than 400 ml but not less than 200 ml. The procedure for handling wet samples is explained. With the improved method described here, contaminants present in amounts greater than 0.0001% can be assessed and smaller amounts than this can be neglected. The repeatability was not greater than ± 12%. There are 2 figures and 1 table.

Card 2/2

L 44015-66 EWT(l)/EWA(m)/T-2/ WW/RE/GD

ACC NR: AT6015198 (A,N) SOURCE CODE: UR/0000/66/000/000/0069/0086

AUTHOR: Rybakov, P. A.; Tareryshkin, M. Ye.

ORG: none

TITLE: Methods of evaluating fuel losses from evaporation in aircraft tanks

SOURCE: Metody otsenki ekspluatatsionnykh svoystv reaktivnykh topliv i smazochnykh materialov (Methods for the performance evaluation of jet propellants and lubricants). Moscow, Izd-vo Mashinostroyeniye, 1966, 69-86

TOPIC TAGS: petroleum fuel, vaporization, aircraft fuel tank ~~mathematic prediction~~

ABSTRACT: Evaluation of various laboratory methods as well as of calculation methods for determining fuel losses due to evaporation in the tanks of aircraft is presented. Tests showed that errors in fuel loss determinations on laboratory apparatus employing vibration of fuel and on equipment simulating the fuel system of aircraft do not exceed ± 1.2% (absolute difference). More complete evaluation can be conducted in the simulati e equipment, but it does require a larger amount of fuel

Card 1/2 UDC: 662.753.22:629.13.001.4

L 44018-66

ACC NR: AT6015198 O

and dry ice. The same small degree of error was encountered in determining fuel loss from evaporation during flight in comparing samples of fuels taken from the aircraft tanks before and after flight. Based on experimental data, a nomograph was constructed for determining fuel losses based on actual pressure of saturated fuel vapors before flight and pressure in the tanks during flight. The absolute error of determinations according to the nomograph also does not exceed ± 1.2%. Orig. art. has: 10 figures, 5 tables and 3 equations.

SUB CODE: 21/ SUBM DATE: 10Dec65/ ORIG REF: 002

Card 2/2 LC

L 37643-66 FSS-2/EWT(l)/EEC(k)-2/FCC/T SCTB TT/DD/JK/GW

ACC NR: AP6024650 SOURCE CODE: UR/0216/66/000/004/0592/0593

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Pekhov, A. P.; Rybakov, N. I.; Dobrov, N. N.; Antipov, V. V.; Kozlov, V. A.; Saksonov, P. P.; Podoplelov, I. I.

ORG: none

TITLE: Results of study of the effect of cosmic radiation and other spaceflight factors on lysogenic bacteria and human cell cultures [Paper presented at the Anniversary Symposium of the Institute of Biophysics of the Czechoslovak Academy of Sciences held in Brno in May 1965]

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 4, 1966, 592-593

TOPIC TAGS: spaceflight effect, radiation effect, Hela cell, lysogenic bacteria / Vostok 4 spacecraft, Vostok 6 spacecraft, Voskhod 1 spacecraft

ABSTRACT: Single-layer cultures of normal human cells (fibroblasts and amniotic cells) and human cancer cells (Hela strain), together with cultures of lysogenic bacteria (E. coli K-12), have been consistently used as radiation indicators on Soviet spacecraft. Results of these experiments have shown that repeated exposure of a culture of Hela cells to spaceflight factors on the Vostok-4 and Vostok-6 flights produced

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L 37643-66

ACC NR: AP6024650

changes in experimental cells as compared with laboratory controls and with Hela cells exposed on one spaceflight only. A longer latent period of recovery of growth capacity and other characteristics [not named] were noted in twice-flown cultures. In addition, the coefficient of proliferation for Hela cells exposed on both Vostok-4 and Vostok-6 was one-half that for intact controls and for Hela cells exposed to spaceflight only once. These data suggest that spaceflight factors have a cumulative biological effect on human cell cultures. However, a direct dependence of biological effect on length of spaceflight exposure has not been established in experiments with the other radiation indicator, the lysogenic bacteria E. coli K-12 (λ). It is interesting to note that when the same Hela cells used on Vostok-4 and Vostok-6 were also exposed on Voskhod-1, a well-defined drop in the proliferation coefficient was observed in comparison with intact cultures. Experimental colonies were more compact, and there were more dead cells. Other reliable differences [not enumerated] were also found between intact controls and thrice-exposed cultures. However, no reliable differences could be detected between thrice-exposed Hela cells and a control strain used only on Vostok-6. It is suggested that the biological effect of spaceflight may be the result of the combined influence of radiation, vibration, and weightlessness. [JS]

SUB CODE: 06/ SUBM DATE: none/ ATD PRESS: 5046

Card 2/2 vmb

ZHUKOV-VEREZHNIKOV, N.N.; RYBAKOV, N.I.; KOZLOV, V.A.; SAKSONOV, P.P.; DOBROV, N.N.; ANTIPOV, V.V.; PODOPLELOV, I.I.; PARFENOV, G.P.

