

SHALASHOV, V.A.; Prinimali uchastiye: ZHUKOV, A.A.; TOMAS, V.K.

Effect of nuclear radiation on the thermodynamics of metal alloys.  
Fiz. met. i metalloved. 16 no.2:278-284 Ag '63. (MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tekstil'nogo i  
legkogo mashinostroyeniya.  
(Metals, Effect of radiation on)  
(Alloys—Thermodynamic properties)

ZHUKOV, A.A.

Some problems in geometry of the phase diagram iron-carbon-phosphorus  
alloys. Zhur.fiz.khim. 37 no.7:1623-1625 J1 '63. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tekstil'nogo i leg-  
kogo mashinostroyeniya.

ZHUKOV, A.A.; SHALASHOV, V.A.

Residual carbides in malleable chromium cast iron. Izv. vys. ucheb.  
zav.; chern. met. 7 no.3:154-160 '66. (MIRA 17:4)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. N.E.Baumana  
i Vsesoyuznyy nauchno-issledovatel'skiy institut tekstil'nogo i  
legkogo mashinostroyeniya.

ZHUKOV, A.A.

Geometry of the phase diagrams of iron-carbon and iron-carbon-silicon alloys. Zhur. fiz. khim. 36 no.6:1371-1375 Je'62  
(MIRA 17:7)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.

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CIA-RDP86-00513R002064920006-2

ZHUKOV, A.A.; ZVOLINSKAYA, V.P.

Certain problems in the geometry of the structural diagrams  
of iron-carbon-sulfur alloys. Zhur. fiz. khim. 38 no.2:482-485  
F '64. (MIRA 17:8)

1. Institut tekstil'nogo mashinostroyeniya.

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ZHUKOV, A.A., kand.tekhn.nauk; SHALASHOV, V.A., inzh.; TOMAS, V.K., inzh.

The structure of cementite. Lit. proizv. no. 7146 J1 '65.

(MIRA 18:8)

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CIA-RDP86-00513R002064920006-2"

ACC NR: AP6034022 EWP(1)/EWP(8)/EWP(m)/EEC(k)-2/EWP(j)/EWP(t)/ETI/EWP(k) SOURCE CODE: UK/0122/66/000/010/0054/0056 WG/JD/  
WW/RM/WH

AUTHOR: Zhukov, A. A. (Candidate of technical sciences); Lisovskiy,  
L. P. (Candidate of technical sciences); Kokora, A. N. (Engineer);  
Shalashov, V. A. (Engineer); Chal'nyy, A. A. (Engineer)

ORG: none

TITLE: Making holes in spinnerettes for synthetic filament using an  
optical quantum generator (laser)

SOURCE: Vestnik mashinostroyeniya, no. 10, 1966, 34-36  
TOPIC TAGS: laser application, textile industry, machinery, spin-  
nerette hole drilling, laser / OKh23N28M3D3T steel

ABSTRACT: The Scientific Research Institute of Light Textile Machinery has investigated the possibility of using lasers in making holes in filament-drawing spinnerettes. A ruby laser with a 0.7 j maximum radiation energy was used for making holes in OKh23N28M3D3T steel spinnerettes. It was found possible to make holes of almost cylindrical shape and with a conical entrance if desired. The hardness of the heat-affected zone did not undergo any substantial changes. Finished experimental spinnerettes with up to 40 holes were tested at the Kalinin Synthetic Fiber Plant, which found that the quality of filament

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L 07828-67

ACC NR: AP6034022

obtained was not inferior to that made with conventional spinnerettes. The use of a laser substantially increased the productivity in spinnerette making and made it possible to use hard and brittle material such as glass, sialic acid alumina ceramics.<sup>3</sup> The use of lasers might in the future permit making holes of various shapes. Orig. art. has: 4

figuras.

SUB-CODE: 13/ SUBM DATE: none/ ATD PRESS: 5101

Card 2/2 bc

L 38814-66 EWT(1)

ACC NR: AR6021031

SOURCE CODE: UR/0058/66/000/002/0012/0012

AUTHOR: Zhukov, A. A.

TITLE: Formation of positive space charge in an electric field of high frequency in air

SOURCE: Ref zh.Fiz, Abs. 2690

REF SOURCE: Tr. Nauchn. ob"yedin. fiz.-matem. fak. ped. in-tov Dal'n. Vost., v. 4,  
1964, 79-93

TOPIC TAGS: space charge, electric discharge ionization, air, uv radiation

ABSTRACT: An experimental study was made of the accumulation of positive space charge in a plane-parallel discharge gap, excited with an electric high-frequency field. The ionized air was carried away from the discharge gap by an air jet to the analyzing device, in which the ion current was proportional to the number of ions in the discharge gap. The experiments were made in dried air at atmospheric pressure. The range of frequencies was 1.5 - 10 Mcs, the distance between the electrodes 0.6 - 1.8 mm. The initial ionization was produced either by illuminating one of the electrodes with ultraviolet light, or by introducing into the gap, by means of an air jet, negative ions generated by an auxiliary corona discharge. It is shown that the positive space charge increases with the voltage amplitude almost exponentially in the frequency region where the amplitude of the oscillations of the positive ion becomes smaller than the distance between electrodes; this agrees with qualitative con-

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"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

L 38814-66  
ACC NR. AR6021031

siderations based on the Townsend avalanche theory with allowance for the coefficient of adhesion of the electrons to the air molecules. K. Golovanivskiy. [Translation of abstract]

SUB CODE: 20

Card 2/2 D

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

L 38815-66 EWT(1)

ACC NR: AR6021032

SOURCE CODE: UR/0058/66/000/002/G012/G012

AUTHOR: Zhukov, A. A.

54B

TITLE: Formation of negative space charge in a high-frequency electric field in air

SOURCE: Ref zh. fiz., Abs. 2G91

REF SOURCE: Tr. Nauchn. ob'yedin. fiz.-matem. ped. in-tov Dal'n. Vost., v. 4, 1964,  
94-98

TOPIC TAGS: space charge, rf field, electric field, electron trapping

ABSTRACT: The use of the apparatus and measurement procedure described in Abstract 2G90 [of the same source, Acc. nr. AR6021031] has made it possible to study the accumulation of negative space charge in a plane-parallel gap excited by a high-frequency electric field. It is shown that the density of the negative space charge varies with variation of the amplitude of the high-frequency voltage nonmonotonically, passing through two minima connected with variations of the coefficients of adhesion of the electrons to the neutral molecules. K. Golovanivskiy. [Translation of abstract]

SUB CODE: 20

Card 1/1

ZHUKOV, A.A. (Moskva)

Thermodynamic and kinetic factors in graphitizing white  
cast iron. Izv. AN SSSR. Met. no.6:69-75 N-D '65.  
(MIRA 19:1)

1. Submitted August 19, 1965.

ZHUKOV, Aleksey Antipovich; SHAPIRO, I.G., nauchn. red.;  
STAROSVETOVA, V.G., red.

