

NOV/20-12-1978

On the Polysaccharide Fractions of *Actinomyces Rimosus* and *Actinomyces ureofaciens*

galactose and glucose predominate. In the polysaccharide of the II fraction mannose clearly predominates. In the case of *A. rimosus* a great amount of galactose and mannose is contained in the I fraction as well as of sugar as yet not identified. A successful quantitative determination of individual sugars of the II fraction could not be achieved. The chromatogram shows that it consists mainly of mannose and of the sugar not identified. In contrast to fraction I glucose content is small. In the fractions of the species of fungus investigated no such amounts of phosphorus were observed as was the case with *A. globisporus* Str. (up to 8,5%) (Ref 4). There are 1 figure, 2 tables, and 12 references, 6 of which are Soviet.

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

SUBMITTED: June 3, 1978

Card 3/3

NAUMOVA, I.B.

Comparative studies on polysaccharide fractions of two strains of  
Act. globisporus streptomycin. Antibiotiki 6 no.1:29-34 Ja '61.  
(MIRA 14:5)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo  
universiteta imeni M.V.Lomonosova.  
(ACTINOMYCES) (POLYSACCHARIDES)

NAUMOVA, I.B.; BELOZERSKIY, A.N.; SHAFIKOVA, F.A.

Isolation and some properties of teichoic acid from *Actinomyces streptomycini* Krass. Dokl. AN SSSR 143 no.3:730-733 Mr '62.  
(MIRA 15:3)

1. Chlen-korrespondent AN SSSR (for Belozerskiy).  
(ACTINOMYCES)(TEICHOIC ACIDS)

NAUMOVA, I.B.; SHABAROVA, Z.A.; BELOZERSKIY, A.N., akademik

Structure of ribiteichoic acid from *Actinomyces streptomycini*.  
Dokl. AN SSSR 152 no.6:1471-1474 O '63. (MIRA 16:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

\*

NAUMOVA, I.B.

Tetraholic acids of micro-organisms. Usp. biol. khim. 6:199-  
214 '64. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

NAUMOVA, I.B.; ZARETSKAYA, M.Sh.

Some properties of ribitol teichoic acid isolated from *Actinomyces violaceus*. Dokl. AN SSSR 156 no.6:1464-1467 Je '64.

(MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.  
Predstavleno akademikom A.N. Belozerskim.

15.2620

<sup>26653</sup>  
S/070/61/006/005/011/011  
E132/E560

**AUTHORS:** Mill', B.V. and Naumova, I.I.

**TITLE:** Syntheses in the system  $Y_2O_3-Fe_2O_3-H_2O$

**PERIODICAL:** Kristallografiya, 1961, Vol.6, No.5, pp.800-803

**TEXT:** Although as described by J. W. Nielsen (Refs.1 and 2: Phys. Chem. Solids, 5, 202, 1958; J. Appl. Phys., suppl. to, 31, 5, 51S, 1960) yttrium iron garnet (YIG) can be grown from the melt by slow cooling from 1250 to 900°C it is also known that garnets can be made hydrothermally at about 600-700°C from the mixed oxides. This method was tried for YIG using a pressure of up to 2000 atm. The autoclave was closed, the pressure being supplied by the water vapour. Temperatures from 300 to 550°C were tried at 50° intervals. A range of ratios of  $Y_2O_3/Fe_2O_3$  were employed with 5-15% of various additives such as NaOH, LiCl etc. After heating, the solid residue was boiled in nitric acid and the undissolved parts examined microscopically. Out of some 100 trials the following phases were found:- YIG,  $YFeO_3$ , magnetite and haematite - there were also some specimens for which the X-ray powder photographs could not be identified. YIG was not obtained below  
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Syntheses in the system ...

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S/070/61/006/005/011/011  
E132/E560

500°C. 9 out of 11 runs at 550°C contained YIG. Magnetite crystals up to 1.5 mm in size were found in association with the YIG crystals which reached only 0.4 mm. The successful solutions were those of  $\text{NH}_4\text{Cl}$ ,  $\text{LiCl}$ ,  $\text{CaCl}_2$  and  $\text{NaCl}$  and the coefficient of filling of the bomb was 0.4-0.6. The crystals obtained were rhombic dodecahedra.  $\text{YFeO}_3$  was formed in the interval 350-550°C when the ratio of  $\text{Y}_2\text{O}_3$  to  $\text{Fe}_2\text{O}_3$  was 3:1 to 1:2 using solutions of chlorides,  $\text{H}_3\text{BO}_3$ ,  $\text{Na}_2\text{B}_4\text{O}_7$ ,  $\text{NaOH}$  and  $\text{Na}_2\text{CO}_3$ . The crystals were in the form of orthorhombic prisms. Magnetite was obtained from 450-550°C most profusely in the case of  $\text{NH}_4\text{Cl}$  solutions and less efficiently for the other chloride solutions. The magnetite apparently came from the corrosion of the vessel. Acknowledgments are expressed to P. V. Klevtsov and A. A. Shternberg for assistance. There are 5 figures and 10 references: 3 Soviet and 7 non-Soviet. The English-language references read as follows: Refs. 1 and 2 (quoted in text); Ref. 5: M. W. Shafer, Rustum Roy. J. Amer. Ceram. Soc., 38, 11, 563, 1959; Ref. 6: R. Schmalz. J. Geophys. Res., 64, 5, 575, 1959.

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Syntheses in the system ... 26653  
S/070/61/006/005/011/011  
E132/E560

ASSOCIATIONS: Institut kristallografii AN SSSR  
(Institute of Crystallography AS USSR)  
Institute neorganicheskoy khimii Sibirskogo  
otdeleniya AN SSSR  
(Institute of Inorganic Chemistry of the  
Siberian Section of the AS USSR)

SUBMITTED: March 11, 1961

Card 3/3

SMIRNOVA, T.V.; DUKEL'SKAYA, N.M.; GORBUNOVA, V.P.; SHITOV, L.N.;  
MAIMOVA, I.I.

Analog of warfarin and their rodenticide properties. *Izv.vys.*  
*ucheb.zav.; khim.i khim.tekh.* 5 no.1:107-111 '62. (MIRA 15:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleeva  
i Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo  
universiteta imeni Lomonosova.  
(Warfarin)

SMIRNOVA, T.V.; DUKEL'SKAYA, N.M.; NAUMOVA, I.I.

Synthesis of 3-[ $\alpha$ -(p- $\beta$ -fluoroethoxyphenyl)- $\beta$ -acetyloethyl]-  
4-hydroxycoumarin and its toxic properties. *Izv.vys.ucheb.zav.;*  
*khim.i khim.tekh.* 5 no.2:289-291 '62. (MIRA 15:8)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D. I.  
Mendel'seyeva i Moskovskiy gosudarstvennyy universitet imeni  
Lomonosova.

(Coumarin)

SMIRNOVA, T.V.; NAUMOVA, I.I.; ANDREYEVA, V.A.

Preparation of some amino- and alkyl-substituted  
phenyl- $\beta$ -fluoroethyl ethers. Zhur. VKHO 7 no.6:710-712  
'62. (MIRA 15:12)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni  
D.I. Mendeleeva.

(Ethers)

SMIRNOVA, T.V.; ~~NAUMOVA, I.I.~~; SAZONOVA, I.V.

Synthesis of some halogenated  $p$ -fluoroethyl phenyl ethers. Zhur.  
VKHO 8 no.1:115-116 '63. (MIRA 16:4)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I.  
Mendeleeva.  
(Ethers) (Halogen compounds)

L 00027-66 (a)  
ACCESSION NR: AP5020313

00/0106/65/007/004/0502/0504  
043.53:046.74+505.77

AUTHOR: Naumova, I. I.

TITLE: Quantitative determination of nickel and iron in ferromagnetic films by  
neutron activation

SOURCE: Radiokhimiya, v. 7, no. 4, 1965, 502-504

TOPIC TAGS: nickel, iron, cobalt, neutron activation

ABSTRACT: The purpose of this investigation was to develop a method for the quantitative analysis of films consisting of 83% Ni and 17% Fe, which contain about 10  $\mu\text{g}$  of this alloy. The samples and standards were put into a reactor in aluminum vials where they were irradiated in an  $2 \times 10^{13}$  n/cm<sup>2</sup>·sec beam for approximately 1 month. Specimens were processed 1 week after irradiation. The calculated sensitivity for the determination of iron from Fe-59 and nickel from Ni-63 was  $6 \cdot 10^{-9}$  and  $1.4 \cdot 10^{-8}$  respectively. After dissolution of the sample in 1:1 nitric acid and introduction of inert carriers, iron was precipitated with  $\text{NH}_4\text{OH}$  and separated by centrifuging. Nickel was separated by dimethylglyoxime precipitation. After the precipitation samples were subjected to radiochemical purification and counted. The mean error

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ACCESSION NR: AF5020313

for the determination of iron was 0.5 - 3%. The standard deviation in the determination of nickel was 1%. Cobalt was also determined in amounts ranging from  $10^{-5}$  to  $10^{-6}$ %. Analogous amounts of nickel and iron may be determined by irradiation of samples with 14 mev neutrons in an accelerator, and measuring Mn-56, produced by the reaction of  $Fe^{56}(n,p)Mn^{56}$  ( $T_{1/2} = 2.6$  hrs); and  $Ni^{57}$ , produced by the reaction  $Ni^{58}(n,2n)Ni^{57}$  ( $T_{1/2} = 36$  hrs). Orig. art. has: 1 figure, 1 table.