Summary of microbiological and cytochemical studies on "Vostok" spaceships. Probl. kosm. biol. 4:261-269 '65. (MIRA 18:9)

ZHUKOV-VEREZHNIKOV, N.N.; VOLKOV, M.N.; RYBAKOV, N.I.; SAKSONOV, P.P.; KOZLOV, V.A.; KONSTANTINOV, P.A.; ANTIPOV, V.V.; DOBROV, N.N.; ANISKIN, Ye.D.

New ways of studying chemical protection against genetic changes. Probl. kosm. biol. 4:445-450 '65. (MIRA 18:9)

L 54862-65 EEC-2/EWG(j)/FSS-2/EWG(r)/EWT(1)/FS(v)-3/EEC(k)-2/EWG(v)/EWA(d)/
EWG(a)-2/EWG(c) Po-4/Pe-5/Pq-4/Pac-4/Pae-2/Pi-4 WVH/TT/DD/GW

ACCESSION NR: AP5015678 UR/0293/65/003/003/0492/0494
629.198.3:576.809.51

AUTHOR: Zhukov-Verezhnikov, N. N.; Mayskiy, I. N.; Pekhov, A. P.; Antipov, V. V.; Rybakov, N. I.; Kozlov, V. A.

TITLE: Investigation of the biological effect of space-flight factors using lysogenic bacteria in experiments on Vostok-5 and -6

SOURCE: Kosmicheskiye issledovaniya, v. 3, no. 3, 1965, 492-494

TOPIC TAGS: space flight, biological effect, E. coli, phage activity, bacteria, genetics, lysogenic bacteria, chemical antiradiation agent

ABSTRACT: The genetic effects of space flight on lysogenic bacteria were studied, and a chemical means of protection was investigated. The chemical agent was β-mercaptopropylamine, a substance which blocks the formation of induced phage particles during x-ray and gamma irradiation. As in eight earlier flights (four Sputnik and four Vostok), a suspension of E. coli K-12 (λ) was used. The bacteria were divided into three groups: experimental samples, laboratory controls, and controls kept at launch site. Each group contained some untreated samples and some with β-mercaptopropylamine (0.05% concentration) added before flight. After each

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L 54862-65

ACCESSION NR: AP5015678

flight the number of viable bacteria was determined, and an analysis of phage particles was made. Experimental results showed that the number of phage particles in untreated experimental samples significantly exceeded the number in the launch-site controls (3.68 times for Vostok-5). It was also established that phage formation in these experiments on Vostok-5 and Vostok-6 was about the same as during Vostok-3 and Vostok-4. Thus, space-flight factors have a stimulating effect on lysogenic bacteria, as demonstrated by the statistically reliable increase in phage production. However, no direct relationship between this stimulating effect and the length of exposure of the bacteria in space has been detected. Under space-flight conditions, β-mercaptopropylamine almost completely prevents the formation of induced phage particles. In addition, this substance significantly lowers the level of spontaneous phage formation. The protective effect of β-mercaptopropylamine consists of its ability to block the genetic reaction of formation of induced phage. Since the number of viable cells in control and experimental samples was the same, no conclusion can be made about the protective action of this substance against the lethal effects of space flight. Orig. art. has: 1 table. [JS]

ASSOCIATION: none

Card 2/2

ZHUKOV-VEREZHNIKOV, N.N.; MAYSKIY, I.N.; PEKHOV, A.P.; RYBAKOV, N.I.; SAKSONOV, P.P.; MISHCHENKO, B.A.; KOZLOV, V.A.; RYBAKOVA, K.D.; ANISKIN, Ye.D.

