S/057/60/030/008/017/019
B019/B060

AUTHOR: Lapin, Yu. V.

TITLE: Friction and Heat Exchange in a Compressed Turbulent Boundary Layer on a Plate in the Presence of a Led-in Substance

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol.30, No.8, pp.984-993

TEXT: In the introduction, the author refers, among other things, to similar experiments made with incompressible gases by L. Ye. Kalikhman (Ref. 7). The present paper deals with the study of friction and heat exchange of a turbulent compressed boundary layer on a porous plate with a led-in foreign substance. The analysis is made on the basis of boundary layer equations in two-component gas mixtures, on the assumption of the leading-in rate of the foreign substance being sufficiently low so as to secure a persistent turbulent boundary layer, while no chemical reaction is allowed to occur, and the specific heat of the gas mixture can be regarded as being constant. Moreover, the Prandtl- and the Schmidt number are assumed to be equal to unity. The author proceeds from differential equations (1) to (3),

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84733

S/057/60/030/010/013/019
B013/B063

11.9200
11.7200

AUTHOR: Lapin, Yu. V.

TITLE: Friction and Heat Exchange in a Compressible, Turbulent Boundary Layer in the Presence of Chemical Reactions Caused by the Introduction of a Foreign Substance

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 10, pp. 1227 - 1237

TEXT: The present paper deals with friction and heat exchange in a compressible, turbulent boundary layer on a plate in the presence of chemical reactions. It is assumed that the rate of the chemical reactions caused by the admixture of a foreign substance is infinitely high compared to the diffusion rate, i.e., $v_r \gg v_d$ (1). This assumption makes it possible to consider the reaction zone (front of the flame) in the boundary layer to be a surface whose diameter is approximately infinitely small compared to the thickness of the boundary layer. A reaction of the type (1) has only one plane. The laminar and turbulent Prandtl and Lewis numbers are assumed to be equal to one. For the calculation of integral characteristics of the

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Friction and Heat Exchange in a Compressible, S/057/60/030/010/013/019
Turbulent Boundary Layer in the Presence of B013/B063
Chemical Reactions Caused by the Introduction of a Foreign Substance

boundary layer it is sufficient to know the relationship of the concentration and the temperatures with the longitudinal velocity in the boundary layer. The foregoing conditions make it possible to extend the relationship between concentration and velocity established in Ref. 1 for a laminar boundary layer to the case of a turbulent boundary layer. Next, the author suggests a method for the calculation of the relationship between temperature and velocity in the boundary layer, and for the derivation of equations for the state of the gas mixture and for the density distribution in the boundary layer. (53) was obtained from the solution of the pulse equation. It may be used to calculate the friction on a plate located in a compressible gas, in the presence of chemical reactions caused by the admixture of foreign substances on the porous surface. The quantity G contained in (53) can be calculated only if the viscosity of the gas mixture is known. Formulas for this calculation have been suggested by several authors. The most exact formulas were published by Hirschfeld (Ref. 8), which, however, require extensive calculations. In many cases it is more convenient to use simpler relations for this purpose, one of which (56) was suggested by G. Yu. Stepanov in Ref. 9.

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Friction and Heat Exchange in a Compressible, Turbulent Boundary Layer in the Presence of Chemical Reactions Caused by the Introduction of a Foreign Substance

S/057/60/030/010/013/019
B013/B063

The dynamic viscosity of a pure gas may be calculated from Sutherland's well-known formula (58). The heat current is calculated from relation (59) which was derived in Ref. 1. According to the Reynolds analogy, the heat transfer coefficient C_h may be expressed in terms of the friction coefficient $C_h = C_f/2$ (60) which is determined by (53). The author thanks Professor L. G. Loytsyanskiy for his assistance in the work. There are 10 references: 9 Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: May 27, 1960

Card 3/3

LAPIN, Yu. V.

Report presented at the Conference on Heat and Transfer.
Minsk, USSR, 5-10 June 61.

RN-2852
54

253. S. I. Anisimov, T. L. Perelman, Diffusion of Charged Particles at the Presence of Recombination

254. T. L. Perelman, On Heat Transfer in Laminar Flow in the Inlet Part of a Tube

255. I. G. Portnov, Solution of Some Problems With Phase Conversions by Operational Calculus

256. L. M. Simuni, Numerical Solution of Some Problems of Motion of a Liquid With Variable Viscosity

257. S. L. Detkov, On Conformal Transformation of Radiations Fields in Vacuum

258. Yu. A. Samoylovich, Calculation of Heating of Rectangular Bodies According to Technological Conditions

259. I. R. Mikk, Emissivity of Cylindrical Radiating Volume

260. V. N. Timofeev, V. M. Malkin, F. R. Shklyar, Theory of Regeneration Heat Exchanger Design

261. E. I. Teubman, On Calculation Method of Heat Transfer Through the Wall at Change of the Aggregation State of One or Both Heat Agents

262. A. V. Kavaderov, Yu. A. Samoilovich, V. N. Kalugin, Regularities of Heating of the Simplest Shapes by Radiation and Convection

263. G. L. Babukha, Peculiarities and Some Results of Thermal Treatment Investigations of Polydispersed Fluidized Materials

264. L. S. Klyachko, Heat and Mass Transfer at Joint Free and Forced Convection

265. Yu. V. Lapin, Heat and Mass Transfer at Turbulent Flow of Compressible Gas at Foreign Substance Supply

266. A. S. Ginevsky, E. E. Solodkin, Influence of Transversal Curvature of the Surface on Heat Transfer Rate of Axi-symmetrical Bodies and Ducts

267. A. A. Gukhmanov, On the Heat and Mass Transfer Theory at Convective Motion of Liquid

268. V. I. Subbotin, M. Kh. Ibragimov, B. V. Nomofilov, Measurement of Temperature Turbulent Pulsations in a Liquid Flow

269. A. A. Pomerantsev, On the Theory of Fusion and Burning of a Body (The Stephan Problem)

29916
S/594/61/000/000/004/011
D234/D303

10.3200
17.4430
26.2181

AUTHOR: Lapin, Yu.V.

TITLE: Mass and heat exchange in a turbulent flow of compressed gas in case of supply of a heterogeneous substance

SOURCE: Soveshchaniye po teplo- i massoobmenu. Minsk, 1961, tezisy dokladov i soobshcheniy (Dopolneniye), 34-35

TEXT: The author considers the problem of friction, mass and heat exchange in a turbulent gas-dynamical boundary layer at a plane plate with porous surface in the presence of supply of a heterogeneous substance. In constructing the solution, a two-layer scheme of the boundary layer is taken (laminar sublayer - turbulent core). The solution is obtained for arbitrary Prandtl and Schmidt numbers. However, owing to the two-layer scheme taken here, the application of the solution obtained should be restricted to the interval of Prandtl numbers not excessively different from 1. The

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Mass and heat exchange...

substance introduced is supposed to be inert with respect to the gas of the main stream. Gas in the boundary layer is considered as a binary mixture of air and the gas which is introduced. Specific heats of each gas are supposed to be constant and independent of temperature. The equations of the boundary layer are formulated in Crocco's variables, and the analysis is made supposing the presence of "quasi-stabilized" motion, i.e. motion in which the profiles of complete enthalpies and concentrations in every section depend on the velocity only. The relation between the profile of the concentrations and that of velocities in the laminar sublayer is found by direct integration of the equation of substance transport. The relation between the profile of complete enthalpies and that of velocities in the laminar sublayer is looked for in the form of a series of powers of the longitudinal velocity; the coefficients of the series are determined from boundary conditions. In constructing the solution a process is used which allows one to avoid the formulation of the "law of resistance". The coefficient of heat transfer is determined on the basis of Reynolds' analogy. An expression for

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the friction coefficient is obtained in closed form. According to the methods exposed, calculations have been made for different Prandtl and Schmidt numbers; the results are compared with experimental data. [Abstracter's note: Essentially a complete translation]

ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

Card 3/3

30104
S/057/61/031/011/019/019
B125/B102

26.2181
AUTHOR: Lapin, Yu. V.

TITLE: Mass and heat exchange in a turbulent flow of a compressible gas with supply of foreign substance

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 11, 1961, 1395-1406

TEXT: Unlike in a previous paper of the same author (ZhTF, XXX, 8, 984, 1960), the author discusses here the laminar flow near the surface at $Pr \neq Sc \neq 1$ which is of special importance for mixtures with light gases. Each component of the gas at the boundary layer is assumed to be constant and independent of temperature. If the turbulent analogies of the Prandtl number and the Schmidt number are set equal to unity, one obtains a similarity of the velocity fields and the fields of total enthalpies and concentrations in the turbulent core. Thermodiffusion and barodiffusion are neglected when calculating the diffusion rate. The differential equations (equations of continuity, momentum, mass and energy conservations) for the averaged steady plane motion of a two-component gas with a turbulent boundary layer read:

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Mass and heat exchange...

$$\frac{\partial}{\partial x}(\rho u)+\frac{\partial}{\partial y}(\rho v)=0, \tag{1}$$

$$\rho u\frac{\partial u}{\partial x}+\rho v\frac{\partial u}{\partial y}=\frac{\partial}{\partial y}\left[(\mu+\rho\varepsilon)\frac{\partial u}{\partial y}\right]=\frac{\partial \tau}{\partial y}, \tag{2}$$

$$\rho u\frac{\partial H}{\partial x}+\rho v\frac{\partial H}{\partial y}=\frac{\partial}{\partial y}\left[\left(\frac{\mu}{\mathrm{Pr}}+\rho\varepsilon\right)\frac{\partial H}{\partial y}+\mu\left(1-\frac{1}{\mathrm{Pr}}\right)\frac{\partial}{\partial y}\left(\frac{u^2}{2}\right)+\right.$$
$$\left.+\rho D_{12}\left(1-\frac{\mathrm{Sc}}{\mathrm{Pr}}\right)(c_{p_1}-c_{p_2})\,T\frac{\partial z}{\partial y}\right], \tag{3}$$

$$\partial u\frac{\partial z}{\partial x}+\rho v\frac{\partial z}{\partial y}=\frac{\partial}{\partial y}\left[\left(\frac{\mu}{\mathrm{Sc}}+\rho\varepsilon\right)\frac{\partial z}{\partial y}\right]. \tag{4}$$

Here, x, y = coordinates, u, v = velocity components, ρ = gas density, μ = coefficient of laminar viscosity, ε = exchange coefficient for turbulent motion, H = total enthalpy, T = absolute temperature, τ = friction stress, D_{12} = coefficient of mutual diffusion, z = mass concentration of the substance introduced. The subscript 1 marks the quantities of the principal flow, the subscript 2 the quantities referring to the substance

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Mass and heat exchange...

introduced. Quantities without subscripts refer to the mixture. For the quasisteady flow in the laminar sublayer,

$$\frac{\partial \tau}{\partial u}\frac{dH}{du}=\frac{\partial}{\partial u}\left\{\tau\left[\frac{1}{\mathrm{Pr}}\frac{dH}{du}+u\left(1-\frac{1}{\mathrm{Pr}}\right)+\left(\frac{1}{\mathrm{Sc}}-\frac{1}{\mathrm{Pr}}\right)(c_{p_1}-c_{p_2})\,T\,\frac{dz}{du}\right]\right\}, \quad (8)$$

and

$$\tau\frac{d^2z}{du^2}=(\mathrm{Sc}-1)\frac{\partial \tau}{\partial u}\frac{dz}{du}. \quad (9)$$

follow after transition to the Crocco variables ξ and u. In this case, the profiles of total enthalpies and concentrations are always independent of ξ. The boundary conditions are discussed; they are $u = 0$, $v = v_w$, $z = z_w$, $H = H_w$, $\varrho = \varrho_w$ with $y = 0$ for the wall, and $u = U_\infty$, $z = 0$, $H = H_\infty$, $\varrho = \varrho_\infty$ with $y = \infty$ for the outer boundary of the boundary layer. The friction stress in the boundary layer is written as usual: $\tau = \tau_w + \varrho_w v_w u$. For Pr = Sc = 1, the viscosity of the laminar gas mixture is calculated by the formula $\mu = \sqrt{\frac{m_2}{m}}\left[\frac{z}{\mu_2}+\frac{1-z}{\mu_1}\sqrt{\frac{m_2}{m_1}}\right]^{-1}$ (18), and the analogous formula

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of Reynolds reads: $c_f/(c_f)_{v=0} = c_h/(c_h)_v = 0$ (20). Here, m = molecular weight, and c_h = heat transfer coefficient. Further,

$$\frac{c_h}{(c_h)_{r=0}} = \left[\frac{N}{(N)_{r=0}}\right]^2 \frac{\left[0.123 + 0.820\left(\lg\frac{SN}{2} + \frac{S+G}{2}\right)\right]^2_{r=0}}{\left[0.123 + 0.820\left(\lg\frac{SN}{2} + \frac{S+G}{2}\right)\right]^2}. \quad (22)$$

and

$$(N)_{r=0} = \sqrt{\frac{1-\omega-\gamma}{\gamma}}\left[\arcsin\frac{\sqrt{\gamma}+\frac{\omega}{2\sqrt{\gamma}}}{\sqrt{1+\frac{\omega^2}{4\gamma}}} - \arcsin\frac{\frac{\omega}{2\sqrt{\gamma}}}{\sqrt{1+\frac{\omega^2}{4\gamma}}}\right]. \quad (23)$$

hold for Pr = Sc = 1. For Pr ≠ Sc ≠ 1, the conduction coefficient in the boundary layer must be determined when calculating the heat release, and the coupling between friction and heat release (Reynolds's formula of analogy) has to be established. The following is calculated: relationship between the profiles of concentrations and retardation enthalpy and the velocity profile at the laminar sublayer:

$z = 1 - (1-z_w)(1 + B\bar{u})^{Sc}$, for the relationship of velocities and profiles

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Mass and heat exchange...

of total enthalpies in the laminar sublayer

$$\bar{H}=\frac{H}{H_w}=1-\mathrm{Pr}\,\Omega a+\left\{(1-\mathrm{Pr})\left(r\bar{H}_\infty+\frac{\mathrm{Pr}\,B\Omega}{2}\right)+\right.$$

$$\left.+\frac{\mathrm{Pr}\,B}{2\beta}\left(\Omega-\frac{\mathrm{Sc}\,B\bar{c}_p}{\mathrm{Pr}\,\beta}\right)(\mathrm{Sc}-\mathrm{Pr})(\bar{c}_p-1)(1-z_w)\right\}a^2. \qquad (37)$$

for the relationship between the profile of concentrations and the velocity profile $z = z_\lambda(1-\bar{u})/(1-\bar{u}_\lambda)$, for the same relationship in a turbulent layer $z = B(1-\bar{u})/(1+B)$, for the relation between the profile of total enthalpies and the velocity profile in the turbulent core $\bar{H} = \bar{H}_\infty + \Omega(1-\bar{u})$, for the relationship between density and velocity profile in the turbulent core

$$\frac{\rho}{\rho_\infty}=\frac{T_\infty}{T_w}\frac{1+B[\bar{c}_p-(\bar{c}_p-1)\bar{u}]}{1+B[\bar{m}-(\bar{m}-1)\bar{u}]}\left[\beta\Omega(1-a)+T^*_\infty(1-ra^2)\right]^{-1}, \qquad (53)$$

$$T^*_\infty=\frac{T_\infty}{T_w}\left(1+\frac{k-1}{2}M^2_\infty\right). \qquad (53a)$$

Card 5/6

3067

S/057/62/032/004/013/017
B111/B102

11.5100
10.1300

AUTHOR: Lapin, Yu. V.