ASSOCIATION: none

SUBMITTED: 12Nov64

NO REF SOV: 002

ENCL: 00

SUB CODE: GC, NP

OTHER: 002

Card 2/2

L 35514-65 EWG(j)/EWT(1)/EWP(e)/EWT(m)/EPF(c)/EPR/T/EWP(t)/EEC(t)-2/  
EWP(b)/EWA(c) Pr-4/PS-4 ISP(c) JD/WH  
ACCESSION NR: AP5008467

S/0070/65/010/002/0230/0236  
417  
B  
15

AUTHOR: Anikin, I. N.; Naumova, I. I.; Romyantseva, G. V.

TITLE: Solubility of titanium dioxide in fused salts and crystallization of rutile

SOURCE: Kristallografiya, v. 10, no. 2, 1965, 230-236

TOPIC TAGS: rutile, titanium dioxide, single crystal growth, fluxed melt crystallization, titanium dioxide solubility, fused salt, vapor phase crystallization, hydrothermal crystallization

ABSTRACT: Crystallization of rutile ( $TiO_2$ ) from fluxed melts, from the vapor phase above melts, by chemical transport reaction, and under hydrothermal conditions has been studied. The purpose of the study was to develop a technique better than the Verneuil method of growing rutile single crystals which, in recent years, has attracted widespread attention. Preliminary determinations of  $TiO_2$  solubility in various inorganic fluxes indicated that sodium tetraborate with 5-6% lithium fluoride addition was the optimum solvent (flux) for  $TiO_2$ . Subsequent experiments with growing  $TiO_2$  single crystals from molten sodium tetraborate, with or without LiF addition, made it possible to determine the optimum temperature and cooling rate. Spontaneous or oriented (seed) crystallization of  $TiO_2$  was observed visually using a

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ACCESSION NR: AP5008467

microscopic system previously described. The largest and most isometric transparent rutile crystals were grown from  $\text{Na}_2\text{B}_4\text{O}_7\text{--LiF--TiO}_2$  melts cooled from 1200 to 800C at a rate of 0.5--1 degree/hour. Transparent, isometric, rutile crystals were also grown from the vapor phase above the  $\text{TiO}_2$  melt in fluorides, whereby titanium is carried into the vapor phase as  $\text{TiF}_4$ , and the latter is decomposed by water vapor into  $\text{TiO}_2$  crystal and HF gas. The optimum composition of the melt and temperature were given. Rutile crystals were deposited on a rutile boule grown by Verneuil technique. The growth process was uncontrollable because of its very high velocity rate. Crystallization of rutile was also achieved by chemical transport of amorphous or crystalline  $\text{TiO}_2$  in an HCl stream following the reaction  $\text{TiO}_2 + 4\text{HCl} \rightarrow \text{TiCl}_4 \text{ gas} + 2\text{H}_2\text{O} + \text{TiO}_2 \text{ crystal} + 4\text{HCl gas}$ . Light-yellow rutile crystals were grown in horizontal quartz tubes with separate heaters for hot and cold zones at a temperature above 900C. Anatase crystals formed below 900C, while light-blue rutile crystals formed above 1000--1050C. Hydrothermal crystallization of rutile was complete from solutions of amorphous  $\text{TiO}_2$  in chlorides, tetraborates, potassium fluoride, and buffer solutions of these salts. Under optimum conditions (temperature over 550C, pressure 900--1000 atm), transparent colorless or slightly yellow rutile crystals (to 1 mm long) were grown. Oriented crystallization on rutile seeds was obtained in aqueous potassium chloride or potassium fluoride. Advantages of crystallization from the vapor

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ACCESSION NR: AP5008467

2

phase were outlined. This technique was presented as the most promising, as it may be applied to any refractory oxide. Crystallization from fused salts is suitable for making seed material and pure crystals to be used as feed for crystallization from the vapor phase. Hydrothermal crystallization seems to be the least promising technique for many reasons. Orig. art. has: 8 figures, 1 table, and 2 equations. (JK)

ASSOCIATION: Vsesoyuznyy nauchno-issl. in-t sinteza mineral'nykh syr'ya (All-Union Scientific-issl. inst of the Synthesis of Mineral Raw Materials)

SUBMITTED: 01Feb64

ENCL: 00

SUB CODE: 88

NO REF SOV: 004

OTHER: 009

ATD PRESS: 3217

Card 3/3 *As*

L 3576-66. EWP(e)/EWI(m)/EPE(c)/EWP(t)/EPP(n)-2/EWP(t)/EWP(b)/EWA(h) LJP(s)  
 UR/0032/65/031/010/1205/1207  
 ACCESSION NR: AP5024813 JD 543.53

37  
B

AUTHOR: Naumova, I. I.

TITLE: Determination of nitrogen and boron by activation with fast neutrons

SOURCE: Zavodskaya laboratoriya, v. 31, no. 10, 1965, 1205-1207

TOPIC TAGS: radiochemistry, radioisotope, boron, nitrogen, fast neutron, radio-chemical analysis

ABSTRACT: Radioactivation analysis based on thermal neutrons is used for determining nitrogen according to the  $D(T, n)\alpha$  reaction in calcium nitrate with radiochemical separation of  $N^{13}$  from the irradiated specimens. Samples in the form of tablets weighing  $\sim 1.5$  g were wrapped in polyethylene film and exposed for 10 minutes to  $14$  Mev neutrons in a stream of  $\sim 10^{10}$  neutrons/sec. Five minutes after irradiation, the specimens were measured on a gamma spectrometer connected to an AI-100 analyzer and decay of the annihilation photocurrent with a gamma energy of 0.51 Mev was recorded on an end-window counter. Sensitivity is 0.1-0.05%. The sensitivity of the  $B^{11}(n, p)B^{11}$  reaction was determined by irradiating boron tablets in the same stream

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ACCESSION NR: AF5024813

of neutrons for 30 seconds with increase to 1  $\mu$ g when the neutron intensity is increased by one order of magnitude. The  $B^{10}(n, \alpha)Li^7$  and  $B^{10}(\alpha, n)N^{13}$  reactions are used for determining boron with irradiation on a reactor. The resultant  $N^{13}$  is measured without destruction of the specimen.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: GC, NP

NO REF.SOV: 003

OTHER: 005

*mlr*  
Card 2/2

LBOV, A.A.; MAUMOVA, I.I.

Activation analysis with  $^{14}$  Mev. neutrons. Atom. energ. 6 no.4:  
468-470 Ap '59. (MIRA 12:5)  
(Radioactivity--Measurement) (Neutrons)

22885

S/089/61/010/005/013/015  
B102/B214

21.3100

AUTHORS: Bilibin, L. P., Lbov, A. A., Naumova, I. I.

TITLE: Determination of the isotopic composition of lithium by the method of activation analysis

PERIODICAL: Atomnaya energiya, v. 10, no. 5, 1961, 528-529

TEXT: The present "Letter to the Editor" describes an express method for the determination of the isotopic composition of lithium. The method enables the determination to be made with sufficient accuracy without the need of complicated apparatus. The reactions  $\text{Li}^6(n,\alpha)\text{T}$  (thermal neutron induced, cross section  $930 \cdot 10^{-24} \text{ cm}^2$ ) and  $\text{O}^{16}(\text{T},n)\text{F}^{18}$  are used for the activation analysis. By means of these reactions the quantity of  $\text{Li}^6$  in a mixture of  $\text{Li}^6$ - $\text{Li}^7$  is determined. This method requires that one and the same compound containing lithium and nitrogen be used for the working sample and the standard. This compound must satisfy the following requirements:  
1) It must be easily obtained from other compounds, 2) it must be suitable

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S/089/61/010/005/C13/015

Determination of the isotopic composition...

