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Determination of the ...

$$N_2 = \int_0^1 (E_a - 1)\, d\eta_2 - \frac{\int_0^1 \eta_2\, dE_a}{\int_0^1 \eta_2^2\, dE_a} \int_0^1 \eta_2 (E_a - 1)\, d\eta_2, \tag{18}$$

and K_1, N_1, N_1^*, and N_1^{**} have expressions identical with K, N, N^*, and N^{**}, having, however, instead of u_{1a} and η, w_{1a} and η_1, respectively. The parameters ψ_δ, $\psi_{1\delta}$, and $\psi_{2\delta}$ are determined from the condition $\eta = 1$, $u_{1a} = 1$, $\eta_1 = 1$, $w_{1a} = 1$, $\eta_2 = 1$, and $E_a = 1$. The integration of Eq. (7) along the current line of the point in which the characteristics of the boundary layer have to be determined with the boundary condition

$$s = 0, \quad \psi_s = 0, \quad \psi_{1_s} = 0, \quad \psi_{2_s} = 0 \tag{21}$$

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leads to the determination of the parameters ψ_δ, $\psi_{1\delta}$, $\psi_{2\delta}$, as the solutions of a linear differential equation of the first order, if M_e is independent from these parameters. By using relations (1) and establishing the gradients of the local pressure and of the external forces, the boundary stream lines become

$$\frac{d\xi}{d\xi} = \frac{M_{1a}}{M_a}\frac{\psi_\delta}{\psi_\delta}\frac{k}{k_1}\frac{u_e}{w_e}\frac{1+\dfrac{2\psi_\delta^2}{M_e\rho_e u_{1e}^2 u_e k}\left[N\dfrac{1}{\rho_e}\dfrac{\partial p}{\partial\xi}+(N+N^*)2\omega\cos\beta w_e - (N+N^{**})\omega^2\cos^2\beta\xi\right]}{1+\dfrac{2\psi_{1\delta}^2}{M_{1e}\rho_e u_{1e}^2 w_e k_1}\left[N_1\dfrac{1}{\rho_e}\dfrac{\partial p}{\partial\xi}-(N_1+N_1^*)2\omega\cos\beta u_c - (N_1+N_1^{**})\omega^2\cos^2\beta\xi\right]} \qquad (22)$$

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This expression shows the influence of the additional terms due to the Coriolis force and the centrifugal force of the surface rotating. For the compressible laminary flow, in which there is admitted that $\mu_a \rho_a = 1$, the expressions of the velocities u_{1a} and w_{1a}, and of the nondimensional power E_a are given by

$$u_{1_a}^2 = u_{a_p}^2 \left\{ 1 - \left(\frac{u_{a_q}^2}{u_{a_p}^2} - 1 \right) \frac{2\psi_\delta^2}{\mathcal{M}_e \rho_e u_{1_e}^2} \frac{1}{u_e} \frac{du_e}{dl} \int_0^1 \eta \left(u_{1_a} - \frac{1}{\rho_a u_{1_a}} \right) d\eta + \right.$$

$$+ \left(\frac{u_{a_r}^2}{u_{a_p}^2} - 1 \right) \frac{2\psi_\delta^2}{\mathcal{M}_e \rho_e u_{1_e}^2} 2 \cos\beta\omega \frac{w_e}{u_e} \int_0^1 \eta \left(\frac{1}{\rho_a u_{1_a}} - 1 \right) d\eta + \qquad (23)$$

$$\left. + \left(\frac{u_{a_s}^2}{u_{a_p}^2} - 1 \right) \frac{2\psi_\delta^2}{\mathcal{M}_e \rho_e u_{1_e}^2 u_e} \omega^2 \cos^2\beta\, \xi \int_0^1 \frac{\eta}{u_{1_a}} \left(1 - \frac{1}{\rho_a} \right) d\eta \right\}$$

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$$w_{1_a}^2 = w_{a_p}^2 \left\{ 1 - \left(\frac{w_{a_q}^2}{w_{a_p}^2} - 1 \right) \frac{2\psi_{1_\delta}^2}{\mathcal{M}_{1_e} \rho_e u_{1_e}^2} \frac{1}{w_e} \frac{dw_e}{dl} \int_0^1 \eta_1 \left(w_{1_a} - \frac{1}{\rho_a w_{1_a}} \right) d\eta_1 + \right.$$

$$+ \left(\frac{w_{a_s}^2}{w_{a_p}^2} - 1 \right) \frac{2\psi_{1_\delta}^2}{\mathcal{M}_{1_e} \rho_e u_{1_e}^2 w_e} \omega^2 \cos^2 \beta \, \zeta \int_0^1 \eta_1 \frac{1}{w_{1_a}} \left(1 - \frac{1}{\rho_a} \right) d\eta_1 - \qquad (23)$$

$$\left. - \left(\frac{w_{a_r}^2}{w_{a_p}^2} - 1 \right) \frac{2\psi_{1_\delta}^2}{\mathcal{M}_{1_e} \rho_e u_{1_e}^2} 2 \cos \beta \, \omega \frac{u_e}{w_e} \int_0^1 \eta_1 \left(\frac{1}{\rho_a w_{1_a}} - 1 \right) d\eta_1 \right\}$$

(23)

$$E_a^2 \left[1 + \frac{2}{3} (P_r - 1) \frac{V_e^2}{\Delta} E_a \right] = E_{a_p}^2 \left\{ 1 + \frac{2}{3} (P_r - 1) \frac{V_e^2}{\Delta} - \right.$$

$$\left. - \left(\frac{E_{a_q}^2}{E_{a_p}^2} - 1 \right) 2 P_r \frac{\rho_e \psi_{2_\delta}^2}{\mathcal{M}_e} \frac{1}{\Delta} \frac{d\Delta}{dl} \int_0^1 \eta_2 (E_a - 1) d\eta_2 \right\}$$

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in which

$$u_{a_p}^2 = \frac{\int_0^\eta \left[\int_1^\eta \eta \, du_{1_a} \right] d\eta}{\int_0^1 \left[\int_1^\eta \eta \, du_{1_a} \right] d\eta}; \quad u_{a_q}^2 = \frac{\int_0^\eta \left[\int_1^\eta \left(u_{1_a} - \frac{1}{\rho_a u_{1_a}} \right) d\eta \right] d\eta}{\int_0^1 \left[\int_1^\eta \left(u_{1_a} - \frac{1}{\rho_a u_{1_a}} \right) d\eta \right] d\eta} \qquad (24)$$

$$u_{a_r}^2 = \frac{\int_0^\eta \left[\int_1^\eta \left(\frac{1}{\rho_a u_{1_a}} - 1 \right) d\eta \right] d\eta}{\int_0^1 \left[\int_1^\eta \left(\frac{1}{\rho_a u_{1_a}} - 1 \right) d\eta \right] d\eta}, \quad u_{a_s}^2 = \frac{\int_0^\eta \left[\int_1^\eta \frac{1}{u_{1_a}} \left(1 - \frac{1}{\rho_a} \right) d\eta \right] d\eta}{\int_0^1 \left[\int_1^\eta \frac{1}{u_{1_a}} \left(1 - \frac{1}{\rho_a} \right) d\eta \right] d\eta}.$$

(24)

was introduced. The expressions of $w_{a_p}^2$, $w_{a_q}^2$, $w_{a_r}^2$, $w_{a_s}^2$ are identical except that instead of u_{1_a} and η there appear w_{1_a} and η_1. The expression of $E_{a_p}^2$ becomes also identical after having replaced u_{1_a} by

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E_a and η by η_2. $E^2_{a_p}$ is expressed by

$$E^2_{a_q} = \frac{\int_0^{\eta_2} \left[\int_1^{\eta_2} (E_a - 1) d\eta_2 \right] d\eta_2}{\int_0^{\eta_1} \left[\int_1^{\eta_2} (E_a - 1) d\eta_2 \right] d\eta_2}. \qquad (25)$$

As a first application the author considers the case of a heat insulated plane in a laminary compressible stream, the chord C being smaller than the distance r at the rotating axis. In a second example the author treats the blade of an axial ventilator in case of a noncompressible laminar flow, as shown in Fig. 3. The author con-

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cludes that a) The rotation of the surface does not introduce great modifications in the deviation of the boundary current lines from the direction of the external current lines in case of the non-compressible laminar flow and probably also in case of the turbulent flow. In the case of heat insulated surfaces, the Coriolis forces and the centrifugal forces have a greater influence if the Mach number increases; b) The surface distribution of the gradients of local pressure are important regarding the behavior of the boundary current lines. The difficulties in the design of ventilator, turbine and propeller blades is based on the fact that rotating surfaces produce some aerodynamical flows with different pressure values varying from point to point; c) The curve representing the annulment of the friction coefficient τ_w may become a qualitative criterion for the detachment of the three-dimensional laminar boundary layer; d) The method presented may also be used for determining the surface distribution of the pressures in such a way that the boundary current lines should have a previously determined cer-

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tain behavior. There are 3 figures and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: L.E. Fogarty, The laminar boundary layer on a rotating blades, J. A. S., 18, 247 - 252, 1951.