TITLE: Turbulent boundary layer in a dissociating gas

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 4, 1962, 473-479

TEXT: The effect of equilibrium dissociation on friction and heat exchange in a turbulent boundary layer on a plane plate is investigated. A laminar zone and a turbulent core are distinguished in the boundary layer. The problem is solved for arbitrary values of the Prandtl and Lewis numbers (not differing too much from unity, however), neglecting thermal and barodiffusion. The dissociating gas is approximated by an "ideally dissociating gas" (Ref. 4: M. Dzh. Laytkhill. Voprosy raketnoy tekhniki (Problems in rocket engineering), nos.5 and 6, 1957). The latter is determined by the characteristic values T_d, ϱ_d, and D (D being the specific dissociation energy), and obeys the equation $p = \varrho RT(1 + z)$, where z is the mass concentration of atoms in the mixture, and $R = R_0/m_2$ (m_2 being the molecular mass). Neglecting the loss of mass due to convection and

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Turbulent boundary layer ...

diffusion, one finds $z^2/(1 - z) = \varrho_d/\varrho \cdot \exp(-T_d/T)$. The equations of momentum and energy are transformed for Crocco's variables (ξ, u) on simplifying assumptions. Then,

$$\frac{d}{du}\left[\frac{dH}{du} + u(Pr - 1) + (Le - 1)D\frac{dz}{du}\right] = 0 \qquad (9),$$

where H = enthalpy, Pr = Prandtl number, Le = Lewis number. The boundary conditions read u = 0, v = 0, z = 0, $H = H_w$, $\varrho = \varrho_w$ for y = 0, and $u = U_\infty$, z = 0, $H = H_\infty$, $\varrho = \varrho_\infty$, for $y = \infty$, where u and v are the tangential and normal velocities, respectively, and H_w and ϱ_w are constants. The coefficient of friction in the turbulent boundary layer is calculated from a formula earlier obtained by the author (Ref. 6: ZhTF, 30, vyp. 10, 1960). By integrating (9) twice and after a few transformations, the relationship between the total enthalpy and the velocity profile can be expressed by the following formulas: (a) for the laminar zone:

$$\bar{H} = \frac{H}{H_\infty} = 1 + (1 - Le)\bar{D}z - Pr\,\omega n + (1 - Pr)\gamma a^2, \qquad (16);$$

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...ed. There is

Turbulent boundary layer ... S/057/62/032/004/013/017
B111/B102

1 figure. The English-language reference reads as follows: S. I. Kosterin, Yu. A. Koshmarov, Intern. J. of the mass-heat transfer, no. 1, 1960.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute imeni M. I. Kalinin)

SUBMITTED: May 5, 1961

Card 4/4

39050
S/124/62/000/007/015/027
D234/D308

24.4300

AUTHORS: Loytsyanskiy, L. G. and Lapin, Yu. V.

TITLE: Use of Karman's method for calculating the turbulent boundary layer on a plate in a gas stream

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 7, 1962, 74, abstract 7B497 (Tr. Leningr. politekhn. in-ta, 1961, no. 217, 7-16)

TEXT: Using Karman's formula for turbulent tangential friction stress and assuming the friction stress and the heat flow across the boundary layer to be constant, the authors calculate the friction coefficient on the plate, situated in a stream of compressible gas when Prandtl's number is equal to 1. It was found that the ratio of the coefficients of friction of compressible and incompressible stream depends weakly on Reynolds' number R for large values of R and Mach numbers M larger than 10. Calculation is compared with experiment. [Abstracter's note: Complete translation.]

Card 1/1

39352

S/563/61/000/217/001/012
D234/D308

26.1200

AUTHOR: Lapin, Yu. V.

TITLE: Turbulent boundary layer in a gas stream in presence of heat exchange, Prandtl's number being different from 1

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy. no. 217. 1961. Tekhnicheskaya gidromekhanika, 27-36

TEXT: The author obtains a solution for a gas flow with moderate pressure gradient and arbitrary distribution of temperature at the wall, using Karman's semi-empirical theory. The temperature range considered is that in which Prandtl's number and specific heat can be regarded as constant. An analytical expression for H-displacement thickness divided by momentum loss thickness is derived. It is found that, with a high degree of accuracy,

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LAPIN, Yu.V.

Turbulent boundary layer in a dissociating gas. Zhur.tekh.fiz. 32 no.4:472-479 Ap '62. (MIRA 15:5)

1. Leningradskiy politekhnicheskiy institut imeni Kalinina.
(Boundary layer control) (Aerodynamics)

LAPIN, YU. V.

Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Technical Physics Institute imeni A. F. Ioffe in 1962:

"Several Problems of Aerothermodynamics of the Turbulent Boundary Layer."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

LAPIN, YU.V. (Leningrad)

"The turbulent boundary layer in the flow of reacting gas mixture".

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

ACCESSION NR: AT4041815 S/2563/64/000/230/0098/0106

AUTHOR: Lapin, Yu. V.; Sergeyev, G. P.

TITLE: Effect of dissociation on skin friction and heat transfer in a turbulent boundary layer

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy*, no. 230, 1964. Tekhnicheskaya gidromekhanika (Technical hydromechanics), 98-106

TOPIC TAGS: dissociating boundary layer, turbulent boundary layer, dissociation effect, hypersonic flow, skin friction, heat transfer

ABSTRACT: A study of the effect of dissociation on the heat transfer and skin friction of a turbulent boundary layer is presented. A frozen turbulent boundary layer on a flat plate is considered, with the assumption of an ideal dissociating gas corresponding to the model defined by Lighthill, in which the energy of vibrational degrees of freedom of molecules is taken into account. The basic equations of momentum, mass, and energy are derived, taking into account terms

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ACCESSION NR: AT4041815

contributed by turbulent fluctuations and assuming a sublayer-turbulent layer model with arbitrary (though not varying significantly from 1). Prandtl and Lewis numbers. Relationships are established between total enthalpy and concentration profiles and the velocity profile in the laminar sublayer and turbulent layer, and also between density and velocity in the boundary layer. Expressions were obtained for skin friction and heat transfer coefficients and for equilibrium enthalpy. Results of the numerical calculations are given, and variations in the skin friction and heat transfer coefficients with Reynolds number for dissociating oxygen at M_e = 2, 4, and 10 are presented in graphs, together with curves calculated by W. Dorrance and experimentally obtained by P. H. Rose. Orig. art. has: 5 figures and 34 formulas.

ASSOCIATION: none

SUBMITTED: 00 ATD PRESS: 3055 ENCL: 00

SUB CODE: ME NO REF SOV: 002 OTHER: 003

Card 2/2

LAPIN, Yu.V. (Leningrad)

Method of sealing macroscopic preparations. Arkh. pat. 26 no.12:74-75 '64. (MIRA 18:5)

1. Kafedra patologicheskoy anatomii (zav. - prof. M.A.Zakhar'-yevskaya) I Leningradskogo meditsinskogo instituta imeni Pavlova.

ACCESSION NR: AP4035706 S/0057/64/034/005/0913/0925

AUTHOR: Lapin, Yu.V.

TITLE: Turbulent heat and mass exchange at a porous wall with sublimation and injection of various gases

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.5, 1964, 913-925

TOPIC TAGS: turbulent heat exchange, turbulent boundary friction, turbulent boundary gas injection, turbulent boundary sublimation, Prandtl number, Schmidt number

ABSTRACT: This paper is a continuation of earlier work of the author (Yu.V.Lapin, ZhTF 30,1960; 30,1960;31,1961) concerning turbulent heat and mass exchange and friction at the plane porous boundary of a gas stream when a second gas is injected through the boundary wall. In the earlier work methods were developed for taking account of chemical reactions between the flowing and injected material, and of deviations from unity of the Prandtl and Schmidt numbers. Sublimation of material from the boundary wall is treated in the present paper. The case of sublimation differs from that of injection only in the boundary condition; the flux of foreign gas from the boundary wall is not a disposable parameter, but is determined by the wall

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ACCESSION NR: AP4035706

temperature. Regarded as a cooling mechanism, the sublimation process is self-regulating, since the rate of sublimation increases with the wall temperature. A number of special cases were solved numerically, and the results are presented graphically. These include: heat flux versus injection rate with the Prandtl and Schmidt numbers assumed to be unity; friction with sublimation of carbon from the wall and oxidation to carbon monoxide; friction and heat exchange versus injection rate for hydrogen injected into an air stream, both with and without oxidation and with and without the assumption that the Prandtl and Schmidt numbers are unity. Calculations of heat flux are compared with experimental data of E.R.Bartle and B.M.Leadon (JASS 27, No. 1,1960) and B.M.Leadon and C.J.Scott (JASS 23, No.8,1956), and reasonable agreement is found. From the results of the particular calculations reported, the general conclusion is drawn that chemical reactions and deviations of the Prandtl and Schmidt numbers from unity have very little effect on friction and need not be taken into account in calculations of friction, but that both factors are important and should be taken into account in calculations of heat transfer. Orig.art.has: 45 formulas and 7 figures.