B102/B214

for the preparation of the target, 3) it must contain sufficient nitrogen over the free path of triton, and 4) no positron or gamma activity with  $E_\gamma \geq 0.5$  Mev should appear by direct  $(n,\gamma)$  reactions on other components of the compound. The lithium compound to be analyzed is converted into a carbonate and it is then pressed into tablets of 40 mg weight (8 mm in diameter). These are placed in polyethylene caskets and arranged in the reactor hole at distances of 1 cm each. The positron activity of  $F^{18}$  and the annihilation of gamma quanta ( $E_\gamma = 0.511$  Mev) are measured, respectively, by an end-window  $\beta$ -counter and by a one channel scintillation  $\gamma$ -spectrometer with NaI(Tl) crystal. On a 5 min irradiation in a thermal neutron flux of  $\sim 4 \cdot 10^{11}$  n/cm<sup>2</sup>sec the carbonate of the natural lithium showed 4 hr after the irradiation a gamma activity in the photopeak of  $\sim 500$  pulse./min at an effectivity of  $\sim 0.07$ . The half-width of the photopeak was 0.1 Mev which corresponds to a halflife of 112 min. The  $Li^6$  content of the isotopic mixture is determined from the formula  $\eta = k\eta_0 (1 - 2.7 \cdot 10^{-4} \eta) \cdot \left[ \frac{n_2}{n_1} \left( \frac{1+k}{k} \right) - 1 \right]$ , where  $\eta_0$  is the  $Li^6$  content in the natural isotopic mixture (in percents of

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Determination of the isotopic composition... S/089/61/010/005/013/01- B102/B214

the number of atoms), k the dilution factor (weight ratio of natural and enriched lithium carbonates), n<sub>1</sub> and n<sub>2</sub> the activities per unit weight of the target of the working sample and the standard, respectively. The following results are obtained:

Li <sup>6</sup> weight in tablets, mg	0.45	0.65	1.45	2.10	6.8
Activity per mg of Li <sup>6</sup> in relative units	1.00	0.99	1.02	0.95	0.65

X

The sensitivity of this method of Li<sup>6</sup> determination lies at 10<sup>-6</sup>-10<sup>-7</sup> g Li<sup>6</sup>. Experiments were also made in which large tablets (20 mm diameter, ~500 mg) were enclosed in paraffin blocks and bombarded with 14 Mev neutrons. The flux was ~10<sup>9</sup> n/sec and the time of irradiation 3 hr. Half an hour after the irradiation the β-peak of the F<sup>18</sup> (natural isotopic mixture) was ~100 pulses/min. There are 1 table and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc.

SUBMITTED: November 21, 1960

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LBOV, A. A.; NAUMOVA, I. I.

Determination of impurities of gold by the radioactivation  
method. Zav. lab. 28 no.12:1475-1477 '62. (MIRA 16:1)

(Gold--Analysis)  
(Radioactivation analysis)

NAUMOVA, I.I.

Separation and radiochemical purification of the fission fragment  
Cd-115 from the fission products. Radiokhimiia 5 no.5:637-638  
'63. (MIRA 17:3)

PHASE I BOOK EXPLOITATION

SOV/5608

Katskova, O. N., I. N. Naumova, Yu. D. Shmyglevskiy, and N. P. Shulishnina

Opyt rascheta ploskikh i osesimmetrichnykh sverkhzvukovykh techeniy gaza metodom kharakteristik (Computation Practice of Horizontal and Axially Symmetric Supersonic Gas Flow by the Method of Characteristics) Moscow, Vychislitel'nyy tsentr AN SSSR, 1961. 57 p. 1,100 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Vychislitel'nyy tsentr. Resp. Ed.: Yu. D. Shmyglevskiy; Tech. Ed.: A. I. Korkina.

PURPOSE : This book is intended for those interested in gas dynamics and analytical computing methods in the investigation of axially symmetric supersonic flow

COVERAGE: The book deals with the application of the method of characteristics for calculating partial derivatives of the hyperbolic type used in the investigation of axially symmetric supersonic flows. Vychislitel'nyy tsentr AN SSSR (Computer  
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Computation Practice of Horizontal (Cont.) SOV/5608

Center of the Academy of Sciences USSR) has been deriving experience from the use of this method since 1955. The authors thank P. I. Chushkin. There are 11 references: 8 Soviet, 1 English, 1 French, and 1 German.

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KATSKOVA, O.N.; KHAYKO, A.N. ; NAUMOVA, I.N. (Moscow)

"Characteristics method for the analysis of equilibrium and non-equilibrium gas flows"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

NAUMOVA, I.N. (Moskva)

Calculation of supersonic equilibrium air flows. Zhur. vych.  
mat. i mat. fiz. 3 no.5:964-970 S-0 '63. (MIRA 16:11)

Z. 60928-65 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1)/ETC(m) WW

ACCESSION NO. AM5021653

BOOK EXPLOITATION

UR/

31  
BT/

Kuznetsov, I. N.

Method of characteristics for equilibrium flow of imperfect gas (Method kharakteristik dlya ravnovesnykh techeniy nesovershennogo gaza). Moscow, VTs AN SSSR, 1964, 43 p. illus., biblia. Errata slip inserted. 1,700 copies printed.

TOPIC TAGS: equilibrium flow, <sup>qm</sup> flow measurement, gas flow, shock wave, aerospace structures, supersonic flow, aerodynamic theory

PURPOSE AND COVERAGE: This booklet is a systematic presentation of the application of the method of characteristics to the calculation of a nonisentropic equilibrium flow of an imperfect gas. Experience in calculating such a flow at the Computing Center of the Academy of Sciences USSR was used in the preparation of the booklet.

It consists of a preface and three chapters. In the preface the author states that selecting a proper scheme for calculating the flow parameters

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is of primary importance and indicates that the schemes presented in the booklet ensure the rapid convergence of the iterative processes and yield sufficient accuracy.

In the first chapter, the following system of equations describes the defined flow:

$$\left. \begin{aligned}
 & \frac{\partial \gamma^v \rho u}{\partial x} + \frac{\partial \gamma^v \rho v}{\partial y} = 0; \\
 & u \frac{\partial H}{\partial x} + v \frac{\partial H}{\partial y} + \frac{1}{\rho} \frac{\partial p}{\partial x} = 0; \\
 & u \frac{\partial u}{\partial x} + v \frac{\partial u}{\partial y} + \frac{1}{\rho} \frac{\partial p}{\partial x} = 0; \\
 & \frac{u^2}{2} + \frac{v^2}{2} + h(p, T) = \text{const}; \\
 & \rho(p, T) \cdot p = \rho T,
 \end{aligned} \right\} (1)$$

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ACQUISITION NO. AM5021653

where  $u$  and  $v$  are velocity components in the direction of  $x$  and  $y$  axes, respectively, and  $\rho$ ,  $p$ ,  $T$ , and  $h$  are density, pressure, temperature, and enthalpy of gases. It is considered that system (1) is complete when functions  $\mu(p, T)$  and  $h(p, T)$  (the thermodynamic functions) are known. It is indicated that for air, the functions  $\mu(p, T)$  and  $h(p, T)$  are tabulated (using three tables of thermodynamic functions of the air published in 1957, 1959, and 1961 by the Academy of Sciences USSR) for  $p$  and  $T$  values from the intervals  $0.001 < p < 1000$  atm and  $300^\circ < T < 20,000^\circ\text{K}$ , but their use for calculating the flow parameters on electronic computers is inconvenient. The approximation of thermodynamic functions using expansions in Legendre polynomials (in particular intervals of pressure and temperature) is given, and tables for the numerical values of expansion coefficients are presented. The errors of approximations of thermodynamic functions are established. The relations between the parameters  $w_\infty$ ,  $p_\infty$ ,  $\rho_\infty$ ,  $T_\infty$  of the oncoming wave and the parameters  $w$ ,  $p$ ,  $\rho$ ,  $T$ ,  $\sigma$ ,  $\theta$  behind the shock wave ( $\sigma$  is the inclination angle of the shock wave with the  $x$ -axis, and  $\theta$  is the angle of

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velocity vector behind the shock wave with the x-axis) are derived, which are later used for calculating flow parameters at a point in the shock wave.

In the second chapter, the method of characteristics is presented for calculating the flow described by system (1). Systems of differential equations for two families of characteristics of system (1) and for the stream function  $\phi$  are written; they are utilized for calculating the flow between the body and the shock wave. The following three basic problems are considered: a) calculation of flow parameters at a point on the shock wave; b) calculation of flow parameters at a point between a shock wave and the body; and c) calculation of flow parameters at a point on the generatrix of the body. The point at which the parameters of flow must be determined is the intersection of two lines, which can be characteristics of system (1), a shock wave, or a stream line. To solve these problems, the differential equations which describe these lines are replaced by finite-difference equations. Together with other corresponding relationships, they form a finite

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ACCESSION NR AM5021653

system of equations for determining the unknown parameters  $\tau$  ( $\tau = \text{tg } \theta$ ),  $w$ ,  $\xi$  ( $\xi = \text{tg } \theta$ ),  $\alpha$  ( $\alpha = \text{tg } \alpha$  where  $\alpha$  is the Mach angle),  $x$ ,  $y$ ,  $\psi$ , and  $S$  (entropy), which are necessary for the complete calculation of the flow.