Effect of radioprotective substances on the phage production of lysogenic bacteria induced by X-ray irradiation. Radiobiologiia 4 no.5:738-742 '64. (MIRA 18:4)

1. Institut eksperimental'noy biologii AMN SSSR, Moskva.

DANILOV, Petr Ivanovich; RYBAKOV, N.T., red.; GRANOVSKAYA, G.V., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Installation of automatic article-counting devices on press forging equipment]Ustroistvo avtomaticheskogo scheta izdelii na kuznechno-pressovom oborudovanii. Leningrad, 1962. 11 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.8)
(MIRA 15:12)

(Electronic digital computers) (Forging)

RYBAKOV, N.T.

KURSANOV, L.I., prof.; KOMARNITSKIY, N.A.; MEYYER, K.I., prof.; RAZDORSKIY, V.F., prof.; URANOV, A.A.; RYBAKOV, N.T., red.; SMIRNOVA M.I., tekhn. red.

[Botany; a textbook for pedagogical institutes and universities. Vol.1. Anatomy and morphology] Botanika; uchebnik dlia pedagogicheskikh institutov i universitetov. Izd.6. S ispr. i pod red. N.A. Komarnitskogo. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR. Vol.1. Anatomiia i morfologiia. 1958. 419 p. (MIRA 11:7)
(Botany--Anatomy) (Botany--Morphology)

1. RYBAKOV, N. T.

2. USSR (600)

4. Science

7. Results of work of biology teachers who do not have second-year students. Sost. N. T. Rybakova, pod.odshch. red. V. F. Shalaeva. Moskva, Uchpedgiz, 1951.

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

RYBAKOV, O.

Labor law in socialist Czechoslovakia ("Czechoslovak labor law [in Czech]. Reviewed by O Rybakov). Sots.trud no.3:155-158 Mr '58. (MIRA 13:3)
(Czechoslovakia--Labor laws and legislation)

RYBAKOV, O.A.

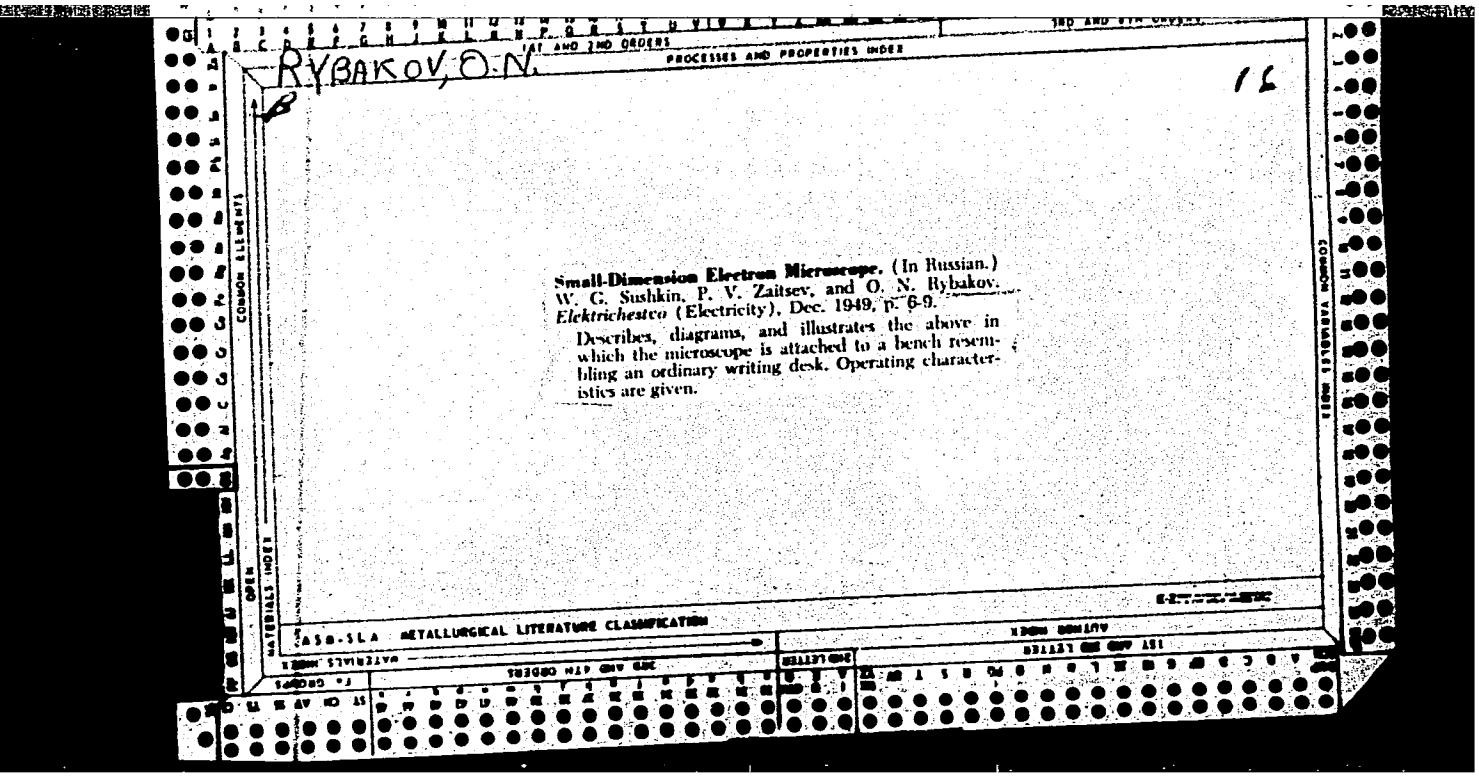
Nationalization of large industrial enterprises in the U.S.S.R. (MIRA 14:9)
Trudy LKI 24:21-38 '59.