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ACCESSION NR: AP4035706

ASSOCIATION: none

SUBMITTED: 25Jun63 ATD PRESS: 3079 ENCL: 00

SUB CODE: ME, TD NR REF SOV: 012 OTHER: 008

Card 3/3

LAPIN, Yu.V. (Leningrad)

Methodology for the determination of calcium deposits in arterio-sclerotic arterial walls. Arkh. pat. 26 no.4:81-82 '64. (MIRA 18:7)

1. Kafedra patologicheskoy anatomii (zav. - zasluzhennyy deyatel' nauki prof. M.A.Zakhar'yevskaya I Leningradskogo meditsinskogo instituta imeni Pavlova.

L 56007-65 EWT(1)/EFF(c)/EFF(n)-2/EWG(m)/FCC/EPR Pr-4/Ps-4/Pu-4 WW/GW

ACCESSION NR: AT5015711 UR/2563/65/000/248/0082/0087

45
21 B+1

AUTHOR: Lapin, Yu. V.

TITLE: The influence of catalytic recombination on the heat transfer within a "frozen" turbulent boundary layer

SOURCE: Leningrad. Politekhnicheskiy institut. Trudy, no. 248, 1965. Tekhnicheskaya gidrogazodinamika (Technical gas hydrodynamics), 82-87

TOPIC TAGS: turbulent boundary layer, catalytic boundary layer recombination, boundary layer heat transfer, supersonic flow boundary layer, frozen boundary layer, dissociating gas flow

ABSTRACT: Among the heat and mass transfer processes in boundary layers during the motion of bodies through reasonably dense atmospheres at large supersonic velocities, the cases studied most thoroughly concern heat exchange within the dissociating gas during laminar flow within the boundary layer near the forward stagnation point. However, in numerous cases, it is difficult to predict what type of flow - laminar or turbulent - will actually take place within the boundary layer. In such cases, it is then safer to assume the presence of turbulence and to calculate the heat transfer for such an assumption. Such a heat transfer with-

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ACCESSION NR: AT5015711

in a turbulent "frozen" boundary plane layer was studied previously by the author (Yu. V. Lapin, G. P. Sergeyev, Trudy LPI, no. 230, 1964, pp 98-107) and V. Dorrans (Voprosy raketnoy tekhniki (Problems of rocket technology), M., Izd. inostr. lit., 1961, no. 12, pp 39-67) without, however, taking into account the catalytic properties of the walls. Consequently, in the present paper, the author extends the results of his earlier work to a "frozen" turbulent layer near a catalytic plane for arbitrary recombination rates. The study is based on the stratified boundary layer containing a laminar base and a turbulent core. Ordinary Prandtl and Schmidt numbers are assumed different from zero while their turbulent analogues are assumed equal to zero; the simplified model of an ideally dissociating gas is due to M. Lighthill (Voprosy raketnoy tekhniki (Problems of rocket technology), M., Izd. inostr. lit., 1957, no. 5, pp 66-76 and no. 6, pp 41-61). The presentation of the basic equations and boundary conditions is followed by the derivations of the relationships between the total enthalpy and concentration and the velocity profile, and the calculation of the heat transfer. Fig. 1 of the Enclosure presents some of the results. Orig. art. has: 28 formulas and 1 figure. [08]

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ACCESSION NR: AT5015711 0

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. Kalinina (Leningrad Polytechnic Institute)

SUBMITTED: 00	ENCL: 01	SUB CODE: ME, TD
NO REF SOV: 004	OTHER: 000	ATD PRESS: 4034

Card 3/4

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ACCESSION NR: AT5015711

ENCLOSURE: 01

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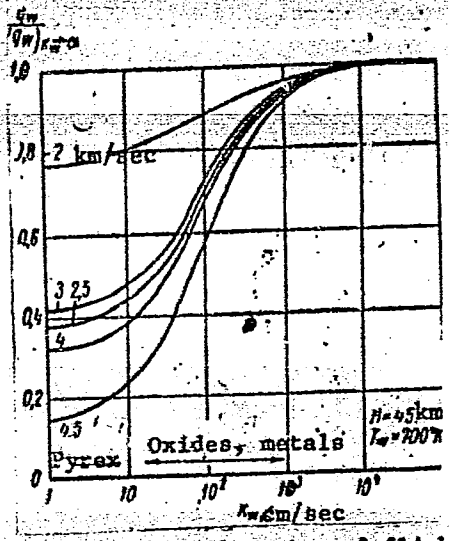

Figure 1. Boundary heat transfer as a function of flight velocity. The 2.5 km/sec curve is below the 3 km/sec curve because nitrogen starts dissociating only after all the oxygen within the outer current is fully dissociated.

Card 4/4 cac

LAPIN, Yu. Ye.

LAPIN, Yu. Ye. -- "The Smelt of the Rybinskoye Reservoir." Acad Sci USSR, Inst of the Morphology of Animals imeni A. N. Severtsov, Moscow, 1955* (Dissertation for the Degree of Candidate in Sciences)

SO: Knizhnaya letopis', No. 37, 3 September 1955

* For the Degree of Candidate in Biological Sciences

LAPIN, Yu.Ye.; YUROVITSKIY, Yu.G.

Intraspecific regularities of maturation and fecundity dynamics in fishes. Zhur.ob.biol. 20 no.6:439-446 N-D '59. (MIRA 13:4)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.
(FISHES--PHYSIOLOGY)

LAPIN, Yu.Ye.

Characteristics of population dynamics of fishes with a short life cycle based on studies of the European smelt. Zool. zhur. 39 no.9: 1371-1383 S '60. (MIRA 13:9)

1. Labortory of Ichthyology, Institute of Animal Morphology, U.S.S.R. Academy of Sciences, Moscow.
(Smelts)

LAPIN, Yu.Ye.

Factors determining changes in the population structure of fishes with a short life cycle. Trudy sov. Ikht. kom. no.13:203-204 '61. (MIRA 14:8)

1. Institut morfologii zhivotnykh AN SSSR.
(Fish populations)

LAPIN, Yu.Ye.

Types of spawning populations and some methodological problems in studying the dynamics of the abundance of commercial fishes. Vop. ikht. 1 no.4:666-680 '61. (MIRA 14:12)

1. Institut morfologii zhivotnykh imeni A.N.Severtsova AN SSSR, Moskva.

(Fish populations)

KARZINKIN, G.S.; LAPIN, Yu.Ye.

"Oceanological principles relating to the fishery productivity of seas" by G.K.Izhevskii. Reviewed by G.S.Karzinkin and IU.E. Lapin. Vop. ikht. 2 no.2:375-379 '62. (MIRA 15:11)
(Marine biology) (Izhevskii, G.K.)

LAPIN, Yu.Ye.

Characteristics of the dynamics of herring population in the Dvina Bay of the White Sea. Zool.zhur. 41 no.11:1681-1692 N '62. (MIRA 16:1)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R., Moscow.

(Dvina Bay--Herring)

LAPIN, Yu.Ye.

Age and population dynamics of the Pacific pink salmon (Oncorhynchus gorbusha (Walb.). Vop. ikht. 3 no.2:243-255 '63. (MIRA 16:7)

1. Laboratoriya ikhtiologii Instituta morfologii zhivotnykh AN SSSR, Moskva.

(Pink salmon)

LAPIN, Yu.Ye.