[Industrial training of plasterers] Proizvodstvennoe  
obuchenie shtukaturov. Moskva, Vysshiaia shkola, 1965.  
(MIRA 18:12)  
99 p.

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.A. (Moskva)

Martensite transformation curve on the constitutional diagram of  
iron-carbon alloys. Izv. AN SSSR. Met. no.3:120-122. My-Je '65.  
(MIRA 18:7)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

ZHUKOV, A.A. (Moscow)

Thermodynamic principles of the kinetics of phase transitions. Zhur.  
fiz.,khim. 38 no.8:1931-1937 Ag '64. (MIRA 18:1)

SHALASHOV, V.A.; Prinimali uchastiye: BREGER, A.Kh.; ZHUKOV, A.A.; GOL'DIN,  
V.A.; TOMAS, V.K.

Effect of irradiation on the structure and tendency to thermal  
decomposition of chromium cementite. Zhur.fiz.khim. 38 no.11:  
2735-2737 N '64. (MIRA 18:2)

ZHUKOV, A.A.

Formation of a space charge in a high-frequency electric field in  
the air. Zhur. tekh. fiz. 35, no. 1:151-153 Ja '65. (MIRA 18:3)

1. Khabarovskiy gosudarstvennyy pedagogicheskiy institut, Khabarovsk.

ZHUKOV, A.A., kand. tekhn. nauk

Classification of phosphide eutectic structures in cast iron.  
Standartizatsiya 29 no.2:27-31 F '65. (MIRA 18:4)

MANSUROV, A.M.; ZHUKOV, A.A., inzh., retsenzent; BABENKO, V.A.;  
inzh., red.

[Mechanization and automation in forging] Mekhanizatsiya  
i avtomatizatsiya v kuznechnom proizvodstve. Moskva, Ma-  
shinostroenie, 1965. 211 p. (MIRA 18:4)

ZHUKOV, A.A.

Some regularities in the geometric thermodynamics of binary  
and ternary iron-carbon alloys. Dokl. AN SSSR 158 no.6:1365-  
1368 O '64.  
(MIRA 17:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tekstil'nogo  
i lehkogo mashinostroyeniya. Predstavлено akademikom L.A.  
Bochvarom.

ANAN'IN, A.A.; CHERNOBROVKIN, V.P.; ZHUKOV, A.A., kand . tekhn.  
nauk, retezent; IVANOVA, K.N., inzh., red.

[Short handbook for the cupola furnace] Kratkii spra-  
vochnik vagranchchika. Moskva, Mashinostroenie, 1964. 118 p.  
(MIRA 17:8)

ZHUKOV, A.A.

Effect of a third component on the eutectic and eutectoid conversion temperature. Zhur. fiz. khim. 39 no.6:1500-1504 Je '65.  
(MIRA 18:11)

1. Vsesoyuznyy institut tekstil'nogo i legkogo mashinostroyeniya. Submitted March 21, 1964.

ZHUKOV, A.A., kand. tekhn. nauk

Microsegregation of silicon in cast iron. Lit. proizv.  
(MIRA 18:12)  
no.11:23 N '65.

SHIMANYUK, Andrey Petrovich; ZHUKOV, A.B., prof., etv.red.; LIKHACHEV,  
A.N., red.izd-va; ASTAF'YEVA, G.A., tekhn.red.

[Pine forests of Siberia and the Far East; silvicultural  
characteristics] Sosnovye lesa Sibiri i Dal'nego Vostoka;  
lesovedstvennaia kharakteristika. Moskva, Izd-vo Akad.nauk  
SSSR, 186 p.  
(Siberia--Pine) (Soviet Far East--Pine)

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CIA-RDP86-00513R002064920006-2

ZHUKOV, A. B.

Zhukov, A. B. - "G. N. Vysotskiy (Forester, 1865-1940)," Les Khoz-vo, 1948, No. 3, p. 60-64, with picture

SO: U-3600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

1. ZHUKOV, A. B. - Prof.
2. USSR (600)
4. Forest Ecology
7. On Professor N. P. Anuchin's criticism of biogeocoenosis. Les. khoz. 5,  
no. 10, 1952.
9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

ZHUKOV, A. B.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-23, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
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Tyurin, A. V.	"Investigation of Oak	
Zhukov, A. B.	Forests of the USSR	All-Union Scientific Research
Ivanenko, B. I.	and Measures for Culti-	Institute of Forestry
Lositskiy, K. B.	vating them"	
Kharitonovich, F. N.		
Hapalkov, N. V.		

SO: W-30604, 7 July 1954

ZHUKOV, A.B.

ZHUKOV, Anatoliy Borisovich; TSEPLYAEV, Vasiliy Petrovich

[The World Forestry Congress and forestry in India] Kirovoi  
lesnoi kongress i lesnoe khoziaistvo Indii. Moskva, Goslesbumizdat,  
1956. 117 p.  
(Forests and forestry)

ZHUKOV, A.B.  
TIMOFEEV, Vladimir Petrovich; TISHCHENKOV, Ivan Antonovich; TSEPLYAYEV,  
Vasiliy Petrovich; SHIHEV, Ivan Semenovich; ZHUKOV, A.B., red.;  
SHAKHOVA, L.I., red.izd-va; HRAFISHKO, L.V., tekhn.red.

[Forestry in Great Britain] Lesnoe khoziaistvo Velikobritanii.  
Moskva, Goslesbumizdat, 1957. 53 p. (MIRA 11:1)  
(Great Britain--Forests and forestry)

ZHUKOV, A.B.

BUVIN, Aleksandr Ivanovich; PEREPECHIN, Boris Mikhaylovich; PORETSKIY,  
Mikhail Alekseyevich; ZHUKOV, A.B., redaktor; SVETLAYVA, A.S.,  
redaktor izdatel'stva; BRATISHKO, I.V., tekhnicheskij redaktor

[Forestry in the German Democratic Republic] Lesnoe khoziaistvo  
Germaneskoj Demokraticheskoj Respubliki. Moskva, Goslesbumizdat,  
1957. 66 p.  
(Germany, East--Forests and forestry)

COUNTRY : Russia  
CATEGORY : Forestry, Forest Management. K

ABS. JOUR. : RZhBiol., No. 14 1959, No. 63202

AUTHOR : Zhukov, A. N.