1. Kafedra politicheskoy ekonomii Leningradskogo korablestroitel'nogo instituta.

(Government ownership)

STOYANOV, P.A.; RYBAKOV, O.N.; VOL'FSON, L.Yu.

Device for warming objects in the UEMV-100 electron microscope. Zav.lab. 30 no.12:1513-1515 '64. (MIRA 18:1)



RYBAKOV, O.N.

16

Small-Dimension Electron Microscope. (In Russian.) W. G. Sushkin, P. V. Zaitsev, and O. N. Rybakov. *Elektrichestco* (Electricity), Dec. 1949, p. 6-9.

Describes, diagrams, and illustrates the above in which the microscope is attached to a bench resembling an ordinary writing desk. Operating characteristics are given.

L 12612-65 EWG(j)/EWT(m)/EPF(c)/EPR/T/EWP(t)/EWP(b)/EWA(c) Pr-4/Ps-4 LJP(c) JD

ACCESSION NR: AP5015755 UR/0032/64/030/012/1513/1515

AUTHOR: Stoyanov, P. A.; Rybakov, O. N.; Vol'fson, L. Yu.

TITLE: An installation for heating samples in the UEMV-100 electron microscope

SOURCE: Zavodskaya laboratoriya, v. 30, no. 12, 1964, 1513-1515

TOPIC TAGS: electron microscope, laboratory apparatus, heating/UEMV-100 electron microscope

Abstract: The authors have developed accessories for heating objects in the UEMV-100 microscope which do not require any substantial modification of the microscope. In the objective the usual terminal is replaced by a special pole face, and on the objective stage, in place of the fork with setting device, is installed a new fork with holder, for heating the sample.

The holder is planned to protect the sample from the effect of escaping gases (the alloy used in preparing the muffle contains a large amount of titanium, which acts as a getter). The alloy has a small coefficient of thermal conductivity (this allows heating the sample to 1,000°C without overheating of the remaining portions of the holder; heat

Card 1/2

L 52612-65

ACCESSION NR: AP5015755

transfer is also reduced by the thinness of the walls of the muffle--0.1 - 0.15 mm--and by the length of the tube--16mm). The effect of the magnetic field on the electron beam is counteracted by a magnetic screen of Permalloy.

Tests have been run with the use of a copper-aluminum (51%, 49%) alloy, whose behavior under heating is well known.

The resolving power of the microscope is not seriously affected by the installation; however, thermal drift of the sample is unavoidable, and lowers resolution of photomicrographs by as much as 20 - 40 Å. Orig. art. has 2 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: OP, TD

NO REF SOV: 001 OTHER: 001 JPRS

Card 2/2

RYBAKOV, O.S.