Review of the book "Symposium on pink salmon. Vop. ikht. 3 no.2: 424-427 '63. (MIRA 16:7)

(Pink salmon)

LAPIN, Yu.Ye.

Differences in the number of metameres in the larvae of the White Sea herring. Dokl. AN SSSR 165 no.5:1204-1207 D '65. (MIRA 19:1)

1. Institut morfologii zhivotnykh im. A.N.Severtsova AN SSSR. Submitted February 5, 1965.

LAPIN-FADEYEV, Vasiliy Ivanovich; TYLKIN, M.N., red.; PULIN, L.I., tekhn.red.

[Chemistry in the service of industry] Khimiia sluzhit proizvodstvu. Tula, Tul'skoe knizhnoe izd-vo, 1958. 23 p. (MIRA 13:3)

1. Nachal'nik smeny metallokeramicheskogo tsekha laptevskogo zavoda "Uglemash" (for Lapin-Fadeyev).

(Bearings (Machinery)) (Ceramic metals)

GRIBANOV, P.G.; LAPINA, A.A. METELITSYN, G.T.; MORAR', I.M.; NIZHENKO, T.A.; RYBNIKOV, N.N.; SEL'MANOVICH, L.V.; KAS'YANOV, A.P., red.; BARANOV, I.A., tekhn. red.

[Aid to the study of the economics of the trawler fleet] V pomoshch' izuchaiushchim ekonomiku tralovogo flota. Murmansk, Murmanskoe knizhnoe izd-vo, 1960. 76 p. (MIRA 16:5)

(Trawls and trawling—Accounting)
(Index numbers (Economics))

LAPINA, A. A.

PA76T62

USSR/Medicine - Bronchoscopy May/Jun 1948
Medicine - Esophagoscopy

"Improvements to a Bronchoesophagoscope," A. A. Lapina, Cand Med Sci, Moscow, 1/2 p

"Vest Oto-Rino-Laringol" Vol X, No 3

Describes several defects of contemporary broncho-esophagoscopes with the idea that suggestions for improvement will be incorporated into later models.

76T62

LAPINA, A. A.

33537

50 Let Vrachebnoy Deyatel'nosti Zasluzhennogo Vracha F. A. Mer'yemsona. (Ftiziatr-Laringolog). Vestnik Otorinolaringologii, 1949, No 5, c. 85, s. Portr.

SO: Letopis' Zhurnal'nykh Statey, Vol. 45, Maskva, 1949

LAPINA, A.A.

37631. Rentgenoterapiya pri tuberkuleznom porazhenii polosti rta I gortani. Vestnik otorinolaringologii, 1949, No. 6, S. 4751. Bibliogr: 13 Nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

LAPINA, A.A.

411. **Influence of Streptomycin on the Course of Pulmonary and Laryngeal Tuberculosis.** (Влияние стрептомицина на течение легочно-гортанного туберкулеза)
A. A. Lapina. Проблемы Туберкулеза [*Probl. Tuberk.*] No. 6, 41–44, Nov.–Dec., 1949.

The author observed, during 1947–9 in Moscow, the effect of streptomycin in 163 cases of pulmonary and laryngeal tuberculosis; 103 had been under observation for 2 years and 60 for 4 to 6 months, the latter not being included in the present study.

In severe cases with acute generalized pulmonary and laryngeal disease and tuberculosis in other organs 1 g. streptomycin in six divided doses was given daily; in milder cases 0·5 g. was given in three divided doses daily. The best results were achieved with a course of 40 g. Lower dosage or interruption of courses led to the development of streptomycin-resistant strains of bacilli. The 103 cases were classified as follows: 59 cases of haematogenous dissemination, 35 of cavernous tuberculosis, 18 of infiltrative processes, and 1 of exudative pneumonia. Of these 81 were admitted in a very serious condition. The laryngeal condition was classified as follows: in 49 cases, exudative laryngitis; in 41, fibrotic laryngitis; in 13, mixed fibrotic and exudative laryngitis. In 81 cases there was severe dysphagia, in 13 because of a stenosis of the larynx. In 59 cases there were tuberculous foci in other organs. There were 17 cases of intestinal tuberculosis, 5 cases of proctitis, 5 of epididymitis, 5 of meningitis, and 27 with infiltration and ulcers in the mouth and throat. In 25% of the cases a course of

30 g. streptomycin was given, in the others 10 to 40 g. In 42 cases complete clinical cure of the upper respiratory tuberculosis was achieved, in 48 cases the ulcers had healed but infiltrations remained, in 5 there was no change, and 8 patients died. Two patients were discharged after the tuberculous laryngitis had healed, but had to be readmitted because of a relapse. Streptomycin, 5 to 10 g., was used successfully in some cases of laryngeal tuberculosis in order to prepare the patient for galvano-cauterization. Combined intramuscular and intra-tracheal administration of streptomycin was used for bronchial ulcers with good results. The use of streptomycin locally is advocated for isolated ulcers of the mouth and throat.

N. Chatelain

Abstracts of World Medicine
Vol 8 1950

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LAPINA, A. A.

"Comparison of the Effect of Vitamin A and Carotin on the Sensitivity to Light of Dark Adapted Eyes," Fiziol. Zhur., SSSR, 35, No.4, 1949.

State Control Vitamin Station, Ministry of Publick Health USSR.

Lapina, A. A.

LAPINA, A. A.

Bronchial obturation and condition of tuberculous cavern. Probl. tuberk., Moskva No. 3, May-June 50. p. 59-61

1. Of Moscow Municipal Scientific-Research Tuberculosis Institute (Director--Prof. V. L. Kynis).

CIML 19, 5, Nov., 1950

LAPINA

LAPINA A. A.

Pokazaniia i protivopokazaniia dl'a trakheo-bronkhoskopii u bol'nykh legochnym tuberkulozom. [Indications and contra-indications for trachao-bronchoscopy in pulmonary tuberculosis] Prof. tuberk., Moskva No. 2 Mar-Apr 51 p. 29-33.

1. Of Moscow Municipal Scientific-Research Tuberculosis Institute (Director--Prof. V. L. Eynis).
CIML Vol. 20, No. 10 Oct 1951

LAPIN, S.I.; SIDOROVA, Ye. P.; LAPINA, A. A.

Significance of bronchial pathology in surgery of pulmonary tuberculosis. Probl. tuberk., Moskva no.4:59-64 July-Aug 1951. (CIML 21:1)

1. Of Moscow Municipal Scientific-Research Tuberculosis Institute (Director -- Prof. V. L. Kynis; Head of Pulmonary Surgical Division -- Prof. S. I. Lapin).

1. LAPINA, A. A.

2. USSR (600)

4. Bronchi - Foreign Bodies

7. Diagnosis of foreign bodies in large bronchi. Sov. med. 17, no. 1, 1953.

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

LAPINA, A.A., professor

Problem of recurrence of laryngeal tuberculosis treated with streptomycin. Probl. tub. no.4:24-29 Jl-Ag '54. (MLRA 7:11)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. prof. V.D.Eynis)
(TUBERCULOSIS, LARYNGEAL, therapy, streptomycin, recur.)
(STREPTOMYCIN, therapeutic use, tuberc., laryngeal, recur.)

LAPINA, A. A.

A simplified biological method for the determination of vitamin D_3. A. A. Lapina (Sci. Research Inst. Vitaminol., Ministry Health U.S.S.R., Moscow). *Voprosy Pitaniya* 14, No. 2, 18–21(1955).—The biol. method for the detn. of vitamin D_3 (I) in various foods and prepns. requires usually about 15 days feeding of white rats subjected previously to the development of expti. rickets. In series of expts. performed in this lab. during 15 yrs. it has been found that the prophylactic dose of I for white rats is 0.6–0.8 I.U. of pure cryst. calciferol. The results presented here (performed on 800 rats) indicate that the biol. method for the detn. of I can be simplified by feeding 4–5 I.U. of I per rat only twice during the entire expt. (at the 1st and 7th day) instead of feeding 0.6–0.8 I.U. of the vitamin daily during 15 days.