To solve problem a), the point to be determined is sought as the intersection of the shock wave with the characteristic of the first family. The algorithm for determining flow parameters is presented. To solve problem b), the point to be determined is sought as the intersection of two characteristics taken from each of two families. The following four pairs of characteristics are considered: 1) The inclination angle of the first characteristic with the x-axis is close to  $\pi/2$  and that of the second, to zero; 2) the inclination angle of the first characteristic is close to zero and that of the second, to  $\pi/2$ ; 3) the inclination angles of both characteristics are close to  $\pi/2$ ; and 4) the inclination angles of both characteristics are close to zero. The procedure for determining the necessary systems of equa-

Cont 5/7

I. 60928-65

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tions from which formulas for calculating flow parameters are obtained is presented for all four cases. For solving problem c) the point to be determined is sought as the intersection of the characteristics of the second family with the generatrix of the body. Formulas for determining flow parameters are derived for cases when the inclination angle of the characteristics is close to zero or to  $\pi/2$ . Numerical examples of solving basic problems are presented.

Chapter Three describes the general procedure for calculating the plane and axisymmetric supersonic flows around bodies of various shapes using the theory presented in Chapter Two. More detailed analysis is made of the flow past pointed airfoils, annular bodies of revolution, and pointed and blunted bodies of revolution. In each case, the initial part of the flow is calculated separately, but at a certain point, the calculation of the flow in all cases is reduced to determining flow parameters in domains bounded by the generatrix of the body, the characteristics of the second family, and the shock wave. Numerical examples of calculating the flow for all cases are presented. Some numerical results are presented in graphs.

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0

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Ch. II. Methods of characteristics -- 16  
  Problem a. Calculation of flow parameters at a point on the shock wave -- 19  
  Problem b. Calculation of flow parameters at a point in the flow field -- 22  
  Problem c. Calculation of flow parameters at a point on the generatrix of the body -- 25  
Ch. III. Calculating flows around bodies -- 29  
  Flow around pointed airfoils and annular bodies of revolution -- 29  
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  Flow around blunted bodies of revolution -- 37  
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SUBMITTED: 23Nov64

SUB CODE: ME, AS

NO REF SCH: 012

OTHER: 003

*dm*  
Card 7/7

33671

S/058/61/000/012/036/083

A058/A101

115300

AUTHOR: Naumova, I. N.

TITLE: Approximation of thermodynamic functions of air

PERIODICAL: Referativnyy zhurnal, Fizika, no. 12, 1961, 276, abstract 12D14  
("Zh. vychisl. matem. i matem. fiz.", 1961, v. 1, no. 2, 295-300)

TEXT: In order to solve the equations of the dynamics of gases by means of electronic computers, it is desirable to have the thermodynamic functions of air in analytic form. The approximations of thermodynamic-function tables (RZhFiz, 1958, no. 11, 24972; 1960, no. 8, 19909) proposed by Mikhaylov (Inzhenernyy sb., 1960, no. 28, 36; 1960, no. 31, 206) are not precise enough, for which reason it is proposed to multiply them by corrector functions. The corrector functions are expanded in Legendre polynomial series, and the series fragments are chosen as approximations. Expansion coefficients are entered in tables separately for different temperature intervals (from 2,000 to 16,800°K inclusively). The maximum relative errors in determination of density and enthalpy amount to 0.0047 and 0.0084 respectively.

L. Filippov

[Abstracter's note: Complete translation]  
Card 1/1

X

REF ID: A5 EWT(1)/EWP(m)/FCS(k)/EWA(1) Pd-4  
ACCESSION NR: AP4013392

S/CO40/64/028/001/0178/0182

AUTHORS: Krayko, A. N. (Moscow); Naumov, I. N. (Moscow); Shmy\*glevskiy, Yu. D. <sup>2</sup>  
(Moscow)

TITLE: Construction of bodies of optimal shape in supersonic flow |

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 1, 1964, 178-182

TOPIC TAGS: optimal shape, supersonic flow, minimal drag, maximal thrust, axisym-  
metric jet, Lagrange problem

ABSTRACT: Under certain simplifying assumptions of a nature too detailed to be covered here, the authors determine the regions of existence in the plane of flow of various solutions to the problem of determination of bodies with minimal drag and jets with maximal thrust when certain limitations are placed on the dimensions involved. Working basically with a jet, they also construct new solution schemes. Their solutions contain the part of the boundary extremum brought about by the dimension restriction, which was formerly lost due to the necessity, previously, of using numerical methods. Orig. art. has: 3 figures and 26 formulas.

ASSOCIATION: none

SUBMITTED: 24Oct63

SUB CODE: ME

Card 1/1

NO REF SOV: 006

ENCL: 00

OTHER: 005

NAUMOVA, I.P.; NIKURASHINA, N.I.; MERTSLIN, R.V.

Equilibrium between three liquid phases in four-component systems involving a predominant system with a chemical compound. Zhur.ob. khim. 30 no.10:3162-3166 0 '61. (MIRA 14:4)

1. Saratovskiy gosudarstvennyy universitet.  
(Systems (Chemistry))



GATSULAYEV, S.S.; KANASHCHUK, V.F.; REZNICHENKO, G.D.; NAUMOVA, K.A.

Development of a gas field with bottom water. Gaz. delo no. 11:  
3-6 '64. (MIRA 18:2)

1. Stavropol'skaya KNIL Vsesoyuznogo nauchno-issledovatel'skogo  
instituta prirodnogo gaza.

L G NAUMOVA and L V SAPRONOVA

"Investigation of the Dielectric Losses of Ceramics and Glass in Dependence on Temperature in the Ten-Centimeter Band" from Annotations of Works Completed in 1955 at the State Union Sci. Res. Inst. Min. of Radio Engineering Ind.

So: B-3,080,964

124-57-2-1978 D

Translation from. Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 71 (USSR)

AUTHOR: Naumova, L.G.

TITLE Some Problems on Secondary Flows in a Viscous Fluid  
(Nekotoryye zadachi vtorichnykh techeniy vyazkoy zhidkosti)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Physical Sciences, presented to the MGU (Moscow State University), Moscow, 1956.

ASSOCIATION: MGU (Moscow State University), Moscow

1. Fluid flows 2. Mathematics

Card 1/1

NAUMOVA, L.G.

~~SOLVING~~ Solving N.E. Zhukovskii's problem on flow of liquid in a shallow canal by means of consecutive approximations. Vest. Mosk. un. Ser. mat., mekh., astron., fiz. khim., 12 no.5:27-31 '57. (MIRA 11:9)

1. Kafedra gidromekhaniki Moskovskogo gosudarstvennogo universiteta.  
(Fluid dynamics)

НАУМОВА, Л.Г.

40-4-5/24

AUTHOR: NAUMOVA, L.G. (Moscow)TITLE: Spatial Laminar Boundary Layer on an Infinite Circular Sector  
(Prostranstvennyy laminarnyy pogranichnyy sloy na beskonechnom krugovom sektore).

PERIODICAL: Prikladnaya Mat.i Mekh., 1957, Vol.21, Nr 4, pp.478-485 (USSR)

ABSTRACT: The author presents an approximative solution of the problem concerning the motion in a laminar spatial boundary layer arising on a circular sector if the external potential flow corresponds to a rectilinear vortex which is orthogonal to the sector plane.  
At first the boundary layer equations are set up in the general case whereby the author applies the successive approximations according to Slezkin (Doklady Akad.Nauk 54, 2, 1946). In the special case of a stationary flow on of a circular sector by an incompressible liquid then in polar coordinates  $(r, \theta, y)$  the approximation equations

$$\frac{\partial u}{\partial \theta} = a^2 \frac{\partial^2 u}{\partial y^2}, \quad \frac{\partial w}{\partial \theta} = a^2 \frac{\partial^2 w}{\partial y^2} - 2(u - U_0), \quad \frac{1}{r} \frac{\partial u}{\partial \theta} + \frac{\partial v}{\partial y} + \frac{1}{r} \frac{\partial (wr)}{\partial r} = 0$$

hold, where  $U_0 = \frac{\Lambda}{r}$  denotes the velocity of the external

CARD 1/2

Spatial Laminar Boundary Layer on an Infinite Circular Sector      40-4-5/24

potential flow,  $a^2 = \frac{\nu r^2}{A} = \frac{r^2}{R}$ ,  $R = \frac{U_0 r}{\nu} = \frac{A}{\nu}$  and  $\frac{\partial p}{\partial \theta} = 0$  is presupposed. The boundary conditions are  $u=v=w=0$  for  $y=0$ ;  $u=U_0 = \frac{A}{r}$ ,  $w=0$  for  $y=\infty$ ;  $u=U_0 = \frac{A}{r}$ ,  $w=0$  for  $\theta=0$ . The system is solved with the aid of Laplace transformations; one obtains

$$\frac{u}{U_0} = \frac{2}{\sqrt{\pi}} \int_0^x e^{-\xi^2} d\xi, \quad x = \frac{y}{2a\sqrt{\theta}} \quad \text{etc.}$$

$\frac{u}{U_0}$  and  $\frac{w}{4U_0}$  only depend on the nondimensional combination

$\frac{y}{2a\sqrt{\theta}}$ . The absolute value of the minimum transverse velocity

increases proportionally with the angle  $\theta$ . The obtained expressions for the velocity components permit in the limit case to reduce the complete equations of motion of a spatial boundary layer in cylindrical coordinates to ordinary differential equations.