Distribution of algae Halosaccion ramentaceum (L.) J. Ag. and Rhodymenia palmata (L.) Grev. in the litoral region of Yarnyshnaya and Zelenetskaya Bays (the eastern Murmansk coast). Trudy MMBI no.8:63-66 '65. (MIRA 19:1)

1. Kafedra nizshikh rasteniy Leningradskogo gosudarstvennogo universiteta imeni Zhdanova.

KLIMOV, Zenon Stepanovich; KONYUKHOV, Ivan Yefimovich, dots.; ZARS, Varaidots; RYBAKOV, Pavel Il'ich

[Repair and modernization of industrial equipment] Remont i modernizatsiia oborudovaniia. Pod red. I.E. Koniukhova. Riga, Nauchno-tekhn. ob-vo mashinostroit. promyshl., 1963. 145 p. (MIRA 17:7)

. Zamestitel' predsedatelya Latviyskogo Respublikanskogo pravleniya Nauchno-tekhnicheskogo obshchestva mashinostroitel'noy promyshlennosti (for Konyukhov).

RYBAKOV, P.G., inzhener-elektrik

Pumice stone polishing of direct current motor and generator commutators. Bum.prom. 30 no.10:24 O '55. (MLRA 9:1)
(Electric machinery) (Commutation (Electricity))

RYBAKOV, P.G., inzh.

Simplest electric drive system with multiple motors. Bum. prom. 38 no.5:22-24 My '63. (MIRA 16:8)

(Paper machinery--Electric driving)

RYBAKOV, P.G., inzh.

Measurement and automatic regulation of fluid flow of a fibrous mass. Bum. prom. 33 no. 7:6-9 Jl '58. (MIRA 11:7)
(Flowmeters)
(Valves)

RYBAKOV, P. I.

RYBAKOV, P. I.: "Methods of strengthening the fodder base and further development of animal husbandry in the region between the Chu and Ili rivers." Min Higher Education USSR. Alma-Ata Zooveterinary Inst. Chair of the Economics and Organization of Socialist Agriculture. Alma-Ata, 1956. (Dissertation for the Degree of Candidate in Agricultural Sciences*

Source: Knizhnaya letopis' No. 28 1956 Moscow

RYBAKOV, P.M. (Ivanovo)

"Arithmetic." D.S.Anichkov. Reviewed by P.M.Rybakov.
Mat. v shkole no.1:15-20 Ja-F '56. (MLRA 9:4)
(Arithmetic) (Anichkov, Dmitrii Sergeevich, 1733-1788)

RYBAKOV, P. M.

Geometry - Study and Teaching

Geometrical problems in the fifth grade. Mat. v shkole No. 4, 1952.

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

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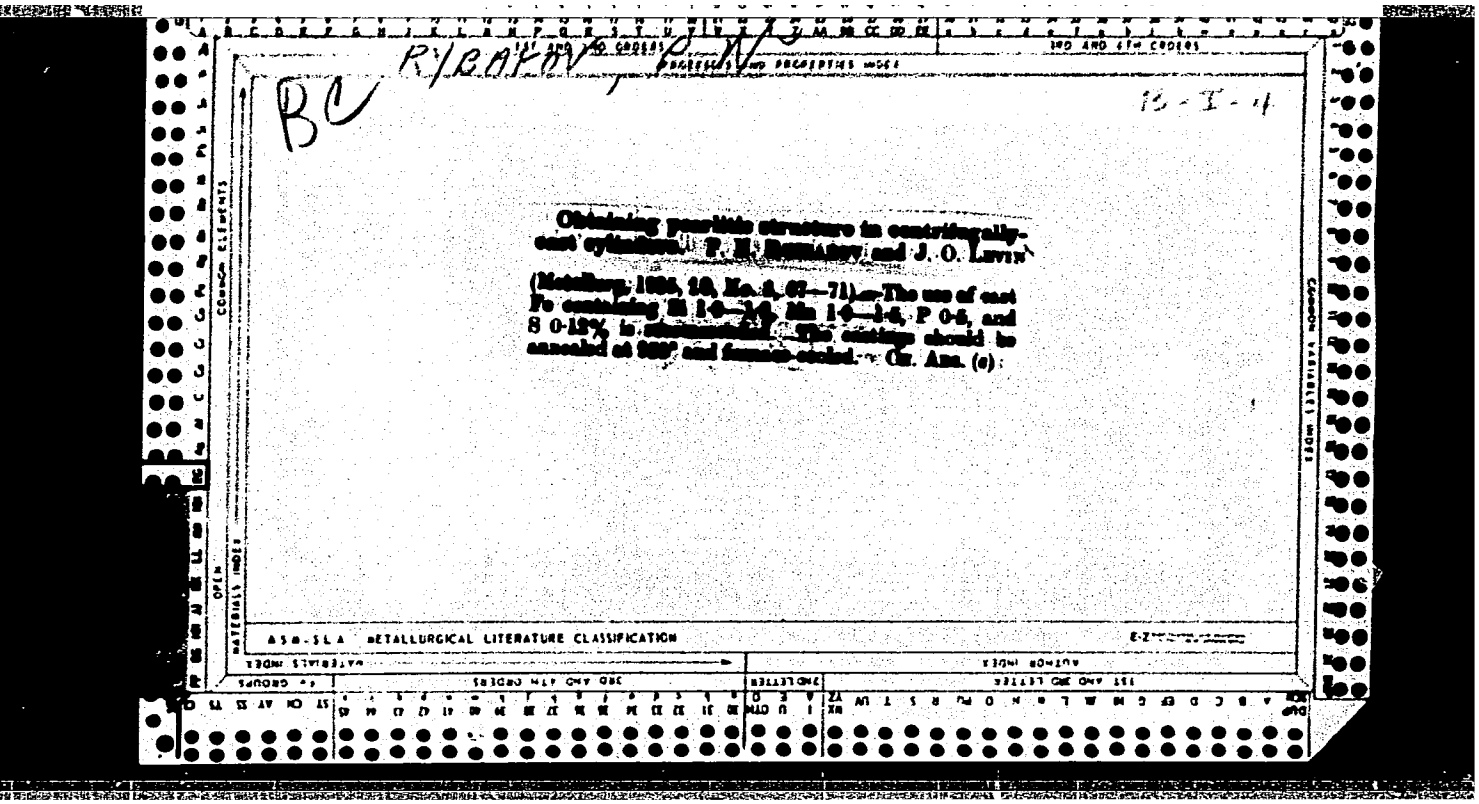
Problems on drawings. Mat.v shkole no.6:68-72 N-D '53. (MLRA 6:12)
(Geometrical drawing)