B. Wierbicki

LAPINA, A.A., professor

Bronchoscopy in the treatment of atelectasis in pulmonary tuberculosis. Probl. tub. 34 no.1:14-19 Ja-F '56 (MLRA 9:5)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir.V.F. Chernyshev, nauchnyy rukovoditel'- prof. V.L. Enis)

(TUBERCULOSIS, PULMONARY, compl.
atelectasis, ther., bronchoscopy in)
(ATELECTASIS, etiol. and pathogen.
tuberc., pulm., ther., bronchoscopy in)
(BRONCHOSCOPY, in various dis.
atelectasis, caused by pulm. tuberc.)

LAPINA, A.A. (Moskva)

Body requirements of vitamin B_1 in relation to its periodic intake [with summary in English]. Vop.pit. 16 no.2:35-36 Mr-Ap '57. (MLRA 10:10)

1. Iz A, D i E vitaminnogo otdela (zav. - prof. S.N.Matsko) Gosudarstvennogo instituta vitaminologii Ministerstva zdravookhraneniya SSSR, Moskva.

(VITAMIN B1
requirements, relation to periodicity of admin. in rats (Rus))

LAPINA, A.A., professor

Clinical aspects and therapy of tuberculosis of the large bronchi [with summary in French]. Probl.tub. 35 no.3:41-46 '57. (MLRA 10:10)

1. Iz Moskovskogo gorodskogo nauchno-issledovatel'skogo tuberkuleznogo instituta (dir. V.F.Chernyshev, zam. dir. po nauchnoy chast - prof. V.L.Kynis)

(TUBERCULOSIS, PULMONARY,
bronchi, clin. aspects & ther. (Rus))

LAPINA, A.A. (Moskva)

Comparative activity of carotene and vitamin A in dark adaptation in man. [with summary in English]. Vopr.pit. 17 no.1:24-27 Ja-F '58. (MIRA 11:4)

1. Iz A- i D-vitaminnogo otdela (zav. - prof. S.N.Matsko) Nauchno-issledovatel'skogo instituta vitaminologii Ministerstva zdravookhraneniya SSSR, Moskva.

(CAROTENE, effects,
in dark adaptation in man, comparison with vitamin A (Rus))
(VITAMIN A, effects,
in dark adaptation in man, comparison with carotene (Rus))
(ADAPTATION, OCULAR,
dark, eff. of vitamin A & carotene, comparison in man (Rus))

LAPINA, A.A., prof.

Association of pulmonary and bronchial tuberculosis. Sov.med. 22 no.5:13-18 My '58 (MIRA 11:7)

1. Iz Moskovskoy gorodskoy tsentral'noy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - prof. V.L. Eynis).
(TUBERCULOSIS, PULMONARY, compl.
bronchial involvements (Rus))

LAPIT'A, A.A., prof.

Bronchial adenoma. Khirurgiia 34 no.3:111-113 Mr '58. (MIRA 12:1)

1. Iz Moskovskoy gorodskoy tsentral'noy klinicheskoy tuberkuloznoy bol'nitsy i iz terapevticheskogo otdeleniya (zav. - prof. V.L. Kynis) Instituta tuberkuleza (dir. Z.A. Lebedeva) AMN SSSR.
(BRONCHI--TUMORS)

LAPINA, A.A.

The effect of periodic administration of vitamin B_2 on the body's requirement of vitamin B_2 [with summary in English]. Biul.eksp. biol. i med. 45 No.4:36-38 Ap '58 (MIRA 11:5)

1. Iz otdela vitaminov A,D,E, (zav. - prof. S.N. Matsko) Nauchno-issledovatel'skogo instituta vitaminologii (dir. - deystvitel' nyy chlen AMN SSSR B.A. Lavrov) Ministerstva zdravookhraneniya SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR B.A. Lavrovym.

(VITAMIN B_2, metabolism
requirements in rats, eff. of periodic admin. of vitamin B_2 (Rus))

AL', G.E., doktor med.nauk; AMOSOV, N.M., prof.; ANTELAVA, N.V., prof.; BOGUSH, L.K., prof.; VOZNESENSKIY, A.N., prof.; VIL'NYANSKIY, L.I., kand.med.nauk; LAPINA, A.A., prof.; MASSINO, S.V., doktor med.nauk; MIKHAYLOV, F.A., prof.; RABUKHIN, A.Ye., prof.; KHRUSHCHOVA, T.N., prof.; SHAKLEIN, I.A., prof.; YABLOKOV, D.D., prof.; EYNIS, V.L., prof., zasluzhennyy deyatel' nauki, otv.red.; KORNEV, P.G., prof., red.; KUDRYAVTSEVA, A.I., prof., red. [deceased]; LAPINA, A.I., red.; LEBEDEVA, Z.A., kand.med.nauk, red.; STRUKOV, A.I., prof., red.; SHEBANOV, F.V., prof., zasluzhennyy deyatel' nauki, red.toma; GRINSHPUNT, Ye.M., red.; LYUDKOVSKAYA, N.I., tekhn.red.

[Multivolume manual on tuberculosis] Mnogotomnoe rukovodstvo po tuberkulezu. Moskva, Gos.izd-vo med.lit-ry. Vol.2. [Tuberculosis of the respiratory organs] Tuberkulez organov dykhaniia. Red.toma A.E.Rabukhin i F.V.Shebanov. Book 2. 1959. 408 p. (MIRA 13:5)

1. Chleny-korrespondenty AMN SSSR (for Antelava, Bogush, Yablokov, Strukov). 2. Deystvitel'nyy chlen AMN SSSR (for Kornev).
(TUBERCULOSIS)

LAPINA, A.A., prof.

Bronchial perforation in tuberculosis in adults. Probl.tub. 37 no.5:59-64 '59. (MIRA 12:10)

1. Iz Instituta tuberkuleza AMN SSSR (dir. Z.A.Lebedeva) i Moskovskoy gorodskoy tsentral'noy klinicheskoy tuberkuleznoy bol'nitsy (glavnyy vrach - prof.V.L.Kynis).
(TUBERCULOSIS, PULMONARY - complications)

LAPINA, Ashkhen Abgarovna, prof.; AVERBAKH, M.M., red.; ZUYEVA, N.K., tekhn. red.

[Tuberculosis of the bronchi; diagnosis, clinical aspects, treatment] Tuberkulez bronkhov; diagnostika, klinika, lechenie. Moskva, Medgiz, 1961. 181 p. (MIRA 15:2)
(BRONCHI—TUBERCULOSIS)

LAPINA, A.A.

Simplified biological method for determining vitamin D. Vop. pit. 21 no.6:62-64 N-D '62. (MIRA 17:5)

1. Iz otdela vitaminov A,D,E (zav. - prof. S.N. Matsko) Nauchno-issledovatel'skogo instituta vitaminologii Ministerstva zdravookhraneniya SSSR, Moskva.

LAPINA, A. I.

23540. ZhIDKAYa SERA V TERAPII chESOTKI OVETs. SBORNIK NAUCh. TRUDOV (LENINGR. VET. IN-T), VYP. 10, 1949, c. 41-47.

SO: LETOPIS' NO. 31, 1949.

LAPINA, A. I.

Therapeutics, Surgical

Organization of surgical aid for patients with pulmonary tuberculosis., Probl. tub., no. 6, 1951.

Monthly List of Russian Accessions, Library of Congress, March 1952. UNCLASSIFIED.

LAPINA, A.I.

USSR/Medicine - Public Health May/Jun 52

"Outstanding Problems in Fight Against Tuberculosis in the USSR," A. I. Lapina, Chief of Admin of Anti-tuberculosis Aid, Min of Pub Health USSR

"Prob Tuber" No 3, pp 3-13

Outlines a nation wide campaign of tuberculosis control, including mass protective inoculation of children in 1952 and 1953. Deplores the shortage of qualified medical and nursing personnel in some rural and urban areas, and negligence in complying with Order No 123 of 11 Feb 52 issued by the Pub Health Min USSR, ordering an exaustive survey and application of surgical interference as indicated, in every tuberculosis institution of the Soviet Union. 224T57

LAPINA, A.I.