SUBMITTED: June 19, 1959

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10.2000 also 1327

AUTHOR: Săvulescu, St. N.

TITLE: Utilization of typical velocity profiles for the qualitative determination of some characteristics of anisotropic turbulent flows

PERIODICAL: Studii şi Cercetări de Mecanică Aplicată, no. 5, 1960, 1269 - 1291

TEXT: The author tries to systematize some experimental results of the anisotropic turbulence with regard to a connection between the distribution of the average speeds and the distribution of the pulsation speeds. He also exposes a tentative physical interpretation of the turbulent mechanism accomplished by the interdependence between the average values with given distribution and the statically organized disturbances. The Ox axis is considered to be the direction of the flow, and the Oy axis to be the transversal. The considered field is limited by the Ox axis and an external border $\delta(t, x)$. A quantity $f(x, y, t)$ will have an $f_w(t, x)$ value at the wall, an $f_e(t, x)$ value at the border and an $f_a = \frac{f-f_w}{f_e-f_w}$ non-dimensional

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value. Notating: $\eta_a = \eta_o = \frac{y}{\delta}$. The transformation of the transversal value is accomplished by

$$\eta = \frac{\int_0^{\eta} f_a\, dy}{\int_0^{\delta} f_a\, dy}, \qquad (1).$$

f_e and f_w are external conditions which have to be satisfied in any case of the internal mechanism of the motion. It is admitted that there are no independent regions with a proper motion and structure, but the whole assembly is achieved by the reciprocal action of the energy exchange between these parts, defined by their essential dimension y. This dimension can have all values between the maximum δ and the minimum Δ_m. For x = const., the value $f(y, t)$ will have several instantaneous values for every considered Δy partition. Considering a medium in time for a quasi-stationary motion realized for some Δy partitions, one obtains the distribution curve of the medium non-dimensional value $f_o(\eta_o)$. The $\bar{f}_a(\eta_o)$ distribution varies between $\bar{f}_{a_w} = 0(\eta_o=0)$ and $\bar{f}_{a_e} = 1(\eta_o=1)$, and if $\frac{f_e-f_w}{\delta}$ is great, the $f(y_1)$ value of a layer will generally strongly differ from the $f(y_2)$ value of the neigh-

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boring layer, thus obtaining important transversal gradients of these values. These gradients directly have an influence on the turbulence production which is consumed by dissipation, convection and diffusion of the corresponding fluctuation energies. All these values vary with y and produce the anisotropy of the turbulence. It is assumed that in case of an anisotropic turbulence the individualized units of turbulence depend on their partition in the space, or on the distance y and on the quantity of medium energy corresponding to the positions. Thus, the mechanism of the turbulent agitation becomes more complicated, i. e. the transfer of the kinetic energy also comprises the additional interaction between these units, against the isotropic turbulence. It can be believed that there is an ideal distribution of the turbulent units which carry the largest part of the kinetic energy in such a way that the energy transfer between them or the turbulence production would be very small. Such a limit distribution can be constructed by adding to the $\bar{f}_a(\eta_0)$ distribution an f_a^* distribution which equally distributes the energy in the space, having powerful gradients of this energy, i. e. to achieve the correspondence:

$$\text{distrib. } f_a^* \rightarrow \text{distrib. } \eta_0 \qquad (2).$$

The distribution of the energy of turbulent fluctuation transversal to the

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current, function of η_0 is obtained by

$$f'_a = K \cdot \left| \overline{f}_a - f^*_a \right|, \quad f'_a = \text{medium square value}, \qquad (3).$$

The K constant depends on many parameters, but is not determined in this paper. The medium of the interactions of the turbulent units can be constructed by generally taking:

$$\eta_s = \frac{\int_0^y f'_a \, dy}{\int_0^\delta f'_a \, dy}, \qquad (4)$$

in which s is real and $f^s_a dy$ has a direction. If the medium of the turbulent process given by the measuring apparatus represents $\overline{f}^*_a$, the energy distribution of the f'_a turbulent agitation is

$$f'_a = K_1 \cdot \left| \overline{f}^{**}_a - \overline{f}_a \right|, \qquad (5),$$

in which $f^{**}_a(\eta)$ is the distribution of f_a given by

$$\eta = \frac{\int_0^{\eta_0} \frac{1}{f_a} \, d\eta_0}{\int_0^1 \frac{1}{f_a} \, d\eta_0}, \qquad (6),$$

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i. e. s = -1. If the medium represents $\bar{f}_a$, one has the formula (3) and thus s = 1. The free turbulence is fundamentally distinguished from the turbulence along the wall. In a more general form the s value obtains a row of distinctive values $\pm s_1$, $\pm s_2$, $\pm s_3$, ... $\pm s_i$, corresponding to the transformations

$$\eta_{s_i} = \frac{\int_0^y f_a^{s_i}\, dy}{\int_0^\delta f_a^{s_i}\, dy} \qquad (7)$$

The respective fluctuation is

$$f'_{a_{s_i}} = K_{s_i} |\bar{f}_a - \bar{f}^*_{a_{s_i}}|, \qquad (8)$$

Thus,

$$f'_a = \int |\bar{f}_a - \bar{f}^*_{a_{s_i}}| \cdot K_{s_i}, \qquad (9)$$

in which the integral has the sense of Lebesgue, K_{s_i} representing the contribution possibility of the difference $|f_a - f^*_{a_{s_i}}|$. The author has only considered the limiting values s = ± 1, which are physically more directly connected to the distribution of the average values and supply standard profiles, by which some aspects of the turbulent friction motion can be examined. The energy distribution of the turbulent agitation can be expressed

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by

$$e \simeq P_+ e_+ + P_- \cdot e_-, \qquad (10)$$

in which $e_+ = | E_a - E^*_{a+} |$, $e_- = | E_a - E^*_{a-} |$

the signs + and - corresponding to the transformation (4) for s = + 1 and s = -1. P_+ and P_- represent the probabilities that these differences should give a value of the energy fluctuation. But no considerations on the determination of this probability are made in this paper. By $\bar{I}_a$, the expression

$$\bar{e}_a = \frac{E_a - E^*_a}{|E_a - E^*_a|_{max}} \qquad (11)$$

has been indicated, in which

$$E_a\left(\frac{y}{\delta}\right) = \frac{p + \frac{\rho}{2} u^2 - p_w}{p_e + \frac{\rho}{2} u_e^2 - p_w} \simeq \frac{u^2}{u_e^2},$$

and E^*_a is transformed by (1). The experimental points represent $\frac{\overline{u'^2}}{\overline{u'^2}_{max}}$,

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or $\frac{\overline{u'^2}+\overline{v'^2}+\overline{w'^2}}{|\overline{u'^2}+\overline{v'^2}+\overline{w'^2}|_{max}}$, which are susceptible to errors. The $\frac{\overline{u'^2}}{|\overline{u'^2}|_{max}}$ ratio serves as a certain indication for the behaviour of the distribution of the fluctuating energy. The variation of these distribution curves of the fluctuating values connected to the distribution of the average values can be accurately and simply studied by using the particular distributions:

$$f_a = \eta_0^n, \qquad (12).$$

With the transformation (1), the author deduces the fluctuation

$$f'_a = K \cdot |\eta_0^n - \eta_0^{\frac{n}{1+sn}}| \qquad (14),$$

the value of the maximum

$$f'_{a_M} = Ksn\ (1+sn)^{-\frac{1+sn}{sn}} = Ksn\ \eta_{0_M}^n. \qquad (16)$$

and finally the expression

$$\frac{f'_a}{f'_{a_M}} = \frac{1}{sn} \cdot \left(\frac{\eta_0}{\eta_{0_M}}\right)^n \cdot \left|1 - \eta_0^{-\frac{sn^2}{1+sn}}\right|, \qquad (17)$$

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which is valid for sn > -1. These expressions do not cover all cases but indicate the sensible variation of the maximum's position: for $n = \frac{1}{3.5}$, s = 1, one obtains $\eta_{o_M} = 0.0186$, and for n = 1, s = 1, one has $\eta_{o_M} = 0.25$, etc. On the basis of these examples the author establishes the hypothesis that the interaction of the turbulent units tends to accomplish a distribution of the medium energy in which the turbulence production should be a minimum, i. e. there is a tendency towards isotropy. But isotropy is only possible if the flow is perfectly uniform or the medium speed is zero everywhere, whereas the walls or the border with different speed fields require a distribution of the medium energy with important variations. This physical contradiction is solved by achieving a statistical distribution which represents an ideal situation. On the basis of the supposition that this statistical distribution is given by the transformation (1), the author came to the following conclusions: a) The turbulent fluctuations from the turbulent flow with friction admit a limited statistical organization, given by the transformation of the distribution of the medium energy by the formula (1). b) The laminary motion represents a solution of the Navier-Stokes