ALEKSANDROV, N.I.; GEFEN, N.Ye.; GAPOCHKO, K.G.; GARIN, N.S.; GORDON, G.Ya. KOZHUSHKO, M.I.; KORENEV, G.P.; LAZAREVA, Ye.S.; LEYKEKHMAN, Ye.P.; MASLOV, A.I.; PAVLOV, G.A.; POLIVANOV, N.D.; ROMANOV, P.S.; RYBAKOV, P.S.; RYBAKOV, M.G.; SAMOKHVALOV, M.F.; SMIRNOV, M.S.; SHTERN, M.A.; CHEPKOV, V.N.

Experience with mass aerosol immunization with tularemia dust vaccine. Zhur. mikrobiol., epid. i imm. 41 no. 2:38-43 F '64. (MIRA 17:9)

RYBAKOV, S

AID P - 2452

Subject : USSR/Aeronautics

Card 1/1 Pub. 135 - 18/19

Author : Rybakov, S., Eng.

Title : Aircraft taking off and landing vertically (According to the foreign press)

Periodical : Vest. vozd. flota, 8, 90-94, Ag 1955

Abstract : The author reviews and comments on several articles on the above subject which appeared in the American and British press.

Institution: None

Submitted : No date

S/084/60/000/006/017/020
A104/A029

AUTHOR: Rybakov, S., Senior Airport Dispatcher

TITLE: Fully Controlled Flights

PERIODICAL: Grazhdanskaya Aviatsiya, 1960, No. 6, p. 21.

TEXT: Until recently the communication range for Yak-12 (Yak-12) aircraft leaving Tallin ceased after 30 - 40 km. In the fall of 1959 a new control method was developed based on the entry of each Yak-12 flight into the dispatcher graph, showing the altitude, orientation points and azimuths according to ARP-6 (ARP-6). This communication range was extended over the whole of Estonia and proved of great value. ADS zone dispatchers maintain this contact via the ultra-short wave radio station of the nearest airport or heavy airborne aeroplane. Receiving broadcasting stations are also used for this purpose as they can be heard by the Yak-pilot at certain times on his ARK-5 (ARK-5) receiving set. The described method is applied on all inland routes as well as during flights on a chemical or medical mission.

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RYBAKOV, S.

34033 RYBAKOV, S. Kholodnoe emul'sirovante
O snov (S primech. Red) Tekstil
Lrom-st' 1949, No. 10, S. 34-35

SO: Letopis' Zhurnal'nykh Statey, Vol. 42, Moskva, 1949

RYBAKOV, S.