Future problems of public health branches in control of tuberculosis. Sovet. med. 16 no. 9:35-37 Sept 1952. (CIML 23:3)

1. Head of the Administration for Anti-Tuberculosis Aid of the Ministry of Public Health USSR.

LAPINA A.I.

Excerpta Medica 1/5 sec 17 May 55 Pub. Health, Social Medicine & etc.

2000. LAPINA A.I. * Die Organisation der Tuberkulosebekämpfung im Dorf.
~~The organization~~ of tuberculosis control in villages
PROBL. TUBERK. 1954, 1 (3-9)

The network of prophylaxis and treatment has been extended to the village in the last 5 yr. (clinics, outpatient clinics). The medical staff and personnel of the advisory centres have been increased. Hygienic conditions at schools, kindergartens, etc. have been given special attention. Vaccination and revaccination of infants, pre-school and schoolchildren is widely practised. Early diagnosis of the disease by screening of the population has been extended, therapeutic possibilities have been improved (dispensaries with beds), and propaganda has been brought to the rural districts.

Frey - Berlin (XV, 17)

LAPINA A.I.

Excerpta Medica 1/5 sec 17 May 55 Pub. Health, Social Medicine & etc.

1999. LAPINA A.I. * Tuberkulózis elleni intézkedések szervezése falun. Rural tuberculosis campaign NÉPEGÉSZSEGÜGY 1954, 35/6 (146-150)

Based upon experience of the fight against tb in the villages, combined with BCG vaccination in certain parts of the Ukraine, a similar working programme is suggested for the rest of the USSR. Nikolich - Novi Sad (XVII, 15*)

LAPINA, A. I.

25-8-37/42

AUTHOR: None given

TITLE: The VIth All-Union Meeting of Phthisiologists (VI Vsesoyuznyy s''yezd ftiziatrov)

PERIODICAL: Nauka i Zhizn', 1957, # 8, pp 59-60 (USSR)

ABSTRACT: More than 1,000 delegates of the USSR and foreign countries took part in the VIth All-Union Meeting of Phthisiologists in Moscow in June 1957. One of the main problems to be discussed was "The development of control of tuberculosis in the USSR and the tasks to bring about a further reduction in the number of tuberculosis cases". The two lecturers on this topic, M.V. Khomutov, Deputy Minister of Health of the USSR, and A.I. Lapina, Main Inspector for the Control of Tuberculosis of the Ministry of Health of the USSR, dealt with the progress achieved in this field during the past few years. In 1948, only 894,000 newborn children and 115,000 older children were inoculated against tuberculosis. In 1956, the number had already increased to 6.3 million children and in 1957 about 12.6 million children were treated. Moreover, medical examinations of the population are carried out in order to discover the disease at the very beginning. In comparison with 1949, the mortality rate was reduced by 70%

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and the number of cases by 43%. Candidate of Medical Sciences, A.S. Mamolat, spoke about his experiences gained in controlling tuberculosis in villages. Professor, A.I. Kudryavtsev, dealt with the prophylactic effect of the vaccine against tuberculosis. Professors, R.O. Drabkin, M.A. Klebanov, V.L. Eynis, A.Ye. Rabukhin, Member-Correspondent of the USSR Academy of Medical Sciences (Akademiya meditsinskikh nauk SSSR), N.A. Shmelev, and others, dealt with chemotherapy of tuberculosis. The final meetings of the delegates were devoted to the problem of surgical treatment of tuberculosis. L.K. Bogush, Member-Correspondent of the USSR Academy of Medical Sciences, Professors, N.M. Amosov (Kiyev), I.S. Kolesnikov (Leningrad), F. Kovach (Hungary), Doctor O.T. Iliyesku (Rumania) and others, lectured on this subject.

AVAILABLE: Library of Congress

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LAPINA, A.I.

LAPINA, A.I.

Epidemiologic progress in tuberculosis in the U.S.S.R. [with summary in French]. Probl.tub. 35 no.5:3-13 '57. (MIRA 10:11)

1. Glavnyy inspektor po tuberkulezu Ministerstva zdravookhraneniya SSSR.

(TUBERCULOSIS, statist.
in Russia)

LAPINA, Antonina Ivanovna, red.; LIPKINA, Ye.A., red.

[Problems in the control of osteoarticular tuberculosis] Voprosy bor'bt s kostno-sustavnym tuberkulezom; trudy. Moskva, Medgiz, 1958. 196 p. (MIRA 14:2)

1. Vsesoyuznoye soveshchaniye po kostno-sustavnomu tuberkulezu. Moscow, 1955.
(BONES--TUBERCULOSIS)

LAPINA, A.I.

Measures in aid of further progress in the control of tuberculosis. Probl.tub. 36 no.7:3-11 '58. (MIRA 12:8)

1. Glavnyy inspektor po tuberkulezu Ministerstva zdravookhraneniya SSSR.

(TUBERCULOSIS--PREVENTION)

AL', G.E., doktor med.nauk; AMOSOV, N.M., prof.; ANTELAVA, N.V., prof.; BOGUSH, L.K., prof.; VOZNESENSKIY, A.N., prof.; VIL'NYANSKIY, L.I., kand.med.nauk; LAPINA, A.A., prof.; MASSINO, S.V., doktor med.nauk; MIKHAYLOV, F.A., prof.; RABUKHIN, A.Ye., prof.; KHRUSHCHOVA, T.N., prof.; SHAKLEIN, I.A., prof.; YABLOKOV, D.D., prof.; EYNIS, V.L., prof., zasluzhennyy deyatel' nauki, otv.red.; KORNEV, P.G., prof., red.; KUDRYAVTSEVA, A.I., prof., red. [deceased]; LAPINA, A.I., red.; LEBEDEVA, Z.A., kand.med.nauk, red.; STRUKOV, A.I., prof., red.; SHEBANOV, F.V., prof., zasluzhennyy deyatel' nauki, red.toma; GRINSHPUNT, Ye.M., red.; LYUDKOVSKAYA, N.I., tekhn.red.

[Multivolume manual on tuberculosis] Mnogotomnoe rukovodstvo po tuberkulezu. Moskva, Gos.izd-vo med.lit-ry. Vol.2. [Tuberculosis of the respiratory organs] Tuberkulez organov dykhaniia. Red.toma A.E.Rabukhin i F.V.Shebanov. Book 2. 1959. 408 p. (MIRA 13:5)

1. Chleny-korrespondenty AMN SSSR (for Antelava, Bogush, Yablokov, Strukov). 2. Deystvitel'nyy chlen AMN SSSR (for Kornev).
(TUBERCULOSIS)

BUNINA, B.Z., prof.; DRABKINA, R.O., prof.; KLEBANOVA, A.A., kand. biolog.nauk; KOSMODAMIANSKIY, V.N., prof.; MODEL', L.M., prof.; RABUKHIN, A.Ye., prof.; STRUKOV, A.I., prof.; STUKALO, I.T., prof.; TIMASHEVA, Ye.D., kand.med.nauk; CHISTOVICH, A.N., prof.; SHMELEV, N.A., prof.; EYNIS, V.L., prof., zasluzhennyy deyatel' nauki, otv. red., red.toma; KORNEV, P.G., prof., red.; KUDRYAVTSEVA, A.I., prof. [deceased], red.; LEBEDEVA, Z.I., kand.med.nauk, red.; LAPINA, A.I., red.; MASSINO, S.V., doktor med.nauk, red.; SHEBANOV, F.V., prof., zasluzhennyy deyatel' nauki, red.; SENCHILO, K.K., tekhn.red.

[Multivolume handbook on tuberculosis] Mnogotomnoe rukovodstvo po tuberkulezu. Moskva, Gos.izd-vo med.lit-ry. Vol.1. [General problems in tuberculosis] Obshchie problemy tuberkuleza. Red. toma: V.L.Einis, A.I.Strukov. 1959. 672 p. (MIRA 13:6)

1. Chlen-korrespondent AMN SSSR (for Strukov, Shmelev). 2. Deystvitel'nyy chlen AMN SSSR (for Kornev).
(TUBERCULOSIS)

LAPINA, A.I.