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equation, in which the energy distribution is not affected by any interaction up to the molecular agitation. Having the same limit conditions and a stable physical existence, the energy distribution in laminary motion admits turbulent disturbances which lead to a new distribution of the energy.

c) The influence of the compressibility on the distribution of the turbulent fluctuation energy from the boundary layer on a thermally insulated plate can be established as follows: Transforming the distribution of the kinetic energy $\rho_a u_{a_e}^2$ by the relation (1), one obtains the boundary distribution for the turbulent boundary layer for a thermally insulated plate with a unitary Prandtl Number and the linear variation of the viscosity with the temperature. Transforming the distributions $\rho_a u_{a_e}^2$, one obtains the boundary distributions $(\rho_a u_{a_e}^2)$ and thus the fluctuations

$$(\rho_a u_a^2)' = K \cdot |(\rho_a u_{a_e}^2)^* - (\rho_a u_{a_e}^2)|; \qquad (18)$$

d) the author then establishes a fluctuation in a Couette flow. The turbulent fluctuations will accomplish a medium motion in which the increase of the kinetic energy should have a minimum not sufficient for the maintenance of the turbulent agitation. Considering that the distribution of the medium energy accomplished by the turbulent fluctuations is the arithmetic medium

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of the extreme distributions s = 0 and s = -0.499, one obtains the distribution of the medium turbulent energies in a Couette flow. There is not necessarily a motion symmetry against the half-distance between the walls, and the frictions seem to be greater towards the mobile wall. The intermittence of the phenomenon caused by the presence of the two ideal media, excludes the possibility of the exact determination of the transformation for $s < 0$, so that the distribution shows only that the energy of the turbulent agitation should be a maximum towards the center and should maintain the approximate value on the 0.2 h space. e) Another phenomenon is the damping of the disturbance turbulence behind some turbulence-producing agents introduced in the boundary layer. f) The energy of the fluid in anisotropic turbulent motion can be generally expressed by

$$E_1 = P_0 E_0 + P_1 (E_0)^* + P_2 (E_0)^{**} + \dots, \quad \sum_0^\infty P_i = 1, \qquad (19)$$

or $E = E_0 + \sum_1^\infty P_i e_{i0}, \quad e_{i0} = (E_0)^* - E_0, \dots$ in which $E = p + \frac{\rho}{2}(u^2 + v^2 + w^2)$, E^* is the transformator of E with the aid of (1) and P_i are the probabilities that the fluctuation should pertain to an E* type profile. The expression

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(19) could lead to interesting results in the treatment of the Navier-Stokes motion equations. There are 8 sets of figures, 1 table and 10 references: 1 Soviet-bloc and 9 non-Soviet-bloc. The reference to the most recent English-language publication reads as follows: I. O. Hinze, "Turbulence". McGraw-Hill Book Company New York, Toronto, London, 1959.

SUBMITTED: May 12, 1960

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SAVULESCU, St. N. (Bucuresti)

Transport equations of the mechanical size belonging to local nonconservative statistical systems in a fluid. Bull math Rum 4 no.1/2:121-128 '61.

1. Submitted December 10, 1962.

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24.4200

AUTHOR: Săvulescu, St. N.

TITLE: A hypothesis on the limited statistical structure of pulsations of energy in complete development of turbulence in the boundary layer

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 4, 1962, 108, abstract 4B694 (Comun. Acad. RPR, 1960, v. 10, no. 12, 1087-1093)

TEXT: The author develops a hypothesis on the existence of and gives a method of computing limited distribution of the energy of turbulent pulsations in a boundary layer. The results of the calculations agree satisfactorily with experimental data. [Abstracter's note: Complete translation.]

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10-1200

AUTHOR: Săvulescu, St., N.

TITLE: Distribution of the turbulent values in a one-dimensional flow through arbitrary section ducts

PERIODICAL: Studii şi cercetări de mecanica aplicată, no. 4, Vol. 12, 1961, 765 - 782

TEXT: Starting with the corresponding laminary flow, the author extends in the case of a duct of arbitrary section, the method of evaluating the distribution of the values in a completely developed turbulent flow, from the two-dimensional case to the three-dimensional case. He only determines the distribution of the mean velocity and turbulent fluctuations based on the hypothesis of the limiting statistical organization of turbulent fluctuations. Considered is the portion of a duct, referred to a system of three-dimensional axes, Ox being directed in accordance with the flow direction. The laminary motion determines the u_{a1}^2 (z, y) = const. network and the corresponding orthogonal

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Distribution of the turbulent...

network. Analytically, the distribution of the laminary velocities is the solution of the problem:

$$\Delta u = \frac{\partial^2 u}{\partial y^2} + \frac{\partial^2 u}{\partial z^2} = \frac{1}{\mu}\frac{\partial p}{\partial x} = k, \quad u_{(c)} = 0 \tag{4}$$

whence the author deduces the equation

$$u_e \frac{1}{h_\eta h_\zeta}\left[\frac{\partial}{\partial \eta}\left(\frac{h_\zeta}{h_\eta}\frac{\partial u_a}{\partial \eta}\right) + \frac{\partial}{\partial \zeta}\left(\frac{h_\eta}{h_\zeta}\frac{\partial u_a}{\partial \zeta}\right)\right] + u_a \frac{1}{h_\eta h_\zeta}\left[\frac{\partial}{\partial \eta}\left(\frac{h_\zeta}{h_\eta}\frac{\partial u_e}{\partial \eta}\right) + \right.$$
$$\left. + \frac{\partial}{\partial \zeta}\left(\frac{h_\eta}{h_\zeta}\frac{\partial u_e}{\partial \eta}\right)\right] + 2\left\{\left[\left(\frac{\partial \eta}{\partial y}\right)^2 + \left(\frac{\partial \eta}{\partial z}\right)^2\right]\frac{\partial u_e}{\partial \eta}\frac{\partial u_e}{\partial \eta} + \right.$$
$$\left. + \left[\left(\frac{\partial \zeta}{\partial y}\right)^2 + \left(\frac{\partial \zeta}{\partial z}\right)^2\right]\frac{\partial u_e}{\partial \zeta}\frac{\partial u_a}{\partial \zeta} + \left(\frac{\partial u_e}{\partial \eta}\frac{\partial u_a}{\partial \zeta} + \frac{\partial u_a}{\partial \eta}\frac{\partial u_e}{\partial \zeta}\right)\left(\frac{\partial \eta}{\partial y}\frac{\partial \zeta}{\partial y} + \frac{\partial \eta}{\partial z}\frac{\partial \zeta}{\partial z}\right)\right\} = k. \tag{8}$$

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D238/D304

Distribution of the turbulent...

However, this equation is very complicated and difficult to be handled. In the case of a circular duct with the radius R, the qualitative behavior of each of the two fluctuation distributions, i.e. parallel with the wall ($\overline{u}'^2$ and $\overline{w}'^2$) and perpendicular to the wall ($\overline{v}'^2$) considerably differs. The distribution of the mean energy u_{at} does not differ considerably from $(u_{al}^2)^*$. This simple case was difficult to solve analytically by starting from Eq. (4). For more complicated cases, the author adopted a graph-analytical method, as follows: a) The solution of Eq. (4) is supposed to be known. b) The spectrum of the level lines is traced for u_{al}^2 (y, z) and the nucleus of the flow is appreciated. c) The orthogonal curves are traced either analytically or graphically, starting from a certain point of the contour. d) A profile

$$\frac{u_l^2}{u_{eP}^2} = u_{al}^2 (\eta_s), \quad \eta_s = \frac{s}{s_P},$$

is isolated, in which P corresponds to the maximum value of the u_{al}^2 energy.