INST. : Academy of Sciences, USSR, Forest Institute

TITLE : Problems in Improving the Productivity of Forests  
(Conference Held at the Forest Institute)

ORIG. PUB. : Vestn. AN SSSR, 1957, No. 4, 123-125

ABSTRACT : A meeting which was held at the Forest Institute in December 1956 is reported on. The content of reports by representatives of the science of forestry and its practice is described, in which questions about the contemporary state of the problem of improving forest productivity and of practical measures in this direction are touched upon, the future wood requirement in the USSR, and the significance of its dimensions in determining cutting age, etc. Means of raising the productivity of forests and improving their quality are also noted.--V. I. Klimov

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K

Country : USSR  
Category: Forestry. General Problems.

Abs Jour: RZhBiol., № 12, 1958, No 53439

and practical problems representing the basis of the work are analyzed and the authors of the studies are indicated. Attention is paid to the problem of raising the productivity of the forests; the problem of natural restoration, the cutting down of forests as part of maintenance, etc. It is pointed out that by cuttings that are part of maintenance, it is possible to reduce by 20-30% the growing period of the technically mature woods. Using the same method it is possible to improve the qualitative composition of mixed plantings, but it is impossible to raise the general productivity of the forest stands.

Card : 2/2

K-1

ZONN, Sergey Vladimirovich; ZHUKOV, A.B., prof., doktor sel'skokhoz.  
nauk, otv.rud.; MARKOV, V.Ya., red.izd-va; NOVICHKOVA, N.D.,  
tekhn.red.

[Soil moisture and forest plantations] Pochvennaya vлага i  
lesnye nasashdeniya. Moskva, Izd-vo Akad.nauk SSSR, 1959.  
197 p.  
(Forests and forestry) (Soil moisture) (MIRA 12:8)

P'YAVCHENKO, N.I., prof., doktor biolog.nauk, otd.red.; SUKACHEV, V.N., akademik, red.; VASIL'YEV, P.V., prof., red.; ZHUKOV, A.B., prof., red.; MOTOVILOV, G.P., prof., red.; PRAVDIN, L.F., prof., red.; PIUKS, Ye.A., red.izd-va; BRATISHKO, L.V., tekhn.red.

[Problems in increasing forest production; in 4 volumes] Problemy povysheniia produktivnosti lesov v chetyrekh tomakh. Moskva, Goslesbumizdat, Vol.2. [Forest drainage measures] Lesosushitel'nye meropriiatiiia. 1959. 148 p. (MIHA 14:3)

1. Akademiya nauk SSSR. Institut lesa. 2. Institut lesa Akademii nauk SSSR (for P'yavchenko).  
(Forest management) (Drainage)

PRAVDIN, L.F., prof., doktor biolog.nauk, otd.red.; SUKACHEV, V.N., akademik, red.; VASIL'YEV, P.V., prof., red.; ZHUKOV, A.B., prof., red.; MOTOVILOV, G.P., prof., red.; PIYAVCHENKO, N.I., prof., red.; FUKS, Ye.A., red.ind-vs; PARAKHINA, N.L., tekhn.red.

[Problems of increasing the productivity of forests] Problemy povyshaniia produktivnosti lesov; v chetyrekh tomakh. Moskva, Gosleskumisdat. Vol.3. [Introducing in forests fast-growing and economically-valuable tree species] Vvedenie v lesa bystro-rastushchikh i khosialistvenno tsennyykh drevesnykh porod. 1960. (MIRA 13:11) 195 p.

1. Akademiya nauk SSSR. Institut lesa. 2. Institut lesa Akademii nauk SSSR (for Pravdin).  
(Forests and forestry)

ZHUKOV, A.B., prof., doktor sel'skokhoz.nauk, otd.red.; REMEZOV, G.L.,  
red.izd-va; POLYAKOVA, T.V., tekhn.red.

[Recent forestry research] Novye lesovedstvennye issledovaniia.  
Moskva, Izd-vo Akad.nauk SSSR, 1960. 129 p. (MIRA 13:7)

1. Akademiya nauk SSSR. Laboratoriya lesovedeniya.  
(Forests and forestry)

ZHUKOV, Anatoliy Borisovich

"Regional Specialization of Forest Plantations"

report to be submitted for the Fifth World Forestry Congress, Seattle, Washington,  
29-10 Sep 60

Directro, Institute of Forestry & Wood Processing, Siberian Department, Acad. of  
Sciences USSR, Krasnoyarsk.

POZDNYAKOV, Lev Konstantinovich; ZHUKOV, A.B., prof., doktor sel'khoz.  
nauk, otd. rad.; LIKHACHEV, A.N., red.izd-va; YEGOROV, N.Y., tekhn.red.

[Larch and pine forests of the upper Aldan] Listvenichnye i  
sosnovye lesa Verkhnego Aldana. Moskva, Izd-vo Akad. nauk  
SSSR, 1961. 173 p.  
(Aldan Valley--Larch) (Aldan Valley--Pine)

VASIL'YEV, P.V., prof., doktor ekon. nauk; PONOMAREV, A.D.; SOLDATOV, A.G., kand. sel'khoz. nauk; MOTOVILOV, G.P., doktor sel'khoz. nauk; NEVZOROV, N.V., kand. ekon. nauk; LOSITSKIY, K.E., kand. sel'khoz. nauk; RODIONOV, A.Ya., kand. sel'khoz. nauk; CHARKINA, A.P., kand. sel'khoz. nauk; LUTSEVICH, A.A., kand. sel'khoz. nauk; KOZHEVNIKOV, M.G., dots.; ALEKSEYEV, P.V., kand. sel'khoz. nauk; ZORIN, A.V., aspirant; BARANOV, N.I., kand. sel'khoz. nauk [deceased]; NAUMENKO, I.M., prof., doktor sel'khoz. nauk; IL'IN, A.I., kand. sel'khoz. nauk; MOISEYENKO, F.P., kand. biol. nauk; ZAKHAROV, V.K., prof., doktor sel'khoz. nauk; GECHIS, Yu.P., starshiy nauchnyy sotr.; BUTENAS, Yu.P., kand. sel'khoz. nauk; BUBLIS, K.A., aspirant; KAININ'SH, A.Ya., kand. sel'khoz. nauk; ZVIYEDRIS, A.I., kand. sel'khoz. nauk; SUKACHEV, V.N., akad. red.; ZHUKOV, A.B., prof., red.; PRAVDIN, L.F., prof., red.; MAKAROVA, L.V., red. izd-va; LOBANKOVA, R.Ye., tekhn. red.