SUBMITTED: December 24, 1956  
 AVAILABLE: Library of Congress  
 CARD 2/2

STEPANOV, Georgiy Yur'yevich. Prinsipialni uchastiye: SIROTKIN, Ya.A.;  
NAUMOVA, L.G.; ROMANTSEVA, L.I.; SHUSTOV, S.N., red.;  
BRUDNO, K.F., tekhn. red.

[Fluid dynamics of turbomachine cascades]Gidrodinamika reshe-  
tok turbomashin. Moskva, Fizmatgiz, 1962. 512 p.

(MIRA 15:8)

(Turbomachines--Fluid dynamics)

(Cascades(Fluid dynamics))

S/124/63/000/003/028/065  
D234/D308

AUTHORS: Naumova, L. G. and Stepanov, G. Yu.

TITLE: Use of electrical simulation in the solution of the problem of torsion of cylindrical rods

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1963, 9, abstract 3V50 (Dokl. 4-y Mezvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. Sb. 1, M., 1962, 71-81)

TEXT: The authors consider the torsion of prismatic isotropic rods with simply connected cross section according to Saint-Venant. Well-known formulas of stresses and rigidity are written so as to be functions of one quantity  $\partial\varphi/\partial s$ ,  $\varphi$  being the function of the torsion and  $s$  the arc of the boundary. The authors then recommend the use of electric simulation (see G. Yu. Stepanov, Dokl. 4-y Mezvuz. konferentsii po primeneniyu fiz. i matem. modelirovaniya v razlichn. otraslyakh tekhn. May 9-16, 1957, Sb. 1) in order to establish (by points) a connection between  $s$  and the argument  $\theta$  of the

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S/124/63/000/003/028/065  
D234/D308

Use of electrical ...

points on a unit circle conformally represented on the cross-sectional domain and, substituting  $s$  by  $\theta$ , to calculate  $d\varphi/d\theta$  by graphical integration. This makes it possible to find the stresses at boundary points. Graphical integration is also required, to determine the rigidity. A well-known example of torsion of a rod with elliptical cross-section is considered. Deviations of stresses (without taking into account those of rigidity) amount to 2.5 - 3%. It is mentioned that the solution of this problem was obtained by the abstractor, A. G. Ugodchikov, in 1956 (Prykladna mekhanika, 1956, no. 2, 217-223), using another method, but that the authors had not been aware of this. [Abstractor's note: Complete translation.]

Card 2/2

~~NAUMOVA~~, L.N., kand. ekonom. nauk; SRNEYDER, V.Ye., kand. ekonom. nauk,  
red.; TYUTYUNIK, M.S., red. izd-va; NAUMOVA, G.D., tekhn.  
red.

[How to increase labor productivity and lower production costs in  
the cement industries] Puti povysheniya proizvoditel'nosti truda i  
snizheniya sebestoimosti v tsementnoi promyshlennosti. Moskva,  
Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961.  
126 p. (MIRA 14:7)

(Cement industries—Labor productivity)  
(Cement industries—Costs)

NAUMOVA, L.N.

Exercise therapy in diaphysical fractures of the bones of the forearm after intrasosseous fixation with metal nails. Ortop. travm.i protez. 22 no.1:59-64 Ja '61. (MIRA 14:5)

1. Iz Chetvertogo glavnogo upravleniya Minzdrava SSSR (nauchnyy rukovoditel' raboty - prof. D.K.Yasykov). Adres avtora: stantsiya Vostryakovo, Paveletskoy zheleznoy dorogi, sanatoriy "Podmoskov'ye".  
(ARM-FRACTURE) (EXERCISE THERAPY)

GORENKO, T. V.; NAUMOVA, L. N.

Formation of the curves of yield in elution analysis. Izv.  
vys.ucheb.zav.; pishch.tekh.no. 2:148-152 '64. (MIRA 17:5)

1. Chernovitskiy gosudarstvennyy universitet, kafedra  
fizicheskoy khimii.

SHULYNDIN, A.F., prof., doktor sel'skokhozyaystvennykh nauk;  
NAUMOVA, L.N.; KARTAVYKH, P.A.

Fertility of the first generation of wheat-rye hybrids  
depending on growing conditions and parental varieties.  
Agrobiologiya no. 3:373-378 My-Je '60. (MIRA 13:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut rasteniyevodstva,  
selektzii i genetiki, Khar'kov.  
(Wheat breeding) (Rye breeding) (Hybridization, Vegetable)

SHULYNDIN, A.F.; NAUMOVA, L.N.

Crossability of hard wheat and rye. Dokl. AN SSSR 135 no.5:1244-  
1246 D '60. (MIRA 13:12)

1. Ukrainskiy nauchno-issledovatel'skiy institut rasteniyevodstva,  
selektzii i genetiki, Khar'kov. Predstavleno akademikom N.V.  
TSitsinym.

(Wheat breeding)

(Rye breeding)

SHULYNYIN, A.F.; NAUMOVA, L.N.

Characteristics of the crossability of soft wheat with rye.  
Izv. AN SSSR. Ser. biol. no. 3:437-442 My-Je '65. (MIRA 18:5)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut  
rasteniyevodstva, selektsii i genetiki, Khar'kov.

SHNEYDER, V.Ye., kand. ekon. nauk, dots.; TUROVSKIY, I.G., prof.;  
ZAK, M.A., kand. ekon. nauk; BOGUSLAVSKIY, A.I., inzh.-  
ekon.; SANKISKIY, D.I., kand. ekon. nauk, dots.;  
ASTANSKIY, L.Yu., kand. tekhn. nauk; GUSEV, S.G., inzh.-  
ekon.; GORSKOV, V.A., inzh.-ekon.[deceased]; IL'IN, S.I.,  
inzh.-ekon.; BALDIN, S.A., inzh.-ekon.; NAUMOVA, L.N., kand.  
ekon. nauk

[Economics, organ'zation and planning for the building  
materials industry] Ekonomika, organizatsia i planirovanie  
promyshlennosti stroitel'nykh materialov. Moskva, Stroi-  
izdat, 1965. 425 p. (MIRA 18:10)



NAUMOVA, L. F.

USSR :

- Toxicology Lab.

The effect of some nutritional substances on the increase of the resistance of guinea pigs to aniline poisoning. A. I. Stutenberg, Yu. I. Shiflinger, and L. P. Naumova (Inst. Nutrition, Acad. Med. Sci. U.S.S.R.; Moscow). *Vopr. Pitanija* 13, No. 1, 21-7(1954).—Five different diets have been used to study the rates and ways of recovery of the guinea pigs from aniline (I) poisoning resulting from subcutaneous injection of 60 mg. I in sunflower oil/100 g. body wt. (toxic dose). The results indicate that ascorbic acid, nicotinic acid, lecithin, and Ca-enriched cottage cheese added to a normal diet increased the resistance of the guinea pigs against I poisoning as well as increased the rate of the detoxication of the organisms. This was shown by an increase of the blood-regenerating activity of the organism (increased hemoglobin and erythrocyte count which were decreased by the I injection), by normalization of the peroxidase activity (lowered by I) and the sugar level of blood (raised by I up to 120 mg. %, as compared with 94-103 mg. % for the control), and by the urine excretion of p-aminophenol (II) and phenol (taking place usually within 24 hrs. after the I injection) (in all 30 control animals II was found in the urine). All animals showed morphological changes of the internal organs (brain, spleen (enlarged and darkened), blood vessels, and testis and reticulo-endothelial systems) as the result of the I injection.

E. Wierbicki

Naumova, L. P.

USSR.

✓ The role of overheated fats in the formation of harmful substances. A. I. Shchegolev and L. P. Naumova (Inst. Nutrition, Acad. Med. Sci. U.S.S.R., Moscow). *Voprosy Pitanija* 13, No. 2, 41-5 (1954).—A crit. review is given of non-Soviet scientific literature concerning the role of overheated fats and cholesterol on the formation of harmful substances during the prepn. of fat-contg. foods.  
E. Wierbicki

CH  
①

NEUMOVII, R.P.

SHILLINGAR, Yu.I.; NAUMOVA, L.P.; PEKERMANN, S.M.

Experiments on monkeys on the effect of small doses of DDT.  
Vop.pit.14 no.5:41-44 S-O '55 (MLRA 6:11)

1. Is Instituta pitaniya AMN SSSR (Moskva) i Mediko-biologicheskoy stantsii AMN SSSR (Sukhumi)  
(DDT, effects,  
small doses in monkeys)

HA 01.01.01, L.P.

✓ Blastomogenic effect of certain compounds inhibiting the sprouting of vegetables during storage. J. M. Shabad and

2

L. P. Naitinova (Nutrition Inst., Acad. Med. Sci. U.S.S.R., Moscow). *Voprosy Pitaniya* 15, No. 2, 27-32 (1958).

In a series of experiments with white rats it was found that the substances of the urethan group, Herbicide No. 2 (isopropylphenylcarbamate) and the so-called prepn. No. 3 (given per os or subcutaneously), stimulate the formation of lung tumors (adenomas). The herbicide, Reoptal (methylphenylcarbamate) was harmless in this respect. No abnormal tissue growth was found in or on the mammary glands, liver, skin, ovaries, and blood-forming tissues. It was confirmed that ethylcarbamate is a very strong blastomogenic substance while Me-1-naphthylacetate is harmless. Consequently, care should be taken in selecting the herbicides for weed control or for the inhibition of vegetable sprouting during storage. Certain food colors, like Butter Yellow and o-aminoacetotoluene, also stimulate the tumor formation; only the dye, Sudan III, has been found to be entirely harmless.

ML

E. Mierbicki

NAUMOVA, L.P.

Effect of grain treated with chlorophyllin on the fat  
content of the liver in rats. B. M. Vashil'eva, V. P. Hozovskaya, and  
L. F. Naumova (Nutrition Inst., Acad. Med. Sci. U.S.S.R.)

3

Wistar rats were fed with the treated grain or with the fat  
acid from the wheat seeds, thus receiving 10 mg/l per kg  
body wt., did not differ from the control animals. This  
conclusion is based on the visual observation of the animals  
during 2 1/4 (fat feeding) and 8 months (seed feeding) and on  
the data of histology, biochemistry, and sugar in blood,  
urinary N, and glycogen, fat, and phospholipids in the  
liver of the control and experimental animals. B. Vashil'eva

NAUMOVA, L.P.

SHILLINGER, Yu.I., kand.med.nauk; NAUMOVA, L.P., starshiy laborant

Hygienic evaluation of cereals following treatment of crops with  
2,4-D [with summary in English]. Gig. i san. 22 no.7:33-37 J1 '57.  
(MIRA 10:10)

1. In Instituta pitaniya AMN SSSR.

(HERBICIDES, effects,

2,4-d on cereals, hyg. aspects (Rus))

(CEREALS,

eff. of 2,4-d, hyg. aspects (Rus))

ORLOVA, N.V.; MAUMOVA, L.P.; KUKEL' Yu.P.

Hygienic evaluation of potatoes harvested from fields treated with chlordan [with summary in English]. Vop.pit. 17 no.6:49-53 (MIRA 12:2) N-D '58.

1. Iz otdela pishchevoy gigiyeni (zav. - prof. F.Ye. Budagyan) Instituta pitaniya AMN SSSR, Moskva.

(CHLORDAN, toxicity,

evaluation of potatoes harvested from pretreated fields (Rus))

(POTATOES,

toxicol. evaluation of potatoes harvested from chlordan-pretreated fields (Rus))

NAUMOVA, L.P.

Physiological principles and hygiene of the nutrition of the healthy  
and sick person. Vest. AMN SSSR 14 no.9:61-64 '59. (MIRA 13:1)  
(NUTRITION)



ZHUKOVSKIY, M.A., kand.med.nauk; NAUMOVA, L.P., kand.med.nauk

Achievements of research institutes of the Academy of Medical Sciences  
in 1959. Vest. AMN SSSR 15 no.8:62-74 '60. (MIRA 13:11)  
(MEDICAL RESEARCH)

KNORRE, D.G.; NAUMOVA, I.I.; KAMENSKAYA, I.S.

Reaction of aminoacylated transfer RNA with ... in  
the presence of water-soluble carbodiimide. ...  
no.5:993-998 S.O. 1955. (YORA 19:10)

1. Institut organicheskoy khimii Sibirskogo nauchnogo tsentra  
Novosibirsk.

LOBANOV, D.I.; KOROBKIHA, G.S.; BEYUL, Ye.A.; HAUMOVA, L.V.

Improvement of diets for peptic ulcer patients through various technological methods of food processing. Zhur.ob.biol. 20 no.2:77-81 Nr-Apr '59. (MIRA 12:5)

1. Iz tekhnologicheskoy laboratorii (zav. - prof.D.I.Lobanov) i otdeleniya zheludochno-kishechnykh zabolevaniy (zav. - prof. O.L.Gordon [deceased]) kliniki lechebnogo pitaniya ANS SSSR, Moskva.

(DIETS, in var. dis.  
peptic ulcer (Rus))  
(PEPTIC ULCER, ther.  
dietother. (Rus))

1. 64116-65 EWA(k)/FBD/ENG(r)/EWT(l)/EEO(a)-2/T/EEC(b)-2/EWP(k)/EWA(h)/  
 ACCESSION NR: AP5021148 EWA(m)-2 SOTB/ JR/0386/65/002/001/0037/0041  
 IJP(c) WG

AUTHOR: Mikaelyan, A. L.; Korovitsyn, A. V.; Naumova, L. V. <sup>44</sup> 45

TITLE: Laser with a directivity pattern whose width corresponds to the diffraction range <sup>44</sup> 25,44

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 1, 1965, 37-41, and top half of insert A at rear of journal

TOPIC TAGS: laser, laser resonator, resonator mode, mode selection, resonator configuration, diffraction loss, resonator loss, confocal resonator, helium neon laser, gas laser

ABSTRACT: A method for selecting the resonator mode most suitable for laser action is based on the choice of a resonator in which the diffraction losses due to the fundamental modes are essentially different. The proposed resonator consists of plane and spherical mirrors (with radius of curvature  $R$ ) separated by a distance  $l \approx R$ . At  $R > l$  the configuration is equivalent to a confocal system. The diffraction losses of such a resonator are determined by the equiv-

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ACCESSION NR: AP5021148

alent Fresnel number, which can be reduced considerably through suitable selection of  $L$ . Thus, when  $L$  is sufficiently comparable to  $R$ , the  $Q$  of the fundamental mode is substantially higher than that of other modes, and a single-mode laser action is achieved. The above conclusions were confirmed experimentally using a helium-neon laser with a discharge tube 1100 mm long and 4 mm in diameter. Laser action occurred at 0.63 and 1.15  $\mu$ , depending on the mirror used ( $R_{\text{spherical}} = 1300$  mm). The dependence of the laser power output and the number of excited modes ( $Q$ ) on the resonator length was investigated and the results are shown in Fig. 1 of the Enclosure, where the occurrence of a single-mode generation is indicated by an arrow. At that instant ( $L/R = 0.975$ ), the output power attains 0.7—0.8 of the maximum and in this case was 4 Mw and 2.5 Mw at 1.15  $\mu$  and 0.63  $\mu$ , respectively. The single-mode generation ensures a narrow directivity pattern, the width of which corresponds to the diffraction range. This pattern was investigated from the plane mirror side, and the field distribution in the focal plane of the lens was measured. The results for different values of  $L/R$  are presented. Fig. 2 shows the directivity patterns for a multimode oscillation (curve 1,  $L/R = 0.880$ ).

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L 64155-65

ACCESSION NR: AP5021148

and two fundamental mode oscillations (curves 2 and 3, L/R = 0.975 and 0.987, respectively). The computed and experimental values of the pattern width are in a good agreement. Orig. art. has: 3 figures. [YK]

ASSOCIATION: none

SUBMITTED: 21May65

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 003

ATD PRESS: 4070

Card 3/4

D 64196-65

ACCESSION NR: AP5021148

ENCLOSURE 01

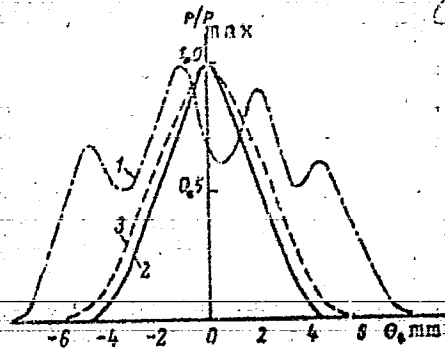
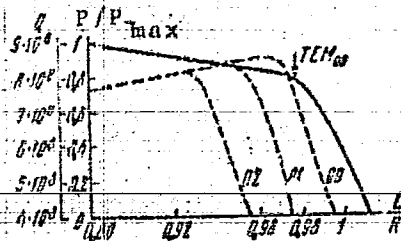


Fig. 1. Dependence of laser power output and number of excited modes on resonator length

Fig. 2. Directivity patterns for a multimode oscillation and two fundamental mode oscillations

Card: 4/4

I 36194-66 FBD/EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WG  
ACC NR AP6011448

SOURCE CODE: UR/0109/36/011/004/0668/0674

56  
3

AUTHOR: Korovitsyn, A. V.; Naumova, L. V.; Lebedinskaya, Z. T.

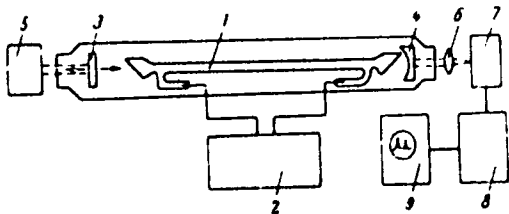
ORG: none

TITLE: Mode selection in the semiconcentric resonator of a gas laser *vs*

SOURCE: Radiotekhnika i elektronika, v. 11, no. 4, 1966, 668-674

TOPIC TAGS: gas laser, laser mode

ABSTRACT: A new method of mode selection involving a special tuning of a semi-concentric resonator was investigated. The resonator was formed by spherical and plane mirrors spaced close to the spherical-mirror radius. The exact resonator length was very essential. A He-Ne laser (see figure) could, depending on the mirrors used, emit either an infrared 1.15- $\mu$  or red 0.63- $\mu$  radiation. It comprised: 1 - discharge tube; 2 - 3-kv supply;



Experimental He-Ne laser

UDC: 621.378.335.092:621.391.84

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L 36194-66

ACC NR: AP6011448

3 - plane mirror; 4 - spherical mirror; 5 - calorimeter; 6 - focusing lens; 7 - FEU-62 photomultiplier; 8 - UR3 amplifier; 9 - SCh-8 or SCh-9 spectrum analyzer. The discharge tube was 1100 mm long; the spherical-mirror radius, 1300 mm. With the inter-mirror distance considerably shorter than the spherical-mirror radius, several modes were observed. When this distance was made close to the radius, only one TEM<sub>00</sub>-mode remained; the power of this mode constituted 0.75--0.8 maximum laser power. Thus, the mode selection is highly efficient in a near-semiconcentric system. Calculation of diffraction loss and Q-factor is presented. "The authors wish to thank A. L. Mikaelyan for guidance of this project." Orig. art. has: 8 figures and 8 formulas.

SUB CODE: 20 ~~27~~ / SUBM DATE: 27Feb65 / ORIG REF: 000 / OTH REF: 004

Card 2/2 ML

KUDRIN, A.G.; NAUMOVA, L.V.

Cancer of the skin of the dorsum manus with bone involvement. Vest.  
rent. 1 rad. 37 no.2:68-69 Mr-Ap '62. (MIRA 15:4)  
(HAND—CANCER)

**FLEKSER, S.Ya.**, kandidat meditsinskikh nauk; **NAUMOVA, M.A.**

Infectious hepatitis (Botkin's disease) in children. Vop.okh.mat.  
i det. 1 no.4:38-44. J1-Ag '56. (MIRA 9:9)

1. Iz Detskoy gorodskoy klinicheskoy bol'nitsy No.2 imeni Rusakova  
(glavnyy vrach - sasluzhennyy vrach RSFSR dotsent V.A.Krushkov)  
Moskva.

(HEPATITIS, INFECTIOUS) (CHILDREN--DISEASES)

Naumova, M.A.

1944-1945

Work on the development of the first Soviet atomic bomb  
in 1944-1945. (M. A. Naumova)

1. In 1944-1945, M. A. Naumova worked on the development  
of the first Soviet atomic bomb. She was involved in the  
design and construction of the bomb's core.

2. She worked on the development of the bomb's core  
in 1944-1945. She was involved in the design and  
construction of the bomb's core.

3. She worked on the development of the bomb's core  
in 1944-1945. She was involved in the design and  
construction of the bomb's core.

*N. A. MAKOVA, M.A.*

SEAPIRO, S.L.; MAKOVA, M.A.; GOL'DBERG, R.V.

Role of children's hospitals in the struggle against dysentery.  
Podiatria no.5:73-78 My '57. (MIRA 10-10)

1. Iz Moskovskoy detskoy klinicheskoy bol'nitsy imeni I.V.Russkova  
(glavnyy vrach - zasluzhennyy vrach RSFSR dotsent V.A.Kruzhkov)  
(CHILDREN--HOSPITALS AND ASYLUMS) (DYSENTERY)

*11/11/00*  
BORISOV, A.I., inzhener; NAUMOVA, M.F., inzhener; ROGATKIN, H.S.,  
kandidat tekhnicheskikh nauk; SEKUNSKIY, Ye.P., kandidat  
tekhnicheskikh nauk

Mechanizing the selection and preparation of cut peat samples  
on a TP type peat loader. Torf.prom.32 no.5:20-21 '55.  
(MLRA 8:10)

1. Moskovskiy torfyanoy institut  
(Peat machinery)

SHAPIRO, I.S., inzhener; POZDNYAKOV, B.N.; MAJMOVA, M.M.

Ways to increase the straightness of sliver. Tekst.prom.16 no.3:  
38-40 Nr '56. (Carding) (MLRA 9:6)

GOPIUS, A.Ye.; HAIMOVA, N.M.

Developing measures to increase desincification resistance of brass strips for automobile radiator tubes. Trudy Giprotvetmetobrabotka no. 18:176-196 '60. (MIRA 13:10)  
(Brass—Metallography) (Corrosion and anticorrosives)



GOPIUS, A.Ye., kand.tekhn.nauk; MINKIN, M.L., kand.tekhn.nauk; NAUMOVA,  
M.M.; KATS, Yu.A.; KHOKHRYAKOV, A.N.; KOSYAKOVA, V.I.

Investigating materials for radiator pipes of automobile engines.  
Avt.prom. 28 no.5:15-17 My '62. (MIRA 15:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut  
obrabotki tsvetnykh metallov, Gosudarstvennyy soyuznyy ordena  
Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy  
i avtomotorny institut i Gor'kovskiy avtozavod.  
(Automobiles--Radiators) (Brass--Testing)

L 37131-66 EWT(d)/EWT(m)/ENP(w)/ENP(v)/ENP(j)/T/ENP(k) LJP(c) WM/EM/GD/RM  
ACC NR: AT6011749 SOURCE CODE: UR/0000/65/000/000/0041/0058

AUTHOR: Aleksandrov, A. Ya. (Doctor of technical sciences, Professor); Naumova, M. P.

ORG: None

TITLE: Optimal parameters of sandwich panels and sloping shells with filler of nonreinforced and reinforced foamed plastic under compression

SOURCE: Raschety elementov aviatsionnykh konstruksiy, vyp. 3: Trekhsloynnye paneli i obolochki (Calculation of aircraft construction elements, no. 3: Sandwich panels and shells). Moscow, Izd-vo Mashinostroyeniye, 1965, 41-58

TOPIC TAGS: shell structure, sandwich structure, reinforced shell structure

ABSTRACT: A large number of papers have been published on the problem of determining optimal (from the point of view of a minimum-weight structural design) panel parameters. However, without exception, in all of these studies the solution of the problem failed to take into consideration the strength of the filler, on the supposition that filler failure could not occur; this despite the fact that it has been amply demonstrated in a number of experimental works that, with severe stresses in the outer layers, the magnitude of the load which a foam-plastic-filled sandwich plate can withstand is more often than not limited pre-  
Card 1/3 UDC 629.13.011.1:678.632:539.4

L 37131-66

ACC NR: AT6011749

cisely by this very filler strength factor. In the present article, the optimum problem is solved with due consideration of the aspect of filler strength. The paper is in six parts. An analysis is given of longitudinal compression of an infinitely wide sandwich plate with identical outer layers and having a filler of foamed plastic, both nonreinforced and reinforced with ribbing arranged in the direction of the compression. The external layers, the foamed plastic filler, and the reinforcing ribs are glued together. A solution is provided to the problem of selecting plate parameters which will satisfy the requirement of minimum plate weight for prescribed plate length and load for situations when both loaded edges are freely suspended and both are clamped, or when one is free and the other clamped. Conditions providing for overall plate stability, local stability of outer layers, and filler strength are satisfactorily fulfilled. Here the authors assumed that plate strength conditions are met if the magnitude of the load acting on the panel equals  $2/3$  of the critical load for its overall stability, if the stresses on the outer layers do not exceed the limit of proportionality of the material, and if reduced stresses in the filler do not exceed permissible values. An outline is given for an approximate method by means of which graphs, constructed for the determination of optimum parameters of compressed infinitely wide sandwich panels, can be employed for an approximate determination of these parameters for various planar configurations and also when the edges of the compressed plates and sloped shells are

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ACC NR: AT6011749

fastened under various conditions. Orig. art. has: 9 figures and 18 formulas.

SUB CODE: 13 / SUBM DATE: 25Oct65 / ORIG REF: 003 / OTH REF: 008

Card 3/3 of

L 47016-56 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) ...

ACC NR: AR6027165 SOURCE CODE: UR/0264/66/000/005/A008/A008

AUTHOR: Aleksandrov, A. Ya. ; Naumova, M. P.

38  
B

TITLE: Optimum parameters of three-layered plates and flat shells with honeycomb fillers under compression

26 26

SOURCE: Ref. zh. Vozdushnyy transport, Abs. 5A47

REF SOURCE: Sb. Raschety elementov aviats. konstruktsiy, Vyp. 4, M., Mashinostroyeniye, 1965, 19-41

TOPIC TAGS: flat plate, honeycomb filler, shell, compression

ABSTRACT: The problem is solved for determining the optimum (minimum weight) parameters of three-layered plates and flat shells under longitudinal compression. Plates and shells with identical outside layers and honeycomb fillers with regular hexagon-shaped cells were studied. It was considered that the critical values of a longitudinal compressible load per unit of width of a panel, the panel material, and size in the design were known. An example was

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UDC: 629.13:539.4

L 47016-66

ACC NR: AR6027165

presented for calculating a cylindrical panel which is rectangular in design and simply supported along its outline. Orig. art. has: 16 figures. [Translation of abstract] [NT]

SUB CODE: 11/

Card 2/2 vmb

L 47017-66 EWT(d)/EWT(m)/EWP(w)/EWP(k) IJP(c) EM/RM  
ACC NR: AR6027166 SOURCE CODE: UR/0264/66/000/005/A008/A008

AUTHOR: Bryukker, L. E.; Naumova, M. P. 18  
B

TITLE: Symmetrical bend of round three-layered plates with light weight fillers 24

SOURCE: Ref. zh. Vozdushnyy transport, Abs. 5A48

REF SOURCE: Sb. Raschety elementov aviats. konstruktsiy. Vyp. 4, M., Mashinostroyeniye, 1965, 86-90

TOPIC TAGS: bending, plate, filler, longitudinal bend, lateral bend

ABSTRACT: Equations are derived for longitudinal and lateral bend of three-layer round plates under axisymmetrical deformation. The solution of problems of bending of round plates, in consideration of forces acting in the plane of plate, may be of interest for the calculation of three-layer plane-baffle plates of hermetic cabins and tank bottoms, working under internal or external pressures. With the assumption that the bending rigidity of outer layers is equal to zero,

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UDC: 539.4:620.1

L 47017-66

ACC NR: AR6027166

equations are obtained for bends and stresses at lateral bend of round three-layered plates. Orig. art. has: 1 figure. Bibliography of 2 titles. [Translation of abstract] [NT]

SUB CODE: 11/

Card 2/2

vmb



NAIMOVA, M.V., inzh.

Topical exhibit of industrial manufacture and assembly of pipe  
in industrial construction. Biul. stroi. tekhn. 18 no.10:  
45-47 0 '61. (MIRA 17:3)

GAL'BINSHTEYN, Z.N., inzh.; IL'INA, N.F., inzh.; NAUMOVA, M.V., inzh.;  
FILINA, T.A., inzh.; KHODOS, M.M., inzh.; GOL'DMAN, Zh.I.;  
PATALAKH, V.G.; SNESAREV, M.M.; VUL'FSON, Ye.S., inzh.;  
KONSTANTINOVA, L.A., inzh.; SKOBELEVA, A.M., inzh.; TEL'NOVA,  
Ye.V., inzh.; KHEYFETS, L.S., inzh.; SELENEVICH, A.S.;  
NEDOVESENKO, M.V.; VOLKOVA, A.Ye.; NOVITSKIY, L.M., nauchn.red.;  
NEFEDOV, S.F., red.; ROSTOTSKIY, V.K., red.; GORDEYEV, P.A., red.  
izd-va; YUDINA, L.A., red.izd-va; VDOVENKO, Z.I., red.izd-va;  
GOL'BERG, T.M., tekhn.red.; KOROBEKOVA, N.I., tekhn. red.

[Album of new construction equipment recommended for adoption]  
Al'bom novoi stroitel'noi tekhniki, rekomenduemoi k vnedreniiu.  
Moskva, Gosstroizdat, 1963. No.1. [Industrial construction] Pro-  
myshlennoe stroitel'stv. 116 p. No.3. [Construction for transporta-  
tion purposes] Transportnoe stroitel'stvo. 91 p. No.4. [Rural  
construction] Sel'skoe stroitel'stvo. 71 p. No.5. [Building  
materials, products, and elements] Stroitel'nye materialy, izde-  
liia i konstruktsii. 41 p. No.8. [Construction and road machinery  
and equipment] Stroitel'nye i dorozhnye mashiny i oborudovanie.  
104 p. (MIRA 16:8)

(Building materials) (Road machinery)  
(Construction equipment)

BUBENIN, I.G.; TIMASHRV, V.V.; NAUMOVA, N.

Effect of the system of clinker firing on the strength of cement.  
Trudy MKHTI no.27:300-305 '59. (MIRA 15:6)  
(Cement)

NAUMOVA, N. A., Candidate Vet Sci (diss) -- "Changes in the nervous elements in the skin during tuberculosis in cattle, and some problems of their topographic histology". Khar'kov, 1959. 15 pp (Min Agric USSR, Khar'kov Vet Inst), 200 copies (KL, No 26, 1959, 127)

DUNIN, M.S., prof.; KHOKHRYAKOV, M.K., prof.; POPOVA, T.T., starshiy nauchnyy sotrudnik; NAUMOVA, N.A., kand.sel'skokhoz.nauk

Outstanding scientists. Zashch. rast. ot vred. i bol. 8 no.12:4-7  
D '63. (MIRA 17:3)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya im. Timiryazeva (for Dunin). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut l'na (for Popova). 3. Vsesoyuznyy institut zashchity rasteniy (for Naumova).

NAUMOVA, N. A.

"Contribution of the Knowledge of the Influence of Soil Factors on the  
Development of Club Root in the Cruciferae." Trudy po Zashchite Rasetenii.  
Seria 2, no 3, 1933, pp. 32-50. 423.92 L54P

So: Sira-Si-90-53, 15 Dec. 1953

NAUMOVA, N. A.

"Stem Spot of Flax Caused by *Ascochyta linicola* Naum. et Vessil'evskii."  
Trudy po Zashchite Rastenii, Seria 2, vol. 5, no. 1, 1932, pp. 114-160.  
423.92 L54P

So: Sira-Si-90-53, 15 Dec. 1953

NAUMOVA, N. A.

"On Forecasting the Appearance of *Phytophthora infestans* on the Potato,"  
Zashchita Rastenii, no. 3, 1935 pp. 51-54. 421 P942

So: Sira-Si-90-53, 15 Dec. 1953



NAUMOVA, N A.

"The Influence of Temperature and Humidity on the Incubation Period of  
Puccinia triticina," Zashchita Rastenii, no. 5, 1935, pp. 33-35. 421 P942

So; Sira-Si-90-53, 15 Dec. 1953

NAUMOVA, N. A.

"Dependence of the Development of Yellow Rust of Wheat on Meteorological Factors," Itogi Nauchno-Issledovatel'skikh Rabot Vsesoiuznogo Instituta Zashchity Rastenii za 1935 Goda, 1936, pp. 64-65. 423.92 L541

NAUMOVA, N. A.

"Influence of Climatic Conditions upon Phytophthora in Potatoes,"  
Itozi Naushno-Issledovatel'skikh Rabot Vsesoiuznogo Instituta Zashchity  
Rastenii za 1935 Goda, 1936, pp. 68-69. 423.92 L541

So: Sira-Si-90-53-, 15 Dec. 1953

1972  
Wheat/Agriculture - Wheat, Spring  
Rust, Brown

Effect of Potassium Feeding on Reducing the Liability  
of Spring Wheat's Becoming Infected With Brown  
Rust, N. A. Naumova, Cand Agr Sci, All-Union Sci Res  
Inst of Plant Protection, 3 PP

"Dokl V-s Ak Selkhoz Nauk" No 10

Determines effect of potassium feeding on resistance  
to brown rust of three types of spring wheat, two or-  
dinarily susceptible and one already resistant. Sus-  
ceptible types showed sharp increase in resistance  
after normal dose of potassium, and resistant type

1972

Wheat/Agriculture - Wheat, Spring (Contd) Oct 49

Indicated increased resistance after triple dose.  
Includes table compiled from tests on all three  
types.

1972

NAUMOVA, N. A.