"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

22675

Determination of inertia...

S/200/61/000/001/001/005
D223/D305

а) для случая $w_1 > w_2$

$$R_1 = \frac{S_1}{\tau_1} = \left(\frac{\tau_2}{\tau_1} - 1\right) T_1,$$

б) для случая $w_1 < w_2$

$$R_2 = \frac{S_2}{\tau_2} = \left(\frac{\tau_1}{\tau_2} - 1\right) T_2,$$

в) для случая $w_1 = w_2$

$$R = 0.$$

where w_1 and w_2 = flow rates of media. The last case ($w_1 = w_2$) has pure retardation as S = 0. This case, state the authors, is best for use in solving the control problem. By means of nomograms given above, values of T_1, T_2 can be found and their change with the change of parameters could be used in constructing the exchanger for most efficient and economical processing. Such a case is governed by $F(\alpha, \beta) = 0$, and the connection between α and β is given by the quantity P as defined by:

Card 10/12

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

$$P = 1 - m = \frac{\alpha(1 - e^{-t})}{\alpha + \beta\theta} \qquad (16)$$

In order to check theoretical deductions the authors give the results of practical work and state that these results agreed well with (8), (12) and (14). The article contains a short list of symbol values: u_1, u_2 - temperature of the first and second media; v - temperature of the dividing wall; x_1 - heat exchanger coordinate section, calculated in the direction of the first medium's movement; ω_1, ω_2 - speed of media movement; k_1, k_2, k_3, k_4 - proportionality coefficients of temperature changes; P_1 - boundary perimeter of interface of wall and first medium; P - differentiating operator; P_2 - boundary perimeter of interface of wall and second medium; k_1, k' - heat transfer coefficients; S_3 - cross section area of dividing wall; γ_3 - specific gravity of wall; C_3 - heat capacity of wall. There are 3 figures and 3 Soviet-bloc references.

Card 11/12

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

22675

Determination of inertia... S/200/61/000/001/001/005
D223/D305

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR (Institute of Automation and Electrometry, Siberian Section, AS USSR)

SUBMITTED: April 4, 1960

Card 12/12

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

S/200/61/000/008/001/004
D218/D306

26.5200

AUTHORS: Devyatov, B.N., and Khor'kova, G.S.

TITLE: Inertia and regulation of counterflow heat exchangers with variable-speed heat carriers

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Sibirskoye otdeleniye, no.8, 1961, 36 - 43

TEXT: In previous papers the first of the present authors and Yu.N. Kornev (Ref 1: Tr. In-ta avtomatiki i elektrometrii, SO, AN SSSR, no. 2,1960) and S.V. Lapshin (Ref 2: Tr. In-ta avtomatiki i elektrometrii, SO, AN SSSR, no. 2, 1960) discussed the transfer functions for heat exchangers of the " tube in tube" type and discussed their inertia and regulation under steady-state conditions. It was assumed that the velocity of the heat carriers was constant. In reality, the velocity is a random function of time and hence a steady-state theory cannot be used. These and other considerations necessitate the study of the dynamic properties of such heat exchangers. The set of equations which describes nonsteady state processes in a counterflow heat exchanger is of the form Eq. (1)

Card 1/10

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

$$\begin{cases} \dfrac{\partial u_1}{\partial t} + w_1 \dfrac{\partial u_1}{\partial x} = \varkappa_1 (U_2 - U_1), \\ \dfrac{\partial u_2}{\partial t} - w_2 \dfrac{\partial u_2}{\partial x} = \varkappa_2 (U_1 - U_2), \end{cases} \quad (1)$$

where U_1 and U_2 is the temperature of the two moving media in the heat exchanger respectively, w_1 and w_2 are the linear velocities, and $\varkappa_1$, $\varkappa_2$, are coefficients describing the heat exchange between the two media. Since the velocity is an arbitrary function of time, these equations have variable coefficients and their general solution is difficult to obtain. The transfer functions for the problem may be found in two ways. Firstly, one can determine the solution for a step-change in the velocity, and secondly, one can obtain an approximate representation of Eq. (1) by a nonhomogeneous system with constant coefficients. The present authors show that the first method does not lead to the required transfer function but leads to a rather inconvenient formula which is a nonlinear function of the velocity change. It is, therefore, concluded that it is of doubtful value for practical purposes. A simpler, and linear, transfer function can be obtained by the second of