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e) Transformation

$$\eta = \frac{\int_0^{\eta_0} E_a d\eta_0}{\int_0^1 E_a d\eta_0}, \quad \eta_0 = \frac{y}{\delta} \tag{1}$$

is applied to this two-dimensionally represented profile, obtaining thus the distribution $(u_{a1}^2)^* (\eta) \rightarrow u_{at}^2 (\eta_0)$. f) $(u_{a1}^2)^*$ is transformed, obtaining $(u_{a1}^2)^{**}$, and thus:

$$e_{a_u} = \frac{(u_{a1}^2)^{**} - (u_{a1}^2)^*}{\left|(u_{a1}^2)^{**} - (u_{a1}^2)^*\right| M} - \frac{\overline{u'^2}}{\left|\overline{u'^2}\right| M},$$

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D238/D304

Distribution of the turbulent...

determining then the distribution of the energy fluctuations along the flow. The author then presents two examples, i.e. an equilateral triangle and and isosceles trapezoid, comparing them with some experimental data. In the case of triangular ducts, there is a difference between the $\overline{u'^2}$, $\overline{v'^2}$ and $\overline{w'^2}$ fluctuation spectra. In the case of trapezoidal ducts, the following observations may be established: a) The distribution of the mean energy corresponds to the experimental results with an error of $\pm$ 10%. b) The distributions of the energy fluctuations show the important difference between the distribution of the fluctuation parallel with the wall and the fluctuations perpendicular to the wall. c) The difference between the theoretically deduced curves and the experimental results are due to the type representing these curves. Conclusions: 1) The strip included between the distributions E_a and $(E_a)^*$, in which E_a is the distribution of the mean energy, supplies a value of the distribution of the fluctuations even in the space. 2) The inter-

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D238/D304

Distribution of the turbulent...

action of the fluid layers in a one-dimensional flow according to the perpendiculars between the layers is the most adequate hypothesis used for treating the three-dimensional turbulence. 3) The qualitative spectrum of the medium values of the square fluctuations in turbulent motions may simplify the measurements. 4) Knowing the fundamental laminary flow in ducts of variable cross-sections, this problem may be extended also to the turbulent flow. 5) The dependence of this transformation on the Re number and on the other conditions of the mean flow, as well as the limitation of the turbulent agitation energy has not yet been solved. There are 13 figures and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The three references to English-language publications read as follows: F. H. Clauser, "The turbulent boundary-layer", Adv. Appl. Mech., IV, 1956; St. N. Săvulescu, "On a hypothesis of limitative statistical organization of energy fluctuations in the fully developed turbulent boundary layer", Revue de Mécanique Appliquée, V, 6, 1960; and

Card 6/7

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

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R/008/61/000/004/003/003

Distribution of the turbulent... D238/D304

G. B. Schubauer, "Turbulent processes in boundary-layer and in ducts", Journal of Applied Physics, 25, 2, 1954.

SUBMITTED: April 18, 1961

Card 7/7

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

R/008/62/013/002/002/009
D272/D308

AUTHOR: Săvulescu, Şt. N.

TITLE: Some applications of the hypothesis of limitative statistical organization of turbulent energy fluctuations

PERIODICAL: Studii şi cercetări de mecanică applicată, no. 2, 1962, 311 - 326

TEXT: The hypothesis of limitative statistical organization is extended to the high order moments of velocity fluctuations. First considered is the application of a hypothesis exposed earlier to turbulent flow in the domain of anisotropic turbulence, sustained by a mean energy distribution. Turbulent flows around the Richardson critical number, turbulent flows between two rigid walls in relative motion are examined. The dimensionless distributions of the fourth order moments of velocity fluctuations are deduced, and compared to the experimental results obtained in a two-dimensional channel with parallel walls. The author shows the scale transformation in the case of turbulent flow in layers (derived in the preceding study) to

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

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D272/D308

Some applications of the ...

be closely connected to the internal mechanism of energy exchange between the individualized turbulence units and verifies this in all cases examined. It is concluded that the use of this transformation enables rapid qualitative evaluation of the distribution fluctuations, starting with the mean magnitude distribution and opens perspectives for interpretation of the turbulence mechanism. There are 6 figures.

SUBMITTED: November 27, 1961

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

R/008/62/013/006/006/008
A065/A126

10.1500

AUTHORS: Săvulescu, St., Darie, Gh., Toma, V.

TITLE: Three-dimensional aspects of the transition caused by a jet of low intensity on a flat plane in incompressible flow. I.

PERIODICAL: Studii şi cercetări de mecanică aplicată, v. 13, no. 6, 1962, 1,557 - 1,589

TEXT: This paper presents part of the results of experiments conducted for the determination of the transitional boundary layer caused by a laminar jet, ejected through a hole 0.8 mm in diameter onto a 6 x 80 x 1,300 mm plexiglass plate, in an incompressible flow up to $Re_{\delta *} < 800$. The plate was located in the test section of a flat wind tunnel, while the jet intensity could be very finely adjusted so as the jet should behave like a small disturbance or a finite disturbance, a spot range with a desired degree of intermittence up to the appearance of the fully developed turbulence, i.e., $\Delta p_{jet} = 4.2$ alcohol column being obtained in a certain downstream section. The experiments had the following purposes: a) Determination of the influence of the walls on the laminar zone,

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

R/008/62/013/006/006/008
A065/A126

Three-dimensional aspects of the transition ....

which begins at the leading edge of the plate. b) Testing of the method of artificial production of the transition by a low intensity jet. c) Study of the development of the boundary layer influenced by this jet, examination of the spatial transition zones with their characteristics, and detection of appearance and shape of turbulent spots. d) Study of the local transition conditions. These investigations had a purely experimental character and this paper includes the results of points a) and b) and a part of c). Described are then the experimental installation, the operation method, the experimental results, and comparisons with other known transition cases. Conclusions: a) The effect of the walls is displayed by the development of the turbulent boundary layer limited by a transition region, growing approximately linearly with a lateral contamination angle of 10°. b) The disturbing jet determines a central influence zone of a constant width of 5 mm up to $Re_{\delta *} = 600$, after which it extends laterally with an angle of 7.2°. The laminar jet - laminar boundary layer interaction was complex and characterized by the appearance of frequencies of secondary instability of approximately 3,000 cps. c) In a certain field of intensity values, the jet behaved like a low disturbance, $\Delta p < 2.8$ mm; in another field it behaved like a finite disturbance, $2.8 < \Delta p < 5.0$, and in case of higher intensity values the

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

R/008/62/013/006/006/008
A065/A126

Three-dimensional aspects of the transition ....

jet behaved like a rigid obstacle which protrudes the boundary layer. d) The spots possibly originate from a sudden and accidental increase of a very high frequency oscillation. The local behavior of the spots is the alternation of the laminar and turbulent profiles in a section of the boundary layer. The velocity variation was quantitatively estimated by using the assumption of the conversation of the two-dimensional rate of flow, the two velocity profiles intersecting at the distance $y^* = 0.54\ \delta_e$; δ_e being the thickness of the laminar boundary layer. There are 35 figures and 4 tables.

SUBMITTED: August 4, 1962

Card 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, St. N.; IONA, V.

Experimental study of the transition provoked by the interaction of a small intensity jet with noncompressible boundary layer of a plane sheet. Studii cerc mec apl 14 no.5:1037-1063 '63.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, St.N.; TOMA, V.

Experimental investigation of the transition caused by the interaction of a low intensity jet with the incompressible boundary layer of a flat plate. Rev mec appl 9 no. 3: 667-693 '64.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

[illegible]

[illegible] of the Blasius velocity profile due to three-dimensional [illegible] in the boundary layer. Rev mec appl 9 no.5:100[illegible] 108 '64.

[illegible] of Applied Mechanics, Bucharest.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, St. N.

Some remarks on speed profiles in a transient boundary layer. Archiw mech 16 no.2:441-452 '64.

1. Institute of Applied Mechanics, Academy of Sciences, Rumanian People's Republic.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, St. N.

Three-dimensional effects in perturbed laminar boundary layer of a plane plate. Studii cerc mec apl 17 no.5:1293-1306 '64.

1. "Traian Vuia" Institute of Applied Mechanics, Rumanian Academy, Bucharest.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 41792-66 EWT(d)/FS(m)/EWT(1)/EWP(m)/EWP(w)/T-2/EWP(k) WW/RM

ACC NR: AP6018760 SOURCE CODE: RU/0008/66/021/001/0051/0069

AUTHOR: Savulescu, St.; Petru, I.

ORG: Institute of Fluid Mechanics, The Academy of the Rumanian Socialist Republic (Institutul de mecanica fluidelor al Academiei Republicii Socialiste Romania)

55
B

TITLE: Theoretical and experimental investigations of the transitional boundary layer on the extrados of a wing profile at subcritical and critical Reynolds numbers

SOURCE: Studii si cercetari de mecanica aplicata, v. 21, no. 1, 1966, 51-69

TOPIC TAGS: turbulent boundary layer, laminar boundary layer, boundary layer thickness, aircraft wing, Reynolds number, TRANSITION BOUNDARY LAYER, PRESSURE GRADIENT

ABSTRACT: The effect of the longitudinal pressure gradient on the development of a finite and tridimensional turbulence in a boundary layer at subcritical and critical Reynolds numbers, was investigated in a miniature model of an A/6 laminar wing profile, equipped with 17 pressure intakes on its contour, and with a calculated chord length of 223 mm. The theoretical method for the calculation of the average characteristics (thickness of the layer, separation point, Re_{δ^*}, stagnation point, and distribution of the intensity of fluctuations) of the boundary

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 41792-66

ACC NR: AP6018760

layer with pressure gradient, is described. The theoretical results are compared with the data obtained experimentally, and the methods for turbulence induction and measurement elaborated for this experiment, are indicated. The method of development of the finite and tridimensional turbulences is compared with the indications provided by the theory of stability through small bidimensional turbulences. The structure of the transitional boundary layer is presented from a qualitative and quantitative point of view by means of oscillograms and spectrograms. Finally, the conclusions referring to the transitional boundary layer, in the presence or absence of a pressure gradient, are related. Orig. art. has: 9 figures, 3 tables, and 9 formulas.