[Problems of increasing forest productivity in four volumes] Problemy povysheniia produktivnosti lesov v chetyrekh tomakh. Moskva, Goslesbumizdat. Vol.4.[Economic problems of increasing forest productivity and accelerating ripening and cutting ages]Ekonomicheskie voprosy povysheniia produktivnosti lesov, vozrasty spelosti i vozrasty rubok. 1961. 253 p.

1. Akademiya nauk SSSR. Institut lesa. 2. Nachal'nik Glavnay inspeksii po lesonomu khozyaystvu i polezashchitnomu lesorazvedeniyu Ministerstva sel'skogo khozyaystva SSSR (for Ponomarev).

(Forests and forestry—Economic aspects)

ZHUKOV, A.B.

Natural or artificial forests? Izv.AN SSSR.Ser.biol.27 no.4:614-  
620 Jl-Ag '62. (MIRA 15:9)

1. Institut lesa i drevesiny Sibirskogo ottdeleniya AN SSSR,  
Krasnoyarsk.

(FORESTS AND FORESTRY)

KURBATSKIY, Nikolay Petrovich; ZHUKOV, A.B., prof., doktor sel'khoz.  
nauk, red.; POPOVA, A.G., red, izd-va; SHIBKOVA, R.Ye.,  
tekhn. red.

[Techniques and tactics of fighting forest fires]Tekhnika i  
taktika tusheniia lesnykh pozharov. Moskva, Goslesbumizdat,  
1962. 153 p. (MIRA 15:9)

1. Direktor Instituta lesa i drevesiny Sibirskogo otdeleniya  
Akademii nauk SSSR (for Zhukov).  
(Forest fires--Prevention and control)

P'YAVCHENKO, Nikolay Ivanovich; ZHUKOV, A.B., doktor sel'khoz. nauk,  
prof., otd. red.; VOLYNSKAYA, V.S., red.izd-va; VOLKOVA,  
V.V., tekhn. red.

[Study of forest swamps] Lesnoe bolotovedenie; osnovnye  
voprosy. Moskva, Izd-vo Akad. nauk SSSR, 1963. 190 p.  
(MIRA 16:5)

(Forest ecology) (Swamps)

POZDNYAKOV, Lev Konstantinovich; ZHUKOV, A.B., doktor sel'khoz.  
nauk, prof., otv. red.; TIKHOMIROV, V.N., red. izd-va;  
RYLINA, Yu.V., tekhn. red.

[Hydroclimatic conditions in the larch forests of central  
Yakutia] Gidroklimaticheskii rezhim listvennichnykh lesov  
TSentral'noi Jakutii. Moskva, Izd-vo AN SSSR, 1963. 144 p.  
(MIRA 16:7)

(Yakutia--Larch) (Yakutia--Forest influences)

ZHUKOV, A.B., prof., doktor sel'khoz. nauk, otv. red.; BROVKINA,  
Ye.T., red.izd-va; TIKHOMIROVA, S.G., tekhn. red.

[Protection of the forests of Siberia from insect pests]  
Zashchita lesov Sibiri ot nasekomykh-vreditelei. Moskva,  
Izd-vo Akad. nauk SSSR, 1963. 215 p. (MIRA 16:6)

1. Akademiya nauk SSSR. Institut lesa i drevesiny.  
(Siberia—Forest insects—Extermination)  
(Siberia—Forest fires)

ZHUKOV, A.B., zasl. deyatel' nauki RSFSR, prof., doktor sel'khoz.  
nauk, otd. red.

[Materials on the study of forests of Siberia and the Far  
East] Materialy po izucheniiu lesov Sibiri i Dal'nego  
Vostoka; trudy konferentsii. Krasnoyarsk, AN SSSR, 1963.  
369 p. (MIRA 16:9)

1. Nauchnaya konferentsiya, posvyashchennaya izucheniyu  
lesov Sibiri i Dal'nego Vostoka, Krasnoyarsk, 1962. 2. In-  
stitut lesa i drevesiny Sibirskogo otdeleniya AN SSSR (for  
Zhukov).

(Siberia--Forests and forestry)  
(Soviet Far East--Forests and forestry)

POBEDINSKIY, Avramiy Vladimirovich; ZHUKOV, A.B., otv. red.;  
RODMAN, I.S., red.

[Pine forests in central Siberia and Transbaikalia] Sosno-  
ye lesa Srednei Sibiri i Zabaikal'ia. Moscow, Nauka,  
1965. 266 p. (MIRA 18:9)

BIDERMAN, V.L.; ZHUKOV, A.D.

Design of rubber plate type shock absorbers. Kauch. i rez. 24  
no.10:32-36 '65. (MIRA 18:10)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni N.E.  
Baumana.

ZHUKOV, A.F.

Architectural planning and design of the All-Union Agricultural  
Exhibition. Gor.khoz.Mosk. 28 no.8:7-9 Ag '54. (MLRA 7:9)

1. Glavnnyy arkitektor Vsesoyuznoy sel'skokhozyaystvennoy vystavki.  
(Moscow--Agricultural exhibitions) (Agricultural exhibitions--  
Moscow)

ZHUKOV, A.F., professor.

Architecture of the All-Union Agricultural Exhibitions. Nauka i  
zhizn' 21 no.9:27-29 8 '54. (MLRA 7:9)

1. Glavnnyy arkhitektor VSKhV.  
(Moscow--Agricultural exhibitions) (Agricultural exhibitions--  
Moscow)

ZHUKOV, A. F.

USSR/Miscellaneous - Architecture

Card 1/1 : Pub. 27 - 11/21

Authors : Zhukov, A. F., Prof.

Title : Architecture of the All-Union Agricultural Exposition

Periodical : Nauka i zhizn' 21/9, 27-29, Sep 1954

Abstract : A description is given, point by point, of the architecture at the All-Union Agricultural Exposition at Moscow. Illustrations.

Institution : .....

Submitted : .....

ZHUKOV, Anatoliy Fedorovich

527N/5  
918.720  
.26

ZHUKOV, Anatoliy Fedorovich

Arkhitektura Vsesoyuznoy Sel'skokhozyaystvennoy Vystavki (Architecture of the All-Union Agricultural Fair) Moskva, Gosstroyizdat, 1955.