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

the above two methods. When the steady-state conditions are disturbed, i.e. when there is a change in the velocity, Eq. (1) assumes the form -Eq. (6)-

$$\begin{cases} \dfrac{\partial(u_{10}+\Delta u_1)}{\partial t} + (w_1+\Delta w_1)\dfrac{\partial(u_{10}+\Delta u_1)}{\partial x} = \varkappa_1\,[(u_{20}+\Delta u_2) - \\ \qquad - (u_{10}+\Delta u_1)], \\ \dfrac{\partial(u_{20}+\Delta u_2)}{\partial t} - (w_2+\Delta w_2)\dfrac{\partial(u_{20}+\Delta u_2)}{\partial x} = \varkappa_2\,[(u_{10}+\Delta u_1) - \\ \qquad - (u_{20}+\Delta u_2)], \end{cases} \tag{6}$$

where u_{10} and u_{20} are the steady-state values of the temperature of the first and second media at t=0. The equations representing the steady-state conditions are of the form -Eq. (7)-

$$\begin{cases} \dfrac{\partial u_{10}}{\partial t} + w_1 \dfrac{\partial u_{10}}{\partial x} = \chi_1 (U_{20} - U_{10}), \\ \dfrac{\partial u_{20}}{\partial t} - w_2 \dfrac{\partial u_{20}}{\partial x} = \chi_2 (U_{10} - U_{20}), \end{cases} \tag{7}$$

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

where $\frac{\partial u_{10}}{\partial t} = 0 = \frac{\partial u_{20}}{\partial t}$. Subtracting Eq. (7) from Eq. (6) one obtains the following two equations:

$$\begin{cases} \frac{\partial u_1}{\partial t} + w_1 \frac{\partial u_1}{\partial x} + \Delta w_1(t) \frac{\partial u_{10}}{\partial x} + \Delta w_1(t) \frac{\partial u_1}{\partial x} = \chi_1 (U_2 - U_1), \\ \frac{\partial u_2}{\partial t} - w_2 \frac{\partial u_2}{\partial x} - \Delta w_2(t) \frac{\partial u_{20}}{\partial x} - \Delta w_2(t) \frac{\partial u_2}{\partial x} = \chi_2 (U_1 - U_2). \end{cases}$$

Assuming that $\Delta w(t)$ are small and neglecting $\Delta w_1(t) \frac{\partial u_1}{\partial x}$ and $\Delta w_2(t) \frac{\partial u_2}{\partial x}$, one obtains the following differential equations with constant coefficients- Eq. (8)-

$$\begin{cases} \frac{\partial u_1}{\partial t} + w_1 \frac{\partial u_1}{\partial x} = \chi_1 (U_2 - U_1) - \Delta w_1(t) \frac{\partial u_{10}}{\partial x}, \\ \frac{\partial u_2}{\partial t} - w_2 \frac{\partial u_2}{\partial x} = \chi_2 (U_1 - U_2) + \Delta w_2(t) \frac{\partial u_{20}}{\partial x}. \end{cases} \quad (8)$$

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

This set of equations will hold only in the case of small perturbations. The solution may be found with the aid of the operator method subject to the following boundary conditions:

$$u_1(x_1, 0) = 0, \qquad u_2(x_1, 0) = 0,$$

$$u_1(0,t) = {}_1(t), \qquad u_2(l,t) = {}_2(t).$$

The final transfer function is then found to be - Eq. (9) -

$$K_{11} = \overline{K}_{11} C\, \alpha_1 \frac{\dfrac{1}{p\tau_1+\alpha_1+\lambda_1}\,\dfrac{1-e^{-(\alpha_1-\alpha_2+\lambda_1)}}{\alpha_1-\alpha_2+\lambda_1} - \dfrac{1}{p\tau_1+\alpha_1+\lambda_2}\,\dfrac{1-e^{-(\alpha_1-\alpha_2+\lambda_2)}}{\alpha_1-\alpha_2+\lambda_2}}{\dfrac{1}{p\tau_1+\alpha_1+\lambda_1} - \dfrac{1}{p\tau_1+\alpha_1+\lambda_2}}, \qquad (9)$$

where

$$\overline{K}_{11} = \frac{(\lambda_1-\lambda_2)\,e^{\lambda_1+\lambda_2}}{(\lambda_1+p\tau_1+\alpha_1)\,e^{\lambda_1} - (\lambda_2+p\tau_1+\alpha_1)\,e^{\lambda_2}};$$

$$\alpha_1 = \frac{x_1 l}{w_1}; \quad \alpha_2 = \frac{x_2 l}{w_2};$$

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

and C is the temperature difference between the first and second media at the output of the apparatus in steady-state conditions. The above transfer function is convenient both for studying the dynamic properties of heat exchangers and also in practical calculations concerned with control problems. A consideration of the transfer functions obtained in this way shows that when there is a change in the velocity and the steady-state conditions are thus upset, the transient process at the output begins instantaneously, i.e. there is no delay, which is consistent with the physical interpretation of the problem. It follows that the operation of the heat exchanger may be better controlled by adjusting the velocity of one of the media rather than by adjusting the temperature. In practice, it is convenient to define the inertia of the heat exchanger. The inertia is numerically equal to the area between the transient process curve and the straight line corresponding to the new steady state conditions, i.e.