Sovetskaia aviatsiia v Otechestvennoi voine. /The Soviet aviation in the Patriotic war/. (Za oboronu, 1946, no. 16, p.3

DLC: TK504.Z3

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress Reference Department, Washington, 1952, Unclassified

RYBAKOV, S.I.

Some problems in the theory of the formation of the chemical composition of underground waters. Trudy Lab.gidrogeol.probl. 16:74-77 '58. (MIRA 12:2)

1. Gidrorezhimnaya ekspeditsiya Ministerstva geologii i okhrany nedr SSSR.

(Water, Underground--Composition)

RYBAKOV, S.V.

Improve laboratory control of road work. Avt. dor. 19 no.6: 10 Je '56. (MLRA 9:9)

(Road construction)

KUSHCH, Pavel Pavlovich; RYBAKOV, Nikolay Timofeyevich; SEMENOVA, Gloriya Moritsevna; SHATSILLO, O.I., red.; FREGER, D.P., izd.red.; BELOGUROVA, I.A., tekhn.red.

[Program control of electric and steam heated drying ovens; from experience of the S.M.Kirov "Elektrosila" Factory] Programmnoe upravlenie paroelektricheskimi pechami; iz opyta zavoda "Elektrosila" im. S.M.Kirova. Leningrad, 1960. 16 p. (Leningradskii Dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom, no.34. Seriia: Energetika, No.2) (MIRA 14:1)
(Drying apparatus) (Automatic control)

RYBAKOV, V., podpolkovnik tekhnicheskoy sluzhby

Supplying a parachute landing with fuel. Tyl i snab.Sov.Voor.Sil 21 no.3:39-42 Mr '61. (MIRA 14:6)
(Russia—Army—Fuel) (Parachute troops)

GLUSHKOV, I., inzhener-polkovnik; RYBAKOV, V., podpolkovnik tekhnicheskoy sluzhby

Chiefs of fuel supply services are learning. Tyl i snab. Sov. Voor. Sil 21 no.5:40-45 My '61. (MIRA 14:8)
(Russia--Army--Fuel)

RYBAKOV, V.; VOYNOV, A.

Warming up diesel engines with steam. Avt. transp. 36 no.9:52-53 S '58. (MIRA 11:10)

(Diesel engines--Cold weather operation)

RYBAKOV, T.; KOLOKUTIN, I.

Universal faucets. Avt.transp. 35 no.6:34 Je '57. (MIRA 10:7)
(Faucets)

RYBAKOV, V. A.

7623. RYBAKOV, V. A. Abrazivy. Inform. materialy po nauch.--issled. I tekhnol. Rabotam. (red. kollegiya: V. A. Rybakov (Pred.) I Dr.) M., tsbti, 1954. 21 sm. (M-vo stankostroit. I instrum. prom-sti SSSR. Vsesoyuz. nauch.-- issled. in-t abrazivov I shlifovaniya vniiash bespl vyp. 10. 49 s. s ill. 1.000 ekz.--(55-658zh) 621.921

SO: Knizhnaya Letopsis', Vol. 7, 1955

PHASE I BOOK EXPLOITATION SOV/3677

Rybakov, Vladimir Alekseyevich

Novyye abrazivnyye materialy i instrumenty (New Abrasive Materials and Instruments) Moscow, 1958. 21 p. (Series: Peredovoy opyt proizvodstva) Seriya "Tekhnologiya mashinostroyeniya," vyp. 5, Obrabotka metallov rezaniyem) 4,000 copies printed.

Sponsoring Agencies: Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo, and Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Tech. Ed.: R. A. Sukhareva; Ed.: G. B. Lur'ye.

PURPOSE: The booklet is intended primarily for grinders, polishers, and tool and die makers. It could also be used by a wide range of workers in the machine-manufacturing industry.

COVERAGE: The need for improving the quality of existing abrasive materials is strongly emphasized and explained. The author also sets out the extensive research aimed at the production of new and better abrasive materials being carried out at the All-Union Sci-

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entific Research Institute of Abrasives and Polishing (VNIIASh). These new abrasives include monocorundum, thermocorundum, boron silicocarbide, the S-8 abrasive (silicon carbide - boron carbide alloy), etc. New abrasion instruments have also been designed at the same institute, among them 8 types of vulcanite-bonded press wheels 50 to 600 mm in diameter, thread-grinding wheels based on the organic bond SKN, bakelite-bonded honing stones, and various types of flintcloth. There are 2 references, both Soviet.

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