198 p. illus.

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A. F.

A. P. SOLODOVNIKOV, Khim. Tverdogo Topliva 3, 309-24, 1932

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.F., inzhener.

Method of waterproofing precast reinforced concrete pipes. Transp.  
stroi. 7 no.2:29 F '57. (MLRA 10:4)  
(Pipe, Concrete)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.F., inzh.

Equipment for sealing block joints. Transp. stroi. 8 no.1:31  
Ja '58. (Concrete blocks) (MIRA 12:12)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

ZHUKOV, A.F., insh.

Using "cold" concrete. Transp. stroi. 8 no.2:17-19 F '58.

(MIRA 11:2)

(Concrete construction--Cold weather conditions)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.F., inzh.

Equipment used for slinging culvert sections. Transp.stroi. 9  
no.3:58 Kr '59. (MIRA 12:4)  
(Slings and hitches)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A. F., inzh.

Reusable frames for making precast pipe elements. Transp.  
stroi. 9 no.7:30-32 J1 '59. (MIRA 12:12)  
(Pipe, Concrete)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

ZHUKOV, A.F., inzh.

Improving the supporting elements of reinforced concrete span  
structures. Transp. stroi. 9 no.11:58-59 N '59  
(Railroad bridges) (MIRA 13:3)

ZHUKOV, A.F., inzh.

Forms for making architectural bridge details. Avt. dor. 24  
no. 1:12-13 Ja '61.

(MIRA 14:2)

(Moscow—Concrete construction—Formwork)  
(Bridges, Concrete)

ZHUKOV, A.F., inzh.

Some problems of the manufacture of sections of culverts.  
Transp.stroi. 12 no.10:43-46 0 '62. (MIRA 15:12)  
(Culverts) (Pipe, Concrete)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.F., inzh.

Manufacture of sections of reinforced concrete culverts with  
waterproofing. Transp. stroi. 12 no. 3:19-22 Mr '62.

(MIRA 16:11)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.F., insh.

Lining of railing elements. Avt.dor. 25 no.8:27 Ag '62.

(Handrailing)

(MIRA 16:2)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

ZHUKOV, A. F., inzh.

Unit for the manufacture of "carpets" of waterproofing. Transp.  
stroi. 13 no. 3:53-54 Mr '63. (MIRA 16:4)

(Waterproofing)

ZHUKOV, A.F., inzh.

New method for calculating stressed state of bank soil. Avt.dor.  
26 no.10:25 0 '63.  
(MIRA 16:11)

ZHUKOV, A.F., inzh.

Standard sheathing. Avt. dor. 26 no.5:26 My '63.

(Bridges--Design and construction)

(MIRA 16:7)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.F., inzh.

Calculating the force of pipe tension. Transp. strol. 15 no.6:  
46-47 Je '65.  
(MIRA 18:12)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

L 28353-66 EWT(m)/EWP(t)/ETI IJP(c) JW/JD  
ACC NR: AP5027671 SOURCE CODE: UR/0051/65/019/005/0783/0787 46

AUTHOR: Berman, L. V.; Zhukov, A. G.

44  
B

ORG: none

TITLE: Optical properties of  $\text{CaF}_2$  in the 170-600  $\mu$  wavelength range

SOURCE: Optika i spektroeskopiya, v. 19, 5, 1965, 783-787

TOPIC TAGS: spectrographic analysis, optic property, calcium compound, absorption coefficient, IR spectrometer

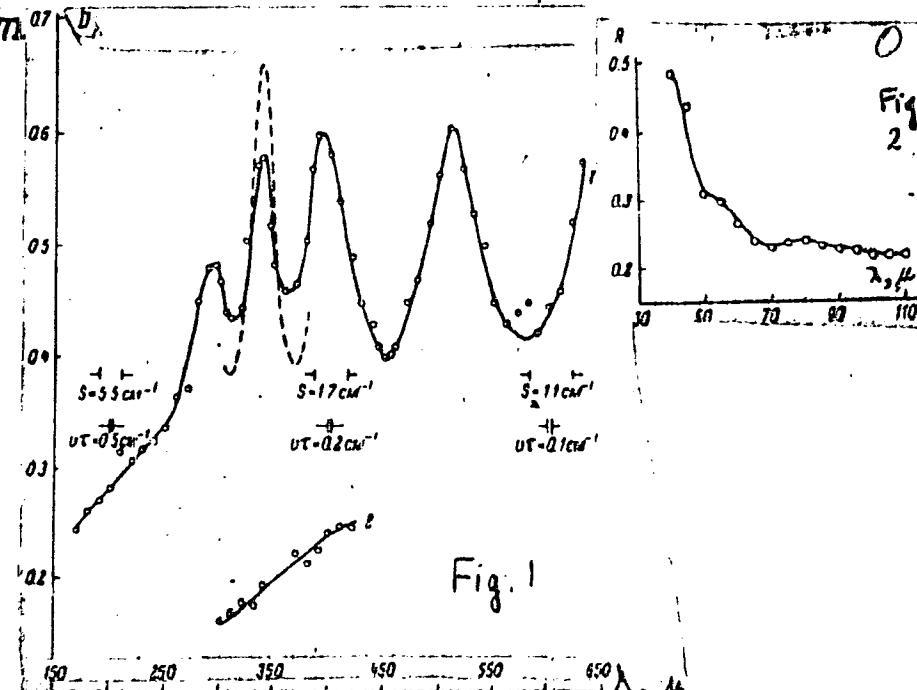
ABSTRACT: The  $\text{CaF}_2$  transmissivity was measured in the wavelength range of 170-600  $\mu$  at room temperature and in the range of 150-350  $\mu$  at -90°C by using a long-wave infrared spectrometer described by A. G. Zhukov (Opt. i spektr., 17, 284, 1964). The changes of the coefficient of transmissivity D at various wavelengths ( $\lambda$ ) are represented in the attached diagram (see Fig. 1) for samples 0.4 mm (curve 1) and 1.96 mm thick (curve 2) measured at room temperature. The reflectivity (R) of  $\text{CaF}_2$  was measured in the wavelength range of 40-110  $\mu$  at the angle of incidence of 25° (see Fig. 2). The absorption coefficient k was

Card 1/3

UDC: 535.321 535.341-15

AL 28353-66

ACC NR: AP5027671



Card 2/3

L 28353-66  
ACC NR: AP5027671.