Organization of tuberculosis control measures in the U.S.S.R. Med. sestra 18 no.10:3-7 O '59. (MIRA 13:1)

1. Glavnyy spetsialist po tuberkulezy Ministerstva zdravookhraneniya SSSR.

(TUBERCULOSIS--PREVENTION)

LAPINA, A.I.

First Congress of Phthysiologists of the Lithuanian S.S.R. Probl. tub. 37 no.6:109-113 '59. (MIRA 13:2)
(TUBERCULOSIS--CONGRESSES)

LAPINA, A.I.

Measures for further improvement in medical services and in the protection of the public health. Probl.tub. 38 no.4:3-12 '60. (MIRA 14:5)

(TUBERCULOSIS—PREVENTION)

LAPINA, A.I. (Moskva)

New era in the control of tuberculosis. Sov.zdrav. 20 no.2:59-64 '61. (MIRA 14:5)

1. Glavnyy spetsialist po tuberkulezu Ministerstva zdravookhraneniya SSSR.

(TUBERCULOSIS)

LAPINA, A. I.

New stage in tuberculosis control. Probl. tub. no.7:3-9 '61.
(MIRA 14:12)

1. Glavnyy spetsialist po tuberkulezu Ministerstva zdravookhraneniya SSSR.

(TUBERCULOSIS—PREVENTION)

ARKHIPOVA, O.P., kand. biol. nauk; BERLIN, P.Yu., prof.; VOROB'YEV, S.I., kand. med. nauk; ZASLAVSKIY, I.D., kand. med. nauk; KUDRYAVTSEVA, A.I., prof.[deceased]; LAPINA, A.I.; MARKUZON, V.D., prof.; MASSINO, S.V., prof.; NEZLIN, S.Ye., prof.; OYFEBAKH, M.I., prof.; POMEL'TSOV, K.V., prof.; RABUKHIN, A.Ye., zasl. deyatel' nauki RSFSR, prov.; ROL'YE, Z.Yu., zasl. deyatel' nauki RSFSR, prof.; SORKINA, E.Z., doktor med. nauk; FILIMONOV, N.I., kand. med. nauk [deceased]; YUSKOVETS, M.K., zasl. deyatel' nauki Belorusskoy SSR, prof., akademik; EYNIS, V.L., zasl. deyatel' nauki RSFSR, prof., otv. red.; LYUDKOVSKAYA, N.I., tekhn. red.

[Multivolume manual on tuberculosis] Mnogotomnoe rukovodstvo po tuberkulezu. Otv. red. V.L.Einis. Moskva, Medgiz. Vol.4. [Epidemiology and the organization of the control of tuberculosis] Epidemiologiia i organizatsiia bor'by s tuberkulezom. Red. toma A.I.Lapina i S.V.Massino. 1962. 524 p. (MIRA 15:6)

1. Akademiya nauk Belorusskoy SSSR i Akademiya sel'skokhozyaystvennykh nauk Belorusskoy SSSR (for Yuskovets).

(TUBERCULOSIS)

LAPINA, A.I.

Tuberculosis will be conquered. Med.sestra 21 no.8:3-6 Ag '62.
(MIRA 15:9)

1. Glavnyy spetsialist po tuberkulezu Ministerstva zdravookhraneniya SSSR.

(TUBERCULOSIS--PREVENTION)

LAPINA, A.I.

Vaccination against tuberculosis in the U.S.S.R. Probl.tub. no.1: 18-25 '62. (MIRA 15:8)

1. Glavnyy spetsialist po tuberkulezy Ministerstva zdravookhraneniya SSSR.

(BSG VACCINATION)

LAPINA, A.I.

Basic problems in the control of tuberculosis in children.
Pediatriia 41 [i.e. 42] no.2:35-41 F '63. (MIRA 16:4)

1. Glavnyy spetsialist po tuberkulezu Ministerstva zdravookhraneniya SSSR.
(CHILDREN--DISEASES) (TUBERCULOSIS--PREVENTION)

LAPINA, A.I.

International Day of Health dedicated to the intensification of tuberculosis control. Probl. tub. 42 no.3:3-8 '64.
(MIRA 18:1)

1. Glavnyy spetsialist po tuberkulezu Ministerstva zdravookhraneniya SSSR.

TARASOVA, L.P., inzh.; KALASHNIKOV, A.G., inzh.; DOLINENKO, O.V., inzh.; NAZARENKO, Ye.T., inzh.; BUL'SKIY, M.T., inzh. [deceased]; SVIRIDENKO, F.F., inzh.; Prinimali uchastiye: LAPINA, A.M., inzh.; KORNIYENKO, D.I., inzh.

Nonmetallic inclusions in rail steel. Stal' 23 no.8:738-740 Ag '63. (MIRA 16:9)
(Railroads--Rails) (Steel--Inclusions)

83918

S/051/60/009/004/014/034
E201/E191

9.5300

AUTHORS: Adrianova, I.I., Popov, Yu.V., and Lapina, A.V.

TITLE: Amplitude and Phase Characteristics of an Interference Modulator of Light

PERIODICAL: Optika i spektroskopiya, 1960, Vol 9, No 4, pp 501-504

TEXT: The authors describe an interference modulator shown schematically in Fig 1. It is based on the Michelson interferometer. Light from a source S passes through a lens L_1 and is split by a cube K into two beams; one of which proceeds undeflected towards a mirror Q, while the other is deviated towards a mirror M. Both beams are reflected by their respective mirrors and interfere in the middle of K. The mirror Q is mounted on a vibrating piezoelectric plate; vibrations of this plate modulate the light beam which passes through a lens L_2 before leaving the modulator. Such an interference modulator has some advantages compared with the usual Kerr cell and diffraction modulators. Among these advantages are small light losses (not greater than 45%), high luminosity, and cheapness.

Card 1/2

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Card 1/2

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E201/E191

Amplitude and Phase Characteristics of an Interference Modulator of Light

Its disadvantage is its fixed working frequency governed by the resonant frequency of the piezoelectric mirror (harmonics of this frequency can be used as well). The authors found that the amplitude characteristics obtained experimentally agreed well with the theoretical ones (Figs 2 and 3). The phase characteristics of the interference modulator were more uniform than those of other types of modulator (Fig 4).
There are 4 figures and 4 Soviet references.

SUBMITTED: January 8, 1960

Card 2/2

GORDOV, A.N.; LAPINA, E.A.; DIOMIDOVA, T.G.

Reproducing the international temperature scale for a zone of 1063°C. and higher. Trudy VNIM no.5:42-65 '49. (MIRA 11:11)
(Pyrometry)

LAPINA, E.A.

Optical color pyrometer equipped with a dichromatic wedge.
Trudy VNIM, no.5:121-125 '49. (MIRA 11:11)
(Pyrometers)

LAPINA, E.A.

Reproduction of the international temperature scale up to 4,000° C. (MIRA 11:6)
Trudy VNIIM no.9:87-101 '50.
(Thermometers) (Calibration)

LAPINA, E. A.

Dissertation: "Reproduction of an International Temperature Scale by Means of a Spectrum Pyrometer." Cand Tech Sci, All-Union Sci Res Inst of Metrology, Leningrad, 1953. Referativnyy Zhurnal--Khimiya, Moscow, No 8, Apr 54.

SO: SUM 284, 26 Nov 1954

LAPINA, E.A

GORDOV, A.N.; KIRENKOV, I.I.; LAPINA, E.A.

Methods of checking optical pyrometer readings. Izm. tekh. no.2:46-49 Mr-Ap '55. (MIRA 8:9)
(Pyrometers)

GORDOV, A.N.; KIRENKOV, I.I.; LAPINA, E.A.

New methods for checking optical pyrometers. Trudy VNIIM no.25: 70-74 '55. (MIRA 11:6)
(Pyrometers--Testing)