SUB CODE: 01,20/ SUBM DATE: 11Sep65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 08548-67 EWP(m)

ACC NR: AP6035396 SOURCE CODE: RU/0008/66/023/005/1325/1341

AUTHOR: Savulescu, St. N.

35
B

ORG: Institute of Fluid Mechanics, Academy of the Rumanian Socialist Republic (Institutul de mecanica fluidelor al Academiei Republicii Socialiste Romania)

TITLE: Considerations concerning the occurrence of velocity fluctuations in various transitional flows

SOURCE: Studii si cercetari de mecanica aplicata, v. 23, no. 5, 1966, 1325-1341

TOPIC TAGS: transition flow, flow velocity, ~~two~~ dimensional flow, boundary layer flow

ABSTRACT: In this work the author presents the results obtained from experiments carried out in the Boundary-Layer and Turbulence Laboratory, Institute of Fluid Mechanics, Academy of the Rumanian Socialist Republic (Laboratorul de strat-limita si turbulenta al Sectiei aeromecanica din Institutul de mecanica fluidelor al Academiei Republicii Socialiste Romania) concerning velocity fluctuation in transitional flows other than that of the boundary-layer on a level plane. The prime objective was to determine the basic conditions of sudden changes in velocity in the last stage of transition of various flows. Working under special conditions (low velocity, external current perturbations), these sudden variations were obtained in the boundary-layer with a pressure gradient, in the entrance flow into a two-dimensional channel, and in the wakes of symmetrical and non-symmetrical bodies. The

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 08548-67

ACC NR: AP6035396

physical interpretation and theoretical analysis lead to the conclusion that the mechanism of secondary instability of an inflexible shape variable in time and generated by the transport and distortion of the nucleus of rotation is not in itself sufficient to explain these sudden variations in velocity, since it presents several aspects that are in contradiction with the results of the experiments. Orig. art. has: 12 formulas and 5 figures.

SUB CODE: 20/ SUBM DATE: 24May66/ ORIG REF: 002/ OTH REF: 005/
ATD PRESS: 5104

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 10019-67 EWP(m)
ACC NR: AP6036266 SOURCE CODE: RU/0019/66/011/005/1211/1227

39

AUTHOR: Săvulescu, Şt. N.

ORG: Institute of Fluid Mechanics, Academy of the Rumanian Socialist Republic

TITLE: Considerations of the appearance of the velocity peaks in different transient flows

SOURCE: Revue Roumaine des sciences techniques. Serie de mecanique appliquee, v. 11, no. 5, 1966, 1211-1227

TOPIC TAGS: subsonic aerodynamics, boundary layer flow, boundary layer transition, transient flow, turbulent boundary layer, experiment aerodynamics

ABSTRACT: This article presents the results of an experimental study of sudden velocity peaks in the transition region of boundary-layer flows, carried out in the Turbulence Laboratory of the Department of Aeromechanics of the Institute of Fluid Mechanics, Rumanian Academy of Sciences. The aim of this investigation was to demonstrate the existence of velocity peaks (spikes) in transition boundary-layer flows other than that on a flat plate, by using hot-wire techniques. By realizing special experimental conditions (low velocity, perturbation of outer flow), the author has obtained velocity peaks in the following flows: 1) boundary-layer flow with pressure gradient on an airfoil; 2) at the entrance of a channel; and 3) in the wake of certain symmetric and asymmetric bodies. Experiments were carried out in a low-turbulence wind tunnel at flow velocities from 0.8 to 6 m/sec with perturbation produced by obstacles, low-

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

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ACC NR: AP6036266

intensity jets, etc). Photographic recordings of the characteristic velocity spikes in various flows are presented. Analyses of physical and theoretical interpretations of instability show that the mechanism of the appearance of these spikes in the flows considered here differs somewhat from that known in the case of a boundary layer on a flat plate. Orig. art. has: 5 figures and 12 formulas.

SUB CODE: 20/ SUBM DATE: 18Mar66/ ORIG REF: 003/ OTH REF: 004/
ATD PRESS: 5105

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, T.

DECEASED

1889-1963

1964

Biology

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, Tr., Ing.; [illegible], Gr. [illegible]

Radiant heating of the [illegible] plant, Baneasa. Rev constr
si mat constr 16 no.5:252-255 My'64

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, V., Dr.; ILIESCU, M., dr.; DUMITRESCU-BOGDAN, O., dr.

Comparative value of tests with water, alcohol and histamine in investigation of the dynamics of gastric secretion in ulcerous disease; types of neurochemical stage of secretion. Med. int., Bucur. 3 no.7:1058-1063 Nov 56.

1. Lucrare efectuata in Clinica medicala I.M.F.--Bucuresti (director prof. C. C. Iliescu -- Spitalul "Bernat Andrei").

(GASTRIC JUICE
secretion in peptic ulcer, tests with water, alcohol & histamine, comparative value)
(STOMACH, physiology
secretion tests with water, alcohol & histamine, in peptic ulcer, comparison)
(PEPTIC ULCER, physiology
gastric secretion, tests with water, alcohol & histamine, comparison)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, V.; ILIESCU, M.; DUMITRESCU-BOGDAN, Olga; POPESCU, M.

Causes and prevention of ulcerous disease in several industrial establishments. Med. int., Bucur. 9 no.12:1858-1866 Dec 57.
(PEPTIC ULCER
in indust. workers & managers, causes & prev.)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, V.; dr; NICOLAESCU, V., dr; ILIESCU, M., dr; DUMITRESCU-BOGDAN, O., dr.

The value of the gastrographic water test in the diagnosis and evolution of duodenal ulcer disease. Med. int., Bucur. 12 no.2: 233-243 F '60.

1. Lucrare efectuata in Clinica a III-a medicala, I.M.F. Bucuresti; Spitalul "Bernat Andrei", director prof. C.C. Iliescu.
(PEPTIC ULCER, diagnosis)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, V., dr.; ANDRONACHE, I., dr.; TEODORESCU, P., prof.; ANGELESCU, H., dr.

Considerations on the factors intervening in determining recurrence of peptic ulcer. I. The study of the exogenous factors. Med. intern. 14 no.2:175-185 F '62.

1. Lucrare efectuata in Clinica medicala, Spitalul "Bernat Andrei", I.M.F., Bucuresti (director: prof. P. Teodorescu).
(PEPTIC ULCER)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, V., dr.; POPESCU, D.W., dr.; TEODORESCU, P., prof.

Microradiosonde in investigation of the motoricity and pH of the gastrointestinal tract. Preliminary note. Med. intern. 14 no.8: 1009-1016 Ag '62.

1. Lucrare efectuate in Clinica medicala, Spitalul "Bernat Andrei" I.M.F., Bucuresti (director: prof. P. Teodorescu).
(GASTROINTESTINAL SYSTEM) (HYDROGEN-ION CONCENTRATION)
(TELEMETRY)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

TEORDORESCU, P., prof.; TEODOREANU, T., dr.; SAVULESCU, V., dr.; ANDRONACHE, I., dr.; CIOACA, F., dr.

The clinical study and methodological aspects of the sequelae of epidemic hepatitis in a community. Med. intern. 15 no.3:287-293 Mr '63.

1. Lucrare efectuata in Clinica medicala a Spitalului "Bernat Andrei" (director: prof. P. Teodorescu).
(HEPATITIS, INFECTIOUS) (DIAGNOSIS)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESCU, V., dr.; ANDRONACHE, I., dr.; TEODORESCU, P., prof.; ANGELESCU, H., dr.

Considerations on the factors which intervene in the causing of recurrences of ulcer disease. II. Study of the endogenous factors. Med. intern. 15 no.1:69-82 Ja '63.

1. Lucrare efectuata in Clinica medicala, Spitalul "Bernat Andrei" (director: prof. P. Teodorescu), I.M.F., Bucuresti.
(PEPTIC ULCER) (BODY CONSTITUTION) (GENETICS, HUMAN)
(OCCUPATIONS AND PROFESSIONS) (STRESS) (DIET)
(AUTONOMIC DYSFUNCTION) (ENDOCRINOLOGY)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

TEODORESCU, P., prof.; SAVULESCU, V., dr.; ANDRONACHE, I., dr.

Pharmacodynamic tests in the diagnosis of ulcerous disease. Value of some tests to provoke ulcer pains by vascular overstress. Med. intern. 15 no.6:653-658 Je '63.

1. Lucrare efectuata in Clinica medicala a Spitalului "Bernat Andrei", Bucuresti.

(PEPTIC ULCER) (DIAGNOSIS)
(CARDIOVASCULAR SYSTEM) (PHARMACOLOGY)
(EPINEPHRINE) (EPHEDRINE) (INSULIN)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

TEODORESCU, P., prof.; SAVULESCU, V., dr.; ANDRONACHE, L., dr.

Pharmacodynamic tests in the diagnosis of ulcerous disease. I. Value of some diagnostic tests to induce ulcerous pains by motor and secretory functional overload. Med. intern. 15 no.10:1159-1166 '63.

1. Lucrare efectuata in Clinica medicala a spitalului "Bernat Andrei", Bucuresti.

(PEPTIC ULCER) (DIAGNOSIS)
(HYDROCHLORIC ACID) (HISTAMINE)
(INSULIN)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

TEODORESCU, P., prof.; SAVULESCU, V., dr.; ANDRONACHE, I., dr.

Clinical aspects of the pre-ulcerous phase of ulcerous disease. Stages of the evolution of peptic ulcer. Med. intern. (Bucur.) 16 no.12:1497-1504 D '64

1. Lucrare efectuata in Clinica medicala a Spitalului unificat de adulti al Raionului Tudor Vladimirescu, Institutul medico-farmaceutic, Bucuresti.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

TEODORESCU, P., prof.; SAVULESCU, V., dr.; ANDRONACHE, I., dr.; STEFAN, I., dr.; GANCEVICI, A., dr.; TINCU, S., chem.; STANCESCU, Smaranda, dr.

Adrenocortical physiopathological correlations in the pre-ulcerous stage of peptic ulcer. Med. intern. (Bucur.) 17 no.9:1069-1076 S '65.

1. Lucrare efectuata in clinicele medicale de la Spitalul Raionului "T. Vladimirescu" si de la Spitalul "Brincovenesc", Institutul medico-farmaceutic, Bucuresti.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULESKU, Trayan, akademik; KAMANIN, L.G.

Danube Delta. Priroda 50 no.8:43-49 Ag '61. (MIRA 14:7)

1. Prezident Akademii Rumynskoy Narodnoy Respubliki (for Savuleskuu).
2. Institut geografii AN SSSR (Moskva) (for Kamanin).
(Danube Delta--Description)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVULIONIS, A.

Toward a higher level of sanitary culture and healthy working and living conditions for our population. Sveik. Apsaug. no.4: 3-4 '64.

1. SAM Sanitarines-epidemiologines valdybos virsininkas.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUL'KIN, Aron Yevseyevich, inzh.; SATANOVSKIY, Rudol'f Leybovich, inzh.; IVANOV, B.N., red.; VASIL'YEV, Yu.A., red. izd-va; BELOGUROVA, I.A., tekhn. red.

[Automation of potentiometer and toroidal coil winding operations on transfer machines]Avtomatizatsiia protsessa namotki potentsiometrov i toroidov na stankakh rotornogo klassa. Leningrad, 1962. 17 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Pribory i elementy avtomatiki, no.4) (MIRA 15:10)
(Electric coils) (Potentiometer)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUN, M.G.

27

Potential of indium during the electrolysis of its sulfuric acid solutions with a mercury electrode. M. G. Savun and P. P. Tsyb (All Union Sci.-Research Mining-Met. Inst. Non-Ferrous Metals, Ust-Kamenogorsk). *Khim. Nauka i Prom.* 2, 803-4(1957).—The cathode potential, E_c, during electrolytic deposition of In on amalgams contg. appreciable concns. of In and the anodic potential, E_a, during the electrolytic decompn. of these amalgams were detd. as a function of the concn. of In, c.d., temp., and the acidity of the electrolyte. Evolution of H started at 5 ma./sq. cm. at a potential independent of the concn. of In in the amalgam and differed very little from the potential of pure Hg. Increasing the c.d. from 1 to 100 ma./sq. cm. shifted E_c toward more electroneg. values by 0.1 v. An increase in the concn. of In in the amalgam from 1 to 30 g. atoms/l. Hg shifted E_a from −0.30 to −0.43 v. at low c.ds. at 20°. Increasing the temp. from 20 to 80° shifted E_c by 0.15 v., whereas E_a was not affected. E_a was not affected by a change in the concn. of the electrolyte from 0.01 to 5 g. ions/l. nor by increasing the acidity from 0.1 to 5N. I. Bencowitz

Distr: 4E2c/4E4j

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

ZIMENKOV, I.A.; RED'KO, V.M.; TITOVSKIY, F.I.; PILYUGINA, I.I.; SAVUN, N.M.

Hydraulic press for stamping spherical bottoms of containers. Suggested by I.A.Zimenkov, V.M.Red'ko, F.I.Titovskii, I.I. Piliugina, N.M.Savun. Rats. i izobr. predl. v stroi. no.15:39-40 '60. (MIRA 13:9)

1. Po materialam tresta Metallurgmontazh Ministerstva stroitel'stva USSR.
(Hydraulic presses) (Containers)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

ACCESSION NR: AP4041572 S/0293/64/002/003/0492/0497

AUTHOR: Vernov, S. N.; Nesterov, V. Ye.; Pisarenko, N. F.; Savenko, I. A.; Savun, O. I.; Shavrin, P. I.; Sharvina, K. N.

TITLE: Investigation of terrestrial radiation belts in the region of the Brazilian magnetic anomaly at heights of 235 to 345 km

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 3, 1964, 492-497

TOPIC TAGS: magnetic anomaly, anomaly region, inner radiation belt, magnetic level, Geiger counter, electron lifetime, artificial radiation belt

ABSTRACT: A large region of high radiation intensity at the height of 300 km was detected by the second space probe at the Brazilian great negative geomagnetic anomaly. The intense radiation is caused by the sinking inner radiation belt at that height in the anomaly region; the intensity of the magnetic field at the height mentioned is less than 0.22 gs. The comparison of the counter speeds of Cosmos 4 with those of the second probe showed a more rapid decrease in the intensity of the magnetic field when the measurements were

Card 1/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

ACCESSION NR: AP4041572

carried out by Cosmos 4 at magnetic levels 1.2, 1.3, and 1.45. This comparison shows an increase of protons of the energy 25 Mev in the period between the launching of these space probes. Four times more particles were counted during the Cosmos-4 flight in 1962 than in 1960 during the flight of the second space probe. The lifetime of electrons in the artificial radiation belt is different for individual levels and the intensity of the magnetic field. Orig. art. has: 3 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 14Jan64 / ATD PRESS: 3064 ENCL: 00

SUB CODE: AA NO REF SOV: 004 OTHER: 008

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUN, O. I.; SHAVRIN, P. I.; SHARVINA, A. N.;

PISARENKO, N. F.; SAVENKO, I. A.;

" A Study of the Earth's radiation belts in the region of the Brazilian magnetic anomaly at altitudes of 235 to 345 kms. (USSR)."

Report submitted for the COSPAR Fifth International Space Science Symposium, Florence, Italy, 8-20 May 1964.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 53715-65 EEC-4/EWG(v)/EWA(h)/EWT(1)/EEC(t)/EEC(m)/FCC Po-5/Pi-4/Po-4/Pq-4/
Pae-2/Peb IJP(c) GW

ACCESSION NR: AP5014116

UR/0203/65/005/003/0546/0549
550.388.2

AUTHOR: Savenko, I. A.; Savun, O. I.; Shavrin, P. I.; Yakovlev, B. M.

TITLE: Combined proton spectrometer for space research

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 3, 1965, 546-549

TOPIC TAGS: spectrometer, proton spectrometer, telescope spectrometer, combination spectrometer

ABSTRACT: A description is given of a four-channel telescope spectrometer designed for measuring the energy spectra of protons in the 3—100 Mev range in the presence of intense electron flux. A cylindrical silicon detector, 17 mm in diameter and 2.0 mm thick, is used as the dE/dx detector, where E is energy level. It has a sensitive layer of 1.6 mm and is mounted in front of a CsI crystal which serves as the E detector. The preamplifier and amplifier of the silicon detector are placed directly beside it. A detector bias of about 20 v is provided by a separate battery. The silicon detector senses particles whose dE/dx exceeds that of electrons (protons, deuterons, α-particles, etc.) and confines proton energy measurements to the 3—100 Mev range. The cylindrical CsI crystal is 15 mm in diameter and 30 mm in

Card 1/3

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 53715-65

ACCESSION NR: AP5014116

height, and is covered on three sides by a plastic anticoincidence cap. The crystal, the cap, and the photomultiplier are shielded from electrons having energies up to 8 Mev, and the crystal is protected from light by an aluminum foil 10 μ thick. Fig. 1 of the Enclosure shows a block diagram of the spectrometer. Negative pulses from the FEU-16 photomultiplier are transmitted to the emitter follower (input resistance, about 200 Kohm; input capacitance, 5—8 pf). The maximum signal transmitted without distortion is about 5 v. With an emitter resistance of 68 ohm, the output pulses transmitted to the three-channel analyzer, consisting of three integral discriminators, are set to threshold levels between 0.1 and 4 v. At the discriminator output, the negative pulses have a duration of 1.0 μsec and a rise time of 0.05 μsec. The pulses are transmitted from the photomultiplier to a circuit of rapid component separation which uses two pulse transformers. The pulses transmitted from the separation circuit are shaped by an integral discriminator circuit and then inverted. A delay line with t = 0.25 μsec is required because the separation circuit shapes pulses with a delay of about 0.25 μsec. The amplified signals from the silicon detector are transmitted to the shaper, which is a monostable multivibrator with a threshold of 50—100 Mv. The pulses from the detector, the three integral discriminators, and the separation circuit are transmitted to double coincidence and anticoincidence circuits. The double coincidence and anticoincidence circuits, no. I, II, III, and anticoincidence no. IV, correspond to the registration

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 53715-65

ACCESSION NR: AP5014116

of protons in the 20—100, 40—100, 60—100, and 3—20-Mev energy ranges. The resolution time of the coincidence circuits is about 1 μsec, ensuring a count rate of 1.2×10^5 pps, or registration of 10^6 proton/cm^2 sec. Tests at +50 to −20C have demonstrated that threshold fluctuation does not exceed ±10%. The dimensions of the electronic circuit are 38 x 30 x 14 mm. The entire electronic circuit, including the high-voltage transformer for the photomultiplier, does not consume more than 0.3 w. Orig. art. has: 3 figures. [DW]

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Institut yadernoy fiziki (Moscow State University, Institute of Nuclear Physics)

SUBMITTED: 03Jun64 ENCL: 01 SUB CODE: SV, OP

NO REF SOV: 004 OTHER: 003 ATD PRESS: 4020

Card 3/4

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 53716-65 EEC-4/EWG(v)/EWT(1)/EWT(m)/EEC(t)/FCC/EWA(h) Pe-5/Pi-4/Pq-4/Pc-4 /
Pae-2/Peb GW

ACCESSION NR: AP5014117 UR/0203/65/005/003/0550/0553
550.388.2

57
56
B

AUTHOR: Savenko, I. A.; Savun, O. I.; Yurovskiy, A. V.

TITLE: Device for registering 3—14-Mev protons, α-particles, and nuclei of Z > 2

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 3, 1965, 550-553

TOPIC TAGS: proton counter, alpha particle counter, particle counter, radiation measurement

9M 10 19

ABSTRACT: A five-channel device has been designed for the registration of 3—14-Mev protons, α-particles, and nuclei of Z > 2. Three channels measure protons, one channel, α-particles, and one channel nuclei of Z > 2. The surface-barrier type detector is made of n-type silicon (resistivity of about 600 ohm-cm) coated with tin dioxide, silver, and aluminum (0.5 μ thick). The thickness of the nonsensitive layer does not exceed 200 mg/cm^2. The detector was mounted in a kovar housing. Pulse amplitude at the detector output is about 1 mv/Mev, and natural resolution of the detector is better than 1%. A preamplifier is mounted together with the detector. The overall gain of amplifier and preamplifier is about 300. The shaper is a monostable multivibrator yielding positive output pulses of 6 μsec in duration

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 53716-65

ACCESSION NR: AP5014117

and 3 v in amplitude. Its threshold level is about 100 mv. The scaling system has several high-frequency triggers. The circuit makes it possible to register with an error of not more than 10% up to 6×10^4 pps, i.e., 10^6 part/cm^2/sec/ster. The 6 v power supply has a stability of better than ±1.5%. The overall dimensions of the device are 38 x 30 x 14 mm. Amplifier current drain is 1.5 mamp and the shaper requires 5 mamp. The channel for α-particles has a registration threshold of 2 Mev, and particles in the 2—18-Mev band are registered. The channel for nuclei of Z > 2 has a threshold of 6 Mev. The channels for protons register in the 0.3—8, 7—11, and 11—14-Mev band. Orig. art. has: 3 figures. [DW]

ASSOCIATION: Moskovskiy gosudarstvennyy universitet, Institut yadernoy fiziki (Moscow State University, Institute of Nuclear Physics)

SUBMITTED: 03Jun64 ENCL: 00 SUB CODE: NP

NO REF SOV: 003 OTHER: 005 ATD PRESS: 4020

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

EWT(1)/EWT(m)/FS(v)-3/EWA(h) TT/GW

ACC NR: AP6002767 SOURCE CODE: UR/0203/65/005/006/1129/1132

AUTHOR: Savenko, I. A.; Tel'tsov, M. V.; Maduyev, V. L.; Savun, O. I.; Yurovskiy, A. V.

ORG: Moscow State University, Institute of Nuclear Physics (Moskovskiy gosudarstvennyy universitet. Institut yadernoy fiziki)

TITLE: Radiometric instrumentation on board the Cosmos-41 satellite

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 6, 1965, 1129-1132

TOPIC TAGS: radiation measurement, scintillation counter, gas discharge counter, semiconductor counter/Cosmos 41 satellite

ABSTRACT: The RE-2 radiometric equipment was mounted on Cosmos-41 to control the radiation level, to measure the total absorbed radiation dose, and to study the composition of ionizing radiation. It consisted of the following components: 1) A scintilation counter with an FEU-16 photomultiplier and an NaI(Tl) crystal 30 mm in diameter and 14 mm high. The counter was used to record both the total energy release in the crystal and the number of particles with energies greater than 90 kev and the number of particles with energies greater than 4 Mev. 2) Two end-window SBT-9 gas-discharge counters. To reduce the effects of bremsstrahlung radiation, the side surfaces of the counters were coated with a layer of aluminum and lead of 1.5 g/cm2. 3) N-p semiconductor counters for recording medium-energy protons.

Card 1/2

UDC: 551.521.67:629.195.2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

ACC NR: AP6002767

One of the counters was coated with 70-μ aluminum foil with uranium salt deposited on its inner surface for calibration purposes. This counter generated control pulses from uranium α-particles. The geometrical factor of each of the counters was about 0.07 cm^2 sterad. 4) An STS-5 gas-discharge counter. 5) SI-ZBG gas-discharge counters for continuous recording of the absorbed radiation dose. Orig. art. has: 3 figures. [JR]

SUB CODE: 17/ SUBM DATE: 28Dec64/ ORIG REF: 004/ OTH REF: 002/ ATD PRESS: 4173

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, A.

Overhauling of horizontal sweep autotransformers. Radio no.9: 43 S '62. (MIRA 15:9)

(Radio--Transformers)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, A. (Moskva)

Use of kinescopes with a "negative." Radio no.10:50 O '62.
(MIRA 15:10)

(Television—Receivers and reception)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

KHAR'KOV, G.M., gornyy inzh.; TUR-UKIN, [illegible], gornyy inzh.

Reducing the output of oversize in limestone quarries of the Teploye Ozero cement plant. Gor. zhur. no.11:63-64 [illegible] '63. (MIRA 17:6)

1. Teplooy rakiy tsementnyy zavod, Khabarovskiy kray.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, A.T.; FEDOROV, S.T.; agronom po sevooborotam; RATNIKOV, A.M., agronom

"Crop rotations in the non-Chernozem zone" by I.A. TSivenko. Reviewed by A.I. Savushkin, S.T. Fedorov and A.M. Ratnikov. Zemledelie 23 no.23:95-96 Mr '61. (MIRA 14:3)

1. Glavnyy agronom Tul'skogo oblesel'khozupravleniya.
(Rotation of crops)
(TSivenko, I.A.)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 1996-66 EWT(m)/EPF(c)/EPF(n)-2/EWG(m) WW

ACCESSION NR: AP5014734 UR/0201/65/000/001/0008/0017

AUTHORS: Krasin, A. K.; Navumaw, V. A. (Naumov, V. A.); Savushkin, I. A.; Stralkow, R. I.; Yarashevich, A. I.

TITLE: Physical characteristics of the type IRT-2000 swimming-pool research reactor with loop channels

SOURCE: AN BSSR. Izvestiya. Seriya fiziko-tekhnicheskikh nauk, no. 1, 1965, 8-17

TOPIC TAGS: nuclear research reactor, nuclear reactor component, nuclear reactor technology

ABSTRACT: The article describes a modified standard reactor which went into operation at the Institute of Heat and Mass Exchange of the Academy of Sciences of the Belorussian Republic in May 1962. The original design was described by V. V. Goncharov et al. at the second Geneva Conference in 1958 (Trudy II Mezhdunarodnoy konferen-

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 1996-66

ACCESSION NR: AP5014734

4

tsii po mirnomu ispol'zovaniyu atomnoy energiee, v. 2, Atomizdat, 1959) and elsewhere. Since the original design made no provision for test loops, the authors describe the changes in the construction of the individual units of the reactor at the location where the loop was installed, the differences arising in the physical characteristics, experimental investigations of the physical characteristics, experimental investigations of the physical characteristics of the modified reactor, including the new critical experiments (performed by Yu. G. Nikolayev of the I. V. Kurchatov Institute of Atomic Energy), and the main results. The latter have shown that installation of a loop channel with approximately 3 kg of steel is feasible, and that optimal materials surrounding the loop channel can be chosen so as to make possible either a maximum run or a maximum flux of thermal neutrons. At a power of 2000 kW the attainable neutron flux is 10^{14} neutron/cm^2 sec. Orig. art. has: 5 figures and 2 tables.

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

L 1996-66

ACCESSION NR: AP5014734

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NR REF SOV: 005 OTHER: 004

Card 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

ACC NR: AP/002874 (A,N) SOURCE CODE: UR/0201/66/000/004/0005/0011

AUTHOR: Krasin, A. K.; Litvinenko, B. A.; Savushkin, I. A.; Obraztsova, Ye. A.

ORG: none

TITLE: Calculation of the radiation endurance of a boron-containing radiation element in the IRT-2000 loop installation

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichnykh navuk, no. 4, 1966, 5-11

TOPIC TAGS: nuclear reactor technology, reactor neutron flux, nuclear radiation, radiation chemistry, boron/ IRT-2000 reactor

ABSTRACT: The authors present the results of calculations aimed at checking the feasibility of using fuel rods containing boron glass fiber (filament diameter 5 - 7 μ) and placed in the center of the IRT-2000 reactor. The radiation element was made of seven steel tubes (14 mm in diameter), forming a bundle, each tube being filled with boron glass enriched by 90% with B^{10}. The glass contained 80% (by weight) of B^{10} enriched to 90%. The calculations yield the optimal B^{10} concentration, the radiation power (the energy absorbed in the reagent), and also the change effected in the reactivity of the reactor by placing of the boron-containing element in the center of the reactor. The calculations demonstrate the feasibility of obtaining a sufficiently high radiation power with this type of element, sufficient for radiation-chemistry research. An effective way of increasing the radiation power is to increase the content of the B^{10} in the fiberglass filaments. In the particular

Card 1/2

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

ACC NR: AP7002874

reactor employed, with a neutron flux ~6 x 10^{12} neut/cm^2-sec thermal and ~1.4 x 10^{13} neut/cm^2-sec intermediate, the reactivity margin was found to be quite high (~4.2%). Orig. art. has: 4 figures and 8 formulas.

SUB CODE: 18/ SUBM DATE: 12Jun66/ ORIG REF: 003/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, M.

Individual adjustment of K-80 and K-81 carburators. Avt. transp. 32 no.10:9-11 O '54. (MLRA 7:12)
(Automobiles--Engines--Carburators)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN,M., inzhener

Mechanized washing of motorbuses. Avt.transp.33 no.8:17-18 Ag'55.
(Motorbuses--Maintenance) (MLRA 8:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, M., inzhener.

Device for placing spare tires in the baggage compartment of the ZIS-155 automobile. Avt. transp. 34 no.7:33 Jl '56. (MLRA 9:10)

(Automobiles--Tires)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, M., inzhener.

Device for suspending the front wheels of the M-20 automobile. Avt. transp. 35 no.1:18 Ja '57. (MLRA 10:3)
(Automobiles--Wheels)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, N.F., kand. ekonom. nauk, dotsent

Ways of developing the material and technical basis of communism. Uch. zap. LIIZHT no.3:3-23 '62.
(MIRA 17:3)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKIN, V.

Sugar beet storing in high piles. Sakh.prom. 38 no.2:68 F '64. (MIRA 17:3)

1. Saratovskiy institut mekhanizatsii sel'skogo khozyaystva.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

MIKHAYLOV, V.G.; SAVUSHKINA, A.N., inzh., rukovoditel' diplomnogo proyekta

Fire hazard [illegible] the production of terylene films. Pozh. bezop. no.3:27-3[illegible] '64. (MIRA 18:5)

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SAVUSHKINA, Antonina Nikolayevna, podpolkovnik; SMIRNOV, Vasiliy Mikhaylovich, inzh.-podpolkovnik; KALASHNIKOV, K.A., red.; OVCHINNIKOVA, V.V., red. izd-va; LELYUKHIN, A.A., tekhn. red.

[Fire prevention; textbook for sergeants' schools of the Militarized Fire Prevention Units of the Ministry of the Interior] Pozharnaia profilaktika; uchebnoe posobie dlia serzhantskikh shkol VPO MVD. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1961. 390 p. (MIRA 15:1)

(Fire prevention--Study and teaching)

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FYSHENKO, A.S.; SAVUSHKINA, A.N., inzh., rukovoditel' raboty

Fire prevention measures in the production of formaldehyde.
Pozh. bezop. no.4:73-80 '65. (MIRA 19:1)

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GLAGOLEVA, Ye.F.; GRADSKAYA, N.N.; KOLOSOV, A.A.; MYULLER, V.V.; SAVUSHKINA, A.S.; CHALOVA, Ye.A.

New small-size e.m.f. meters. Nov.nauch.-issl.rab.po metr. VNIIM no.4:4-6 '64. (MIRA 18:3)

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SAVUSHKINA, G.P.

USSR/Physical Chemistry - Kinetics. Combustion, Explosions, Topochemistry, Catalysis. B-9

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 7184.

Author : N.S. Yenikolopyan, G.V. Kozlov, G.P. Savushkina.
Inst :
Title : Upon the Maximum Concentrations of Stable Intermediary Products in Composite Chain Reactions.

Orig Pub: Zh. fiz. khimii, 1957, 31, No 4, 865-873.

Abstract: It is shown for composite chain reactions of the type A → B → C proceeding in two stages (chain formation of a stable intermediary product B from the initial substances A and chain expenditure of B with the formation of final substances C) that there is a proportionality $n_i = \alpha_{ij} n_j$ (1) among the concentrations (n) of all active centers (AC) in the reaction system; in this equation, α_{ij} does not depend on the rates of AC generation (W), of their ramification (a) and of their destruction (g). Should a slowly re-

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KORCHAGIN, V.B.; SEMENOV, S.M.; SAVUSHKINA, I.N.

Colorimetric method for the determination of erythromycin.
Antibiotiki 6 no.4:311-314 Ap '61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.
(ERYTHROMYCIN)

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KORCHAGIN, V.B.; SAVUSHKINA, L.N.

Spectrophotometric method of determining nystatin. Antibiotiki 8 no.7:634-638 Jl'63 (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

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SEMENOV, S.M.; KORCHAGIN, V.B.; NAUMOVA, R.G.; SAVUSHKINA, L.N.

Study on the stability of the antiphage action of fumagillin. Antibiotiki 9 no.1:81-84 Ja '64. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

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SAVUSHKINA, N. I.

"Dramatizirovannyy obraz v nekotorykh zhanrakh russkogo fol'klora."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKINA, N.M.

Transplantation of a cornea preserved at low temperatures.
Vest.oft. no.5:36-42 '62. (MIRA 15:12)

1. Kafedra glaznykh bolezney (zav. - prof. T.I.Yeroshevskiy) Kuybyshevskogo meditsinskogo instituta.
(CORNEA--TRANSPLANTATION) (TISSUES--PRESERVATION)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001447420017-1

SAVUSHKINA, N. M., aspirant

Morphological changes in the cornea at low temperatures; experimental and pathohistological study. Oft. zhur. 17 no.4:235-238 '62. (MIRA 15:7)

1. Iz kafedry glaznykh bolezney (zav. - prof. T. I. Yeroshevskiy) Kuybyshevskogo meditsinskogo instituta.

(CORNEA) (TISSUES--PRESERVATION)

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

2

Kinetics of catalytic dehydration of ethyl alcohol. T. V. Antipina, V. I. Savushkina, and A. V. Frost (Lab. Phys. Chem., Moscow State Univ.). *Vestnik Moskov. Univ.* **1946**, No. 3/4, 119-22.—The linear relation between v_0 ln $[1/(1 - y)]$ and $v_0 y$ (cf. preceding abstr.) holds for $C_2H_5OH \rightarrow C_2H_4 + H_2O$ with both abs. alc. over an Al_2O_3-SiO_2 catalyst (Al_2O_3 5.3) at 425°, $\alpha = 0.4$ and $\beta = 0.8$, and with alc.-water mixts. at 400°, over an Al_2O_3 catalyst heated to 800°. In the latter case, when the reaction product is admixed in advance to the initial reactant, the expressions for the consts. α and β have to be modified to $\alpha = k_1 b_1 S/[1 + \delta(1 + b_2) + \Sigma b_i]$ and $\beta = (n - b_1 + \Sigma b_i)/[1 + \delta(1 + b_2) + \Sigma b_i]$ where b_2 refers to H_2O and δ = moles H_2O/mole EtOH; this leads to a linear dependence of $1/\alpha$ and $1/\beta$ on δ. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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SAVUSHKINA,V.I.; SYAVTSILLO,S.V.; TERENT'YEV,A.P.

Radiocarbon tracer rings used for studying toluene and benzene synthesis. Dokl. AN SSSR 102 no.6:1139-1142 Je'55. (MLRA 8:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Terent'yev)
(Toluene) (Benzene) (Carbon--Isotopes)

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