2

calculated from experimental data. It changed at room temperature from 0.034 (at  $170 \mu$ ) to 0.016 (at  $420 \mu$ ). The transmissivity of CaF<sub>2</sub> at -90°C was measured in a 1.96 mm thick sample at  $\lambda = 150-350 \mu$ . At -90°C, the value of k was 0.004, i.e., 5 to 10 times smaller than at room temperature. The refractive index n was calculated as  $2.58 \pm 0.06$  from the maximum and minimum on the interference curve of transmissivity and from the formula  $\sqrt{(n-1)^2 + k^2}$ :  $\sqrt{(n+1)^2 + k^2}$  (average error  $\pm 4\%$ ). The authors thank V. E. Shvetsova for preparation of the low-temperature experiments and A. M. Okhovskaya for assistance in measuring. Crig. art. has: 4 fig., 4 formulas and 1 table.

SUB CODE: 20/ SUBM DATE: 11Aug64/ ORIG REF: 001/ OTH REF: 012

Card 3/3 CC

ZHUKOV, A.G.; SMIRNOV, V.I.

Polarizing properties of echelle gratings in the long-wave  
infrared region. Zhur. prikl. spekt. 3 no. 6:560-563 D '65  
(MIRA 19:1)

1. Submitted November 13, 1964.

L 15985-66 EWT(1)/EWT(m)/T/EWP(e) IJP(c) WH  
ACC NR: AP6005476 SOURCE CODE: UR/0368/66/004/001/0068/0070

AUTHOR: Bogens, R. K.; Zhukov, A. G.

ORG: none

TITLE: Optical constants of fused quartz in the far infrared region

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 1, 1966, 68-70

TOPIC TAGS: quartz, refractive index, light absorption, IR absorption, IR spectrum

ABSTRACT: The transmission and reflection spectra for specimens of fused quartz of various thicknesses were measured in the 60-560  $\mu$  wavelength range. The resultant data were used for determining the indices of refraction ( $n$ ) and absorption ( $k$ ). The reflectance of a plate 25 mm thick was used for determining the index of refraction in the 50-90  $\mu$  wavelength range. In the 220-400  $\mu$  region the index of refraction was determined from the position of the maxima and minima in the interference transmission spectrum of a plate 0.258 mm thick. The data show a reduction in  $n$  from 2.07 in the 50  $\mu$  region to 1.94 at 90  $\mu$ . In the 220-400  $\mu$  region,  $n$  remains practically constant, varying from 1.89 to 1.92 with an average value of 1.91. The

Card 1/2

UDC: 535.312

L 15985-66

ACC NR: AP6005476

index of absorption was calculated from the coefficients of transmission for plates with thicknesses of 1.05, 2.03, 4.07 and 12.35 mm with regard to the values of the refractive index. A curve is given showing the index of absorption as a function of wavelength for fused quartz at room temperature. This curve shows a reduction in  $k$  from 0.0165 at  $60 \mu$  to 0.0038 at  $560 \mu$ . The transmission factor of fused quartz is independent of temperature in the  $250-550 \mu$  region. Orig. art. has: 2 figures, 2 tables.

SUB CODE: 20/ SUBM DATE: 12Feb65/ ORIG REF: 003/ OTH REF: 007

Card 2/2 JG

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.G.; RUKMAN, G.I.

Thermal conditions of a heat receiver in recording the  
radiation from weakly heated bodies. Prib. i tekhn. eksp.  
9 no.2:138-141 Mr-Ap'64. (MIRA 17:5)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

ZHUKOV, A.G., insh.

Work of the Administration of the Power Fuel Industry of the Moscow Province Economic Council. Torf.prom. 34 no.6:1-3 '57. (MIRA 10:12)

1. Upravleniye toplivno-energeticheskoy promyshlennosti Mosoblsovnarkhoza.

(Moscow Province--Peat industry)

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

ZHUKOV, A.G.

Long-wave infrared spectrometer. Opt. i spektr. 14 no. 3:422-424 Mr '63.  
(MIRA 16:4)  
(Spectrometer)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

TUL'CHINSKIY, B.S.; ZHUKOV, A.G.

Device for fine grinding of preparations. Prib. i tekhn. eksp.  
7 no.3:150 Mt-Je '62. (MIRA 16-7)  
(Pulverizers) (Shock waves)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

ACCESSION NR: AP4033134

S/0120/64/000/002/0138/0141

AUTHOR: Zhukov, A. G.; Rukman, G. I.

TITLE: Functioning of a thermal receiver which records radiation from slightly warm bodies

SOURCE: Pribory i tekhnika eksperimenta, no. 2, 1964, 138-141

TOPIC TAGS: thermal receiver, bolometer, temperature measurement

ABSTRACT: An experimental investigation is reported of the effect of the temperature of a thermal receiver (bolometer) upon a signal in its circuit when the temperatures of the test object, the surrounding medium, and the bolometer itself differ only slightly. When the bolometer temperature is higher than that of the object, a rise in the bolometer's temperature results in an increase of its signal. A vacuum low-inertia (0.02 sec) bolometer with a sensitivity of  $7 \times 10^{-10}$  w

Card 1/2

ACCESSION NR: AP4033134

was used for the registration of modulated-at-10-cps test-object temperatures within 186-300K and 300-400K. A theoretical estimation based on an analysis of the radiative heat exchange between the bolometer and the object was shown to be in satisfactory agreement with the experimental data. It was found that the bolometer's usable signal can be raised by the bolometer's own temperature, which is essential when the object temperature is close to ambient. "The authors wish to thank A. M. Ol'khovskaya for her help in carrying out the experiments." Orig. art. has: 1 figure, 8 formulas, and 2 tables.

ASSOCIATION: none /

SUBMITTED: 28Apr63

DATE ACQ: 11May64

ENCL: 00

SUB CODE: TD

NO REF Sov: 002

OTHER: 001

Card 2/2

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

*ZHUKOV, A.G.*  
FAYDISH, O.M.; ZHUKOV, A.G.

Effect of the size of crystals on the luminescence of anthracene-naphthalene solid solutions. Nauk.zap.Kiev.un. 15 no.5:71-76 '56.  
(MLRA 10:7)

(Anthracene) (Naphthalene) (Luminescence)

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

A G ZHUKOV and M V BUKHAREVA

"Development of a Procedure for Determining the Specific Surface  
of Powders by Methanol Absorption" from Annotations of Works Completed in 1955  
at the State Union Sci. Res. Inst: Min. of Radio Engineering Ind.

Sp: B-3,080;964

A G ZHUKOV

"Development and Testing of a Prototype Photoelectric Apparatus for  
Control of the Thickness of Cathode Carbonate Coatings" from Annotations of Works  
Completed in 1955 at the State Union Sci. Res. Inst. Min. of Radio Engineering Ind.

So: B-3,080,964

BELOKOPYTOV, I.Ye.; BERESNOVICH, V.V.; BERSHADSKIY, L.S.; VEYTS, L.F.;  
ZHUKOV, A.G.; IVASHECHKIN, N.V.; KUZHMAN, G.I.; LASHNEV, I.A.;  
MURASHOV, F.G.; NIKODIMOV, P.I.; PYATAKOV, L.V.; SAMSONOV, N.N.;  
SIEMENSKIY, Ye.P.; SINITSYN, N.A.; SOLOPOV, S.Q.; STRUKOV, B.I.;  
STEBIKHOV, M.I.; TSUPROV, S.A.; CHERNOV, A.A.; CHULYUKOV, M.A.

Ivan Aleksandrovich Monakin. Torf. prem. 37 no. 3:37 '60.  
(MIRA 14:1)

(Monakin, Ivan Aleksandrovich, 1908-1960)

TUL'CHINSKIY, B.S.; ZHUKOV, A.G.

Preparing objects for an electron microscope. Prib. i tekhn.  
eksp. 6 no.4:176-178 Jl-Ag '61. (MIRA 14:9)  
(Electron microscope)

S/120/62/000/003/035/048  
E039/E155

AUTHORS: Tul'chinskiy, B.S., and Zhukov, A.G.

TITLE: Apparatus for the fine crushing of preparations

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 150-153

TEXT: Description of a simple apparatus giving more uniform and faster crushing of preparations than the ultrasonic method. Shock waves obtained as a result of an electric discharge in a liquid are used to break up the sample. In general this type of discharge produces a damped oscillation with a frequency  $\sim 10^5$  c/s. The apparatus consists of an ebonite container with two electrodes and a hermetically sealed lid. The power supply is from a half wave rectifier using a step up transformer with a number of voltage tappings to vary the output voltage. A condenser is charged through a resistance and then discharged between the electrodes in the working space. Uniformity of the crushed material is helped by the additional mixing action effected by the shape of the lid. The discharge duration is of the order of milliseconds and hence has an explosive character which disrupts

Card 1/2

Apparatus for the fine crushing of ... S/120/62/000/003/035/048  
E039/E135

the material in the working chamber. By the use of an enclosed chamber the effect of the shock wave is enhanced and the electrode voltage can be reduced to ~1 - 2 kV (instead of 30 - 250 kV used in other systems). Typical microphotographs are given showing that carbon dust produced after 5 - 10 minutes in this apparatus is of the same order of size and more uniform than carbon dust produced by a ball mill in 60 minutes at 200 r.p.m. Other media than water can be used in the apparatus, the action of the shock waves increasing with increase in density of the liquid.

There are 7 figures.

SUBMITTED: November 11, 1961

Card 2/2

AUTHOR: Zhukov, Yu. S. Smirnov, V.I.

ORG: None

TITLE: Polarization properties of wire gratings in a longwave infrared region

SOURCE: Zhurnal prikladnoy spektroskopii v. 3, no. 5, 1965, 410-414

TOPIC TAGS: wire, wire product, IR grating, IR grating measurement, light polarization, IR measurement

ABSTRACT: The authors investigate wire gratings with relationships  $b/t = 0.73$  and  $0.87$  (where  $b$  is the width of the clearance between the wires, and  $t$  is the spacing) in the wavelength region of  $60-650 \mu$ . The measurements were performed with a longwave IR spectrometer. The gratings consisted of square metal frames, one side of which was strung with tungsten wire coated with a gold layer  $0.5 \mu$  thick. On the basis of experimental data obtained, the authors conclude that the polarizing capabilities of the wire grating studied is at least 95% in the  $300-650 \mu$  wavelength. The employment of two gratings in one polariser in the  $150-650 \mu$  wavelength makes it possible to obtain almost complete polarization. The transmission coefficient of

Card 1/2

UDC: 535.5

"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2

L-10298-66

ACC NR: AP6000021

the polarizer studied is 97%, which surpasses the data of other types of polarizers.  
The polarizers described are simple in usage and may be used in a convergent beam.  
Orig. art. has: 3 figures and 13 formulas.

Orig. art. has: 3 figures and 13 formulas.  
SUB CODE: 20 / SUBM DATE: 13Nov64 / ORIG REF: 002 / OTH REF: 012

PC

Card 2/2

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002064920006-2"

L 29233-66 ENT(1) TJP(1) OC/NM  
 ACC NR: AP6019370  
 AUTHOR: Zhukov, A.G.; Smirnov, V.I.

SOURCE CODE: UR/0368/65/003/006/0360/0563

40  
B

ORG: none

TITLE: Polarizing properties of echelle gratings in the long-wave infrared region

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 6, 1965, 560-563

TOPIC TAGS: light reflection, light polarization, spectrometer

ABSTRACT: Data are given on the polarizing properties, in the 62 to 650 micron band, of dispersion and filtering echelle gratings used in the monochromator of a long-wave spectrometer (see A. G. Zhukov, Optika i Spektroskopiya, Vol. 17, p 284, 1964; English translation in Optics and Spectroscopy).

Reflection of polarized light by the gratings was measured as a function of the orientation of an electric field to the grating steps.

Two wire grids, having periods of 30 microns and spaced a few millimeters apart, served as a highly effective polarizer in the 62 to 650 micron band. Two cases are considered: 1) in which the electrical field vector is at right angles to the plane of incidence and parallel to the grating steps, and 2) in which the vector is parallel to the plane of incidence and at right angles to the steps. The ratios  $a_{Op}/a_{Os}$  and  $a_{Ip}/a_{Is}$  (where  $a_{Op}$  and  $a_{Os}$  are the zero order coefficients of reflection for the two cases and  $a_{Ip}$  and  $a_{Is}$  are the first order coefficients, respectively) are used as the measures of grating reflectivity. Curves are plotted for the two cases showing the absolute values of the coefficients and the values of the ratios as dependent on the ratio of the wavelength to grating period. Also shown are curves of summed ratios  $a_p/a_s$  plotted as functions of wavelength for three sets of gratings studied. Some of the results differ from those of other authors. Orig. art. has: 3 figures and 1 table. JPRS

SUB CODE: 20/ SUBM DATE: 13Nov64/ ORIG REF: 003/ CTH REF: 005

UDC: 535.5

Cord 1A

USSR/Mathematics - Bibliography

FD-1187

Card 1/1      Pub. 118-28/30

Author : Zhukov, A. I. (reviewer)Title : Review of the book 'Chislennyye metody matematicheskogo analiza',  
Sh. Ye. Mikeladze [see preceding abstract]

Periodical : Usp. mat. nauk, 9, No 3(61), 276-277, Jul-Sep 1954

Abstract : In the reviewer's opinion the essential deficiency of the book is the absence of methods for numerically solving algebraic and transcendental equations and that the contents of the book do not correspond at all with its title. The book is devoted in the main to certain problems in the calculus of finite differences and in the theory of approximation, which are expounded in a very theoretical and abstract fashion. The author disregards the interests of the practical workers in applied fields, which is strange in view of the title of the book. The book is very inconvenient for the study of numerical analysis; it is impossible to recommend it for practicing computers. The best part of the book is its summary of formulas.

Institution :

Submitted :

## USSR/Engineering - Hydrodynamic equations

Card 1/1 : Pub. 22 - 10/44

Authors : Zhukov, A. I.

Title : About one group (family) of exact solutions of hydrodynamic equations

Periodical : Dok. AN SSSR 97/6, 985-986, Aus. 1, 1954

Abstract : Exact solution of the system of hydrodynamic equations

$$\begin{aligned} \frac{\partial(pu)}{\partial x} + \frac{\partial(pv)}{\partial r} + \frac{1}{r} - c \\ \frac{\partial u}{\partial x} + v \frac{\partial u}{\partial r} + \frac{1}{r} \frac{\partial p}{\partial x} = 0 \\ \frac{\partial v}{\partial x} + v \frac{\partial v}{\partial r} + \frac{1}{r} \frac{\partial p}{\partial r} = 0 \\ \text{is given. } u \frac{\partial s}{\partial x} + v \frac{\partial s}{\partial r} = 0 \end{aligned}$$

Institution :

Presented by : Academician M. V. Keldysh, June 3, 1954

ZHUKOV, A.I.

USSR / Acoustics. Sound Vibrations and Waves

J-2

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12570

Author : Zhukov, A.I., Kazhdan, Ya.M.

Inst : Mathematics Institute, Academy of Sciences, USSR, Moscow (*Dept. Applied Math.*)

Title : Motion of Gas Under the Influence of a Short-Duration Pulse.

Orig Pub : Akust. zh., 1956, 2, No 4, 352-357

Abstract : A further refinement is made of the discussion concerning the integration of self-similar equations in the problem of shock in cold gas. Results of calculations are given concerning the motion of gas under the influence of a short-duration finite pulse, illustrating the character of the departure of the motion from the self-similar mode.

Card : 1/1

ZHUKOV, A.I.

Convergence of a solution of a difference equation to a solution of  
a differential equation. Dokl. AN SSSR 117 no.2:174-176 N '57.

(MIRA 11:3)

1. Otdeleniye prikladnoy matematiki Matematicheskogo instituta im.  
V.A. Steklova Akademii nauk SSSR. Predstavлено академиком M.V.  
Keldyshem.

(Difference equations) (Differential equations)

16(1)

AUTHOR: Zhukov, A.I.

SOV/42-14-3-7/22

TITLE: Limit Theorem for Difference Operators

PERIODICAL: Uspekhi matematicheskikh nauk, 1959, Vol 14, Nr 3, pp 129-136 (USSR)

ABSTRACT: Let the equation

$$(1) \frac{\partial u}{\partial t} = a_0 u + a_1 \frac{\partial u}{\partial x} + a_2 \frac{\partial^2 u}{\partial x^2} + \dots + a_n \frac{\partial^n u}{\partial x^n}$$

be considered with constant real coefficients on the whole real line. Let the linear operator  $F$  be defined by :

$$(2) u^1(x) = F u^0(x),$$

where it is  $u^0(x) = u(t_0, x)$  and  $u^1(x) = u(t_0 + \tilde{t}, x)$ . Let the operator  $F$  be approximated by a difference operator  $G$ , so that  $u^*(x) = Gu^0(x) = \sum_m b_m u^0(x + mh)$ , where  $m$  runs through a finite set of integer values. It is said that  $G$  has the index  $p$ , if for every polynomial  $f(x)$  of degree  $\leq (p-1)$  it

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SOV/42-14-3-7/22

## Limit Theorem for Difference Operators

holds :  $Gf(x) = Ff(x)$  . Let  $\alpha_k = G(-x)^k|_{x=0} =$

$$= (-1)^k h^k \sum_m k b_m \quad \text{and} \quad \alpha_0 = \ln \alpha_0, \quad \alpha_1 = \alpha_1 / \alpha_0,$$

$\alpha_2 = \alpha_2 / \alpha_0 - \alpha_1^2 / \alpha_0^2, \dots$  Let the operator  $G$  have an

index  $p \geq 2$  . Put  $B = \alpha_p = (-1)^p p! \sqrt[p]{a_p}$ ,  $\sigma = \sqrt[p]{n|B|}$ .

Let  $u^{(n)}(x) = F^n u^0(x)$ ,  $u^{\star(n)}(x) = G^n u^0(x)$  . For  $n \rightarrow \infty$  it converges  $u^{\star(n)}(\tilde{x})$ , considered as a generalized function, to the function  $f_p(x) * u^{(n)}(\tilde{x})$ , where it is

Card 2/3

8

Limit Theorem for Difference Operators

SOV/42-14-3-7/22

$$f_p(x) = \frac{1}{2\pi} \int_{-\infty}^{\infty} e^{-ixy} e^{+\frac{(iy)^p}{p!}} dy \text{ and } * \text{ is the convolution sign.}$$

There are 3 figures, and 3 references, 1 of which is Soviet, and 2 American.

SUBMITTED: January 11, 1957

Card 3/3

ZHUKOV, A. I., SEMENDYEV, K. A., GODUNOV, S. K. (Moscow)

"Numerical Methods in the Analysis of One-Dimensional Unsteady Problems of Gas Dynamics."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

KAZANTSEV, Ye.I.; ZHUKOV, A.I.; KOCADEYEV, A.A.; SHKLYAR, M.S.;  
CELLER, G.Ya.

Operating regenerative soaking pits heated by cold gas.  
Stal' 25 no.3:274-276 Mr '65. (MIRA 18:4)

1. Donetskiy politekhnicheskiy institut i Makeyevskiy  
metallurgicheskiy zavod.

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