$$I = \frac{1}{m} \int_0^\infty \left[m - u_1(t)\right] dt ,$$

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

where m is temperature in the new steady-state conditions. The inertia can also be expressed in terms of the transfer function Ref 1.):

$$I = - \lim_{p \to 0} \left[\ln K_{11} \right]' . \qquad (10)$$

A further useful quantity is the dimensionless inertia which may be defined by

$$S = \frac{I}{\tau_1 + \tau_2} .$$

Since the transient process in this case occurs immediately, i.e. there is no delay, the inertia is also a measure of the regulation. Using the linear transfer function given by Eq. (9), it is found that the inertia is given by - Eq. (11) -

$$S = S_1 + \alpha_1 \alpha_2 \frac{2(\alpha_1 - \alpha_2) - \frac{(\alpha_1 - \alpha_2)^2}{2} - 3 + e^{\alpha_2 - \alpha_1}(3 + \alpha_1 - \alpha_2)}{(\alpha_1 - \alpha_2)^2 [\alpha_1 (\alpha_1 - \alpha_2) - \alpha_2 (1 - e^{\alpha_2 - \alpha_1})} +$$

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

$$+\tau_1' \frac{\dfrac{\alpha_2}{\alpha_1-\alpha_2} - \dfrac{\alpha_1(\alpha_1-\alpha_2)}{2} - e^{\alpha_2-\alpha_1}\left[\dfrac{\alpha_2}{\alpha_1-\alpha_2}+\alpha_2\right]}{\alpha_1(\alpha_1-\alpha_2)-\alpha_2(1-e^{\alpha_2-\alpha_1})}, \qquad (11)$$

where

$$\tau_1' = \frac{\tau_1}{\tau_1+\tau_2},$$

and S_1 is the inertia when the temperature of the first medium is disturbed, and is given by

$$S_1 = \alpha_1\alpha_2 \frac{(\alpha_1-\alpha_2)(1-e^{\alpha_2-\alpha_1}) - 2(1-e^{\alpha_2-\alpha_1})}{(\alpha_1-\alpha_2)^2(\alpha_1-\alpha_2 e^{\alpha_2-\alpha_1})} + \tau_1'.$$

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

The above formula gives the inertia of the transient process in the heat exchanger as a function of its parameters α_1, α_2, and τ'_1. Fig. 2 shows the curves od equal inertia. This figure is convenient in the selection of the optimum control conditions. However, the values of the parameters which correspond to the optimum control conditions do not always ensure that the apparatus will work satisfactorily in other respects. Fig. 3 shows typical plots of curves of equal inertia for given values of τ'_1. Other figures reproduced may be used to determine the inertia for any values of α_1, α_2, τ'_1. In this way, the authors obtain a set of graphs which describe the change in the inertia as a function of the parameters of the heat exchangers. These may be used to select the optimum parameters for control purposes. There are 8 figures and 3 Soviet-bloc references.

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk (Institute of Automation and Electrometry of the Sibirian Branch AS SSSR, Novosibirsk)

SUBMITTED: February 7, 1961

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.; GIMEL'SHTEYN, F.Ya.

Equation for the interaction of moving media in technological apparatus taking into consideration the influence of the thermal effect of the chemical reaction. Izv. Sib. otd. AN SSSR no. 3:12-20 '61. (MIRA 14:5)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk.

(Chemical reactions, Heat of)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

27731
S/200/61/000/009/001/003
D219/D301

24.5200

AUTHORS: Devyatov, B.N., and Kornev, Yu.N.

TITLE: Determination of transients in continuously operating heat-exchangers

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye Izvestiya, no. 9, 1961, 21-27

TEXT: The errors in approximate representation of transient processes can be evaluated from experimental data. The lack of exact theoretical expressions does not permit, however, determining the origin and, therefore, the meaning of these errors. In the present article, the authors determine exact integral curves and solve the differential equations for the heat exchange which permit exact calculation of the transient for a unit pulse input in the same type of heat exchanger. Under the same assumptions and using the same notation the initial differential equations are

$$\frac{\partial u_1}{\partial t_1} + W_1 \frac{\partial u_1}{\partial x_1} = k_1 (u_2 - u_1),$$

Card 1/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

27731
S/200/61/000/009/001/003
D219/D301

4

Determination of transients ...

$$\frac{\partial u_2}{\partial t_1} + W_2 \frac{\partial u_2}{\partial x_1} = k_2 (u_1 - u_2), \qquad (1)$$

where u_1, u_2 - temperatures of the 1st and 2nd medium respectively, k_1, k_2- proportionality factors of temperature change, x_1 - the coordinate of the cross section of the instrument in the direction of the 1st medium movement t_1 - time in seconds. The same equation (1) in dimensionless complex parameters has the form of

$$\tau_1 \frac{\partial u_1}{\partial t} + \frac{\partial u_1}{\partial x} = \alpha (u_2 - u_1),$$

$$\tau_2 \frac{\partial u_2}{\partial t} + \frac{\partial u_2}{\partial x} = \beta (u_1 - u_2), \qquad (2)$$

where

Card 2/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

27731
S/200/61/000/009/001/003
D219/D301

Determination of transients ...

$$\alpha = \frac{k_1 l}{w_1}, \qquad \beta = \frac{k_2 l}{w_2}, \qquad x = \frac{x_1}{l},$$

$$t = \frac{t_1}{|\tau_1' - \tau_2'|}, \qquad \tau_1 = \frac{\tau_1'}{|\tau_1' - \tau_2'|}, \qquad \tau_2 = \frac{\tau_2'}{|\tau_1' - \tau_2'|},$$

in which

$\tau_1' = \frac{l}{w_1}$; $\tau_2' = \frac{l}{w_2}$; where l -- length of the heat exchanger and $t = \frac{t_1}{\tau_1' + \tau_2'}$; the transient is assumed to exist at the output with a temperature at the input being u_1 and the problem is solved in all cases for the zero condition. $u_1(o,x) = 0, u_2(o,x) = 0$. With the counter flow present Eq. (2) takes the form of Eq. (3)

Card 3/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

27731
S/200/61/000/009/001/003
D219/D301

Determination of transients ...

$$\tau_1 \frac{\partial u_1}{t} + \frac{\partial u_1}{x} = \alpha (u_2 - u_1) ,$$

$$\tau_2 \frac{\partial u_2}{\partial t} - \frac{\partial u_2}{\partial x} = \beta (u_1 - u_2), \qquad (3)$$

with the boundary conditions $u_1(t,0) = 1$, $u_2(t,1) = 0$. Because of the series structure the solution for any number of terms can be taken, with the exact solution obtained every time within the interval $(\tau_1, \tau_1 + n+1)$ The subsidiary solution is obtained first as Eq. (7)

$$F_1(p) \doteq f_1(t) = \frac{d}{dt} \varphi(t) - a^2 \int_0^t \varphi(t)\, dt, \qquad (7)$$

where Eq. 7a $\varphi(t) = \frac{t^{2n+1} I_{2n+1}(T)}{T^{2n+1}}$, $T^2 = a^2 \left[t^n + (2n+1)t\right]$.

Card 4/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

27731
S/200/61/000/009/001/003
D219/D301

Determination of transients ...

(In it symbol $\fallingdotseq$ denotes the correspondence between the rendering and the original and I(T) - Bessel function of the given order). Applying to Eq.(6) the perturbation theorem and considering Eq.(7) the final expression for the transient u_1 in the original is obtained as

$$U_1 = u_1(t) = 2 \sum_{n=0}^{\infty} (4\alpha\beta)^n \cdot e^{-[(n+1)\alpha + n\beta]} \cdot \eta(\tau) \left[e^{-(\alpha+\beta)\tau} f(\tau) + (\alpha+\beta) \int_0^{\tau} e^{-(\alpha+\beta)\tau} \cdot f(\tau)\, d\tau \right], \quad (8)$$

where

$$\tau = t - {}_1\tau - n, \quad f(t) = \frac{d}{dt}\varphi(t) - 4\alpha\beta \int_0^t \varphi(t)\, dt,$$

$$\varphi(t) = \frac{t^{2n+1} I_{2n+1}(T)}{T^{2n+1}}, \qquad T = \sqrt{4\alpha\beta[t^2 + (2n+1)t]},$$

Card 5/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

Determination of transients ...

and $\eta(\tau)$ - a unit function with delay τ_1 +n. The experimental curve of the transient was obtained from a model heat exchanger with counter flow, for which $\alpha = 2.074$, $\beta = 1.294$, $\tau_1 = 18.38$ sec; $\tau_2 = 11.55$ sec. the first term of series (8) has the form

$$u_{10} = 2e^{-\alpha}\,\eta(\tau)\;e^{-(\alpha+\beta)\tau}\cdot\varphi(\tau) + (\alpha+\beta)\int_0^{\tau} e^{-(\alpha+\beta)t}\,\varphi(t)\,dt\,, \tag{9}$$

where

$$\varphi(t) = 1 - \frac{I_0(T)}{2(t+1)} - \frac{t}{t+1}\,\frac{I_1(T)}{T} + 2\alpha\beta\int_0^{t}\frac{I_1(T)}{T}\,dt.$$

Comparison of the integral curve with that of the transient obtained from the experiment is shown

The experimental curve was obtained using a model of indirect flow heat exchanger for which $\alpha = 3.794$, $\beta = 1.931$, $\tau_1 = 45.09$ sec. $\tau' = 22.67$ sec. The divergences between the theoretical and experimental curves in both graphs are due to the fact that in the basic equations, mixing between

Card 6/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

27731
S/200/61/000/009/001/003
D219/D301

Determination of transients ...

the media and heat exchange through the walls was neglected. There are 3 figures and 3 Soviet-bloc references

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk
(Institute of Automation and electrometry of the Siberian Department, AS USSR, Novosibirsk)

SUBMITTED: February 17, 1961

Card 7/7

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.

Determination of the inertness and control system of technological process designs. Dokl. AN SSSR 141 no.5:1151-1154 D '61. (MIRA 14:12)

1. Institut avtomatiki i eletrometrii Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom V.S. Kulebakinym.
(Automatic control)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N. (Novosibirsk); KORNEV, Yu.N. (Novosibirsk)

Determination of the transfer functions of objects with monotonic limited characteristics. Izv. AN SSSR. Otd. tekh. nauk. Energ. i avtom. no.1:169-176 Ja-F '62. (MIRA 15:3)
(Automatic control)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

S/200/62/000/005/001/005
I042/I242

AUTHORS: Devyatov, B.N. and Kornev, Yu. N.

TITLE: Application of the Burman-Lagrange series to the analysis of transient chemical engineering processes

PERIODICAL: Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya, no.5, 1962, 14-28

TEXT: The characterization of transient processes often requires the analysis of systems of equations containing partial derivatives. Generally, it is not expedient to seek an exact solution because the corresponding functions are transcendental. Such systems can be solved indirectly, in the form of convergent Burman-

Card 1/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

S/200/62/000/005/001/005
I042/I242

Application of the Burman-Lagrange...

Lagrange series. The latter are obtained by decomposition of an analytical function F(p) in terms of another function ω (p)

$$F(p) = \sum_{n=0}^{\infty} d_n [\omega(p)]^n \qquad (1)$$

The coefficients d_n are obtained by expansion of F(p) into a Maclaurin series, in the form

$$d_n = \sum_{m=0}^{n-1} (-1)^{n-m} C_{n-1}^{m} \lambda^{n-m} S_{n-m} \qquad (12)$$

The entire process is illustrated by several examples of decomposition of F(p) as a function of f(t) and of parameter-dependent forms into a Burman-Lagrange series and by the characterization of several actual engineering problems. There are 2 figures.

Card 2/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

S/200/62/000/005/001/005
I042/I242

Application of the Burman-Lagrange....

ASSOCIATION: Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk (Institute of Automation and Electrical Measurements, Siberian Section of the AS USSR, Novosibirsk)

SUBMITTED: July 5, 1961

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.

Application of a special system of polynomials to the approximation of the transition process in an infinite interval. Izv. SO AN SSSR no.2 Ser. tekh. nauk no.1:46-50 '63. (MIRA 16:8)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novisibirsk.
(Polynomials)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.; GIMEL'SHEYN, F.Ya.; KHOR'KOVA, G.S.

Using distributed control for creating high-quality control systems for technological processes of heat and mass transfer. Izv. SO AN SSSR no.2 Ser. tekh. nauk no.1:60-77 '63. (MIRA 16:8)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR, Novosibirsk.
(Heat—Transmission) (Mass transfer)
(Automatic control)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.

Synthesis of invariant systems for controlling distributed processes of chemical technology. Dokl. AN SSSR 150 no.3: 612-615 My '63. (MIRA 16:6)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR. Predstavleno akademikom V.S. Kulebakinym.
(Chemical engineering)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 27390-65 EWT(m)

AM5003783 BOOK EXPLOITATION S/

13
13
B+1

Devyatov, Boris Nikolayevich

The theory of transient processes in technological devices from the point of view of problems of control (Teoriya perekhodnykh protsessov v tekhnologicheskikh apparatakh s tochki zreniya zadach upravleniya) Novosibirsk, Redizdat, otdel. Sibirsk. otdel. AN SSSR, 1964. 322 p. illus., biblio. Errata slip inserted. 1800 copies printed. (At head of title: Akademiya nauk SSSR, Sibirskoye otdeleniye) Editor: G. N. Paderin; Technical editors: T. K. Orchinnikova, O. A. Lekshina; Proofreaders: T. P. Sabinova, Ye. P. Sharabarina.

TOPIC TAGS: absorber, chemical engineering, continuous process, counterflow, direct flow, extractor, heat exchange, heat treating furnace, mass exchange, rectification column, scrubber, transient process

PURPOSE AND COVERAGE: This monograph is devoted to the theoretical investigation of the dynamic characteristics of the technological processes of heat and mass exchange achieved by the principle of counterflow or of direct flow in moving media. The purpose of the book is to formulate a general linear theory of tran-

Card 1/4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 27390-65

AM5003783

3

sient processes that are characteristic for a wide class of typical technological devices, including heat exchangers, absorbers, scrubbers, extractors, rectification columns, heat-treating furnaces, and others. Herein, general methods are given for analyzing the dynamics of the processes. Only the basic characteristics of the dynamics of counterflow processes are considered. The question of transients is investigated in order to clarify the dependence of the reaction of a device to a disturbance of stationary conditions on its parameters and operating conditions. Two possible methods of analyzing nonstationary problems are described, both for multistage devices and for devices of the continuous type with direct- and counterflow of the medium. The first method utilizes the device of ordinary differential equations, and the second, equations with partial derivatives. The basic material for this monograph was work performed under the author's direction for the last 10 years at the Ural'skiy Nauchno-Issledovatel'skiy Institut Khimii and in the Institut Avtomatiki i Elektrometrii Sibirskogo Otdeleniya AN SSSR.

TABLE OF CONTENTS:

Card 2/4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 27390-65
AM5003783

Foreword -- 5
List of basic definitions -- 6
Introduction -- 7
Ch. I. Processes of heat and mass exchange in chemical technology -- 13
Ch. II. Analysis of transient processes in multistage apparatuses -- 31
Ch. III. Description of continuously distributed processes by means of ordinary differential equations -- 57
Ch. IV. Description of transient processes by means of equations with partial derivatives -- 71
Ch. V. Determining transient processes as functions of apparatus parameters and operating conditions -- 95
Ch. VI. Persistence and controllability of chemical-engineering processes -- 163
Ch. VII. Approximations of transient characteristics in the whole field of their variation according to integral evaluations — process persistences -- 226
Ch. VIII. Determination of amplitude-phase characteristics -- 255
Ch. IX. Transfer functions and structural designs of heat-exchanger devices as objects of control -- 271
Ch. X. Pilot-plant experiments -- 284

Card 3/4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 27390-65
AM5003783

Ch. XI. Synthesis of control systems for technological processes with utilization of distributed control - - 293
Conclusions - - 316
Literature - - 318

SUB CODE: GC SUBMITTED: 11Jul64 NR REF SOV: 088

OTHER: 016

Card 4/4

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.; CHEBOTAYEV, P.Z.

Transient modes of continuously operating industrial apparatus. Trudy Inst. avtom i elektrometr. SO AN SSSR no.8:63-79 '64. (MIRA 17:11)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, B.N.; KHOR'KOVA, G.S.

Analysis of the dynamic characteristics of counterflow-type industrial processes taking into account change in the speed of the media. Trudy Inst. avtom. i elektrometr. SO AN SSSR no.8:80-92 '64. (MIRA 17:11)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

GIMEL'SHTEYN, F.Ya.; DEVYATOV, B.N.

Problem of optimal estimation of the state of controlled chemical production processes. Dokl. AN SSSR 165 no.2:366-371 N '65. (MIRA 18:11)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR. Submitted April 20, 1965.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, D. S.

Podshipnik kacheniia sovetskikh avtomobilei [Antifriction bearings in Soviet automobiles]. Moskva, Izd-vo MKKh RSFSR, 1953. 248 p.

SO: Monthly List of Russian Accessions, Vol. 6 No. 11 February 1954

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, F.F., master reostatnykh ispytaniy

Checking the current limiter of the network of the main generator. Elekt.i tepl. tiaga 5 no.10:30-31 O '61. (MIRA 14:10)

1. Tashkentskiy teplovozovagonoremontnyy zavod.
(Diesel locomotives--Inspection)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, G.; ISAYEV, Ye.

Scientific production conferences on problems of production organization and utilization of its potentials. Vop. ekon. no.10: 134-136 O '59. (MIRA 12:12)
(Siberia--Industrial organization)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 11167-66 EWT(1)/EWT(m) JD

ACC NR: AP6000366 SOURCE CODE: UR/0286/65/000/021/0061/0061

AUTHORS: Devyatov, G. K.; Levit, M. Ye.; Ivanov, V. I.; Kostomakhin, V. A.; Medzhitov, R. D.

ORG: none

TITLE: Device for contactless measurement of rotor sag. Class 42, No. 176106 [announced by Moscow Order of Lenin Aviation Institute, im. Sergo Ordzhonikidze (Moskovskiy ordena Lenina aviatsionnyy institut)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1965, 61

TOPIC TAGS: electronic circuit, detection equipment

ABSTRACT: This Author Certificate presents a device for contactless measurement of rotor sag. The device contains a capacitive unary sensor included in a resonance circuit supplied by a high frequency oscillator, a detector, and a matching stage with a meter (see Fig. 1). To simplify the measuring process and to increase the readout accuracy, a compensating capacitor is inserted in the resonance circuit in series with the sensor. The capacitor insures a linear dependence between the magnitudes of the output voltage and rotor sag.

Card 1/2 UDC: 531.717.2:621.317.39

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 11167-66

ACC NR: AP6000366

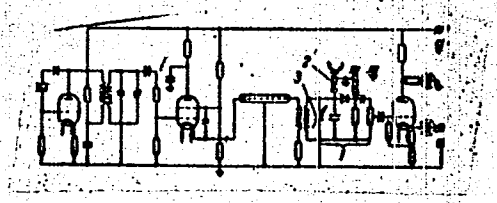


Fig. 1. 1 - Resonance circuit; 2 - sensor; 3 - compensating capacitor.

Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 17Jul64

Card 2/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, G.S.

Increasing the effectiveness of mining systems used in the Prokop'yevsk-Kiselevsk deposit region of the Kuznetsk Basin. Izv. Sib. otd. AN SSSR no.1:71-81 '58. (MIRA 11:8)

1.Zapadno-Sibirskiy filial AN SSSR.
(Prokof'yevsk region--Coal mines and mining)
(Kiselevsk region--Coal mines and mining)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

PRUDENSKIY, G.A., red.; SOMINSKIY, V.S., otv. red.; BELOUSOVA, V.S., red.; DEVYATOV, G.S., red.; ISAYEV, Ye.N., red.; MEKKEL', S.A., red.; CHERKASOV, G.N., red.; KUPAYEVA, L.A., red.; MAZUROVA, A.F., tekhn. red.; VYALYKH, A.M., tekhn. red.

[Potentials of working time in the industries of Siberia]Rezervy rabochego vremeni v promyshlennosti Sibiri. Pod obshchei red. G.A.Prudenskogo. Novosibirsk, Izd-vo Sibirskogo otd-niia AN SSSR, 1961. 221 p. (MIRA 15:8)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Institut ekonomiki i organizatsii promyshlennogo proizvodstva.
(Siberia--Labor productivity)
(Siberia--Time study)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

PEREVOZCHIKOV, B.S.; SANNIKOV, S.S.; PASMANIK, A.I.; Prinimali uchastiye: PROTOPOPOVA, T.I.; P[illegible]SHAKOV, Yu.A.; KOROLEV, V.O.; TROSTYANITSER, G.N.; T[illegible]KIY, G.A.; DEVYATOV, I.I.

Adjustment of low-flash forging on a 4000-ton, NKMZ crankshaft hot forging press. Kuz.-shtam. proizv. 3 no.8:41-43 Ag '61. (MIRA 14:8)

(Forging) (Power presses)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

BOLOTIN, Yu.A.; DEVYATOV, I.Kh.

Air drilling. Razved. i okh. nedr 29 no.11:49-51 N '63. (MIRA 17:12)

1. Bashkirskoye geologicheskoye upravleniye.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

84605

1.2300 only 2208, 2708

S/135/60/000/004/002/008
A115/A029

AUTHORS: Shablygin, S.V., Candidate of Technical Sciences, Devyatov, I.M., Engineer

TITLE: Battery Supplied Contact Welding

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 4, pp. 8 - 9

TEXT: By order of the VNIIESO (All-Union Scientific Research Institute of Electric Welding) the SADI (Saratov Automobile and Highway Institute) developed a point-welding apparatus using 10 - 20,000 amp lead-acid or alkaline batteries. Characteristics of nickel-iron laminated, cadmium-nickel non-laminated, and lead--acid aircraft batteries were tested. The 6-CAM-55(6-SAM-55) lead-acid aircraft battery of 370x185x165 mm size, 20 kg weight and 12 v, has been found most suitable and was improved by I.M. Devyatov. (Fig. 1). Half-blocks of the same polarity were connected by massive copper bars covered by a lead cover with copper pipes in it for water cooling. The 6-SAM-55 battery blocks 1 and 2 have been used and the ribs were eliminated. The electrolyte was cooled sufficiently and the temperature did not exceed 40°C. The capacity of the new SAM-330 battery, is 330 amp-h. Figure 2 shows the temperature curves under a working discharge of 6000

Card 1/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

84605

S/135/60/000/004/002/008
A115/A029

Battery Supplied Contact Welding

amp. A water-cooled graphite circuit breaker (Figure 4) has been used. The clearance between the graphite contacts does not exceed 1 mm which allows for 200 switchings per minute. During tests, the contactor performed about 200,000 breakings without any damage to the graphite surface. Two battery sets for spot welding of 1+1 mm steel, and for welding of 4+4 mm plates and 0.8+0.8 mm aluminum alloys have been designed. Characteristics of the battery sets are given in a table. The batteries were coupled with an АТП -25 (ATP-25) generator by a flexible cable. The characteristics of the generator are: 12/6 v, 750/1,500 amp, 1,420, rpm. The relatively high internal resistance of the generator makes possible continuous charging during the welding process. Working conditions are: welding 0.2 sec, welding current 6,000 amp, intervals 1.8 sec. The voltage of the generator during the interval was 7.8 v and during the welding process 6.4 v at 600 and 1,640 amp. The voltage of the generator has been selected so as to enable it to be charged during the interval and to replace the loss by discharge. Oscillograms of welding current and voltage are given in Figure 5. Battery welding units will find wider application in special instances of resistance welding, if batteries with sufficient term of service will be developed. There are 5 figures and 1 table.

Card 2/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

84605

S/135/60/000/004/002/008
A115/A029

Battery Supplied Contact Welding

ASSOCIATION: Saratovskiy avtomobil'no-dorozhnyy institut, SADI (Saratov Highway Institute).

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, M.V. (shkola Kazani); NIKITIN, I.V.; GORSHENKOV, N.G.; RUTKOVSKIY, O.O. (Alma-Ata); DAVYDOV, A.V.; LEBEDEVA, G.P.

Letters to the editor. Geog. v shkole 21 no.5:72-75 S-O '58. (MIRA 11:10)

1. Shkola No.5 g.Solnechnogorska (for Nikitin). 2. Yakhromskaya shkola Moskovskoy oblasti (for Gorshenkov). 3. Vikulovskaya shkola Tyumenskoy oblasti (for Davydov). 4. Ul'yanovskaya shkola Kaluzhskoy oblasti (for Lebedeva).

(Geography--Study and teaching)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, N.M.

Course of pregnancy and labor following pulmonary resection. Zdravookhranenie 3 no.6:56-57 N-D '60. (MIRA 13:12)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.Z.Kocherginskiy) Kishinevskogo meditsinskogo instituta.
(LUNGS—SURGERY) (PREGNANCY)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, N.M.

Course of pulmonary tuberculosis following an abortion at different periods of pregnancy. Trudy Kish.gos.med.inst. 13:179-182 '60. (MIRA 16:2)

1. Kafedra akusherstva i ginekologii Kishinevskogo gosudarstvennogo meditsinskogo instituta.
(TUBERCULOSIS) (ABORTION)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

POPOVA, T.A., dotsent; DEVYATOV, N.N., dotsent [deceased]

So-called epiphyseal asteomyelitis in young children. Khirurgiia 39 no.4:124-128 Ap'63 (MIRA 17:2)

1. Iz kafedry detskoy khirurgii (zav. - prof. A.F. Zverev) i kafedry rentgenologii (zav. - dotsent N.N.Devyatov [deceased]) Sverdlovskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, V., nauchnyy sotrudnik.

Complete defeat of Kornilov. Sov.mor. 17 no.17:5 S '57. (MIRA 10:10)

1. Muzey Revolyutsii SSSR.
(Russia--Revolution, 1917-1921)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVIATOV, V.

Patent library. NTO 3 no.3:58-60 Mr '61. (MIRA 14:3)
(Engineering libraries) (Patents)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

KOSTYLEV, S.A., inzh.-geolog; DEVYATOV, V.G., inzh.-gidrotekhnik; SPASOLOMSKIY, V.V.; SYUNDYUKOV, G.M., dotsent, kand. tekhn. nauk

Deformations in the structures of buildings caused by inadmissible settling of foundations, and the reasons for their origin. Sbor. trub. Inzh.-stroi. fak. Chel. politekh. inst. no.3:183-198 '63. (MIRA 17:9)

1. Glavnyy inzh. proyektnogo instituta Chelyabinskgorproyekt (for Spasolomskiy).

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 13636-66 EWT(1)/EWT(m)/EWP(w)/EWP(v)/T-2/EWP(k)/ETC(m) JD/EM

ACC NR: AR5025455 SOURCE CODE: UR/0285/65/000/008/0015/0015

SOURCE: Ref. zh. Turbostroyeniye, Abs. 8.49.106

AUTHOR: Devyatov, V. I.

81

B

TITLE: A study of certain variants of air cooling the turbine disks 26

CITED SOURCE: Tr. Kazansk. aviats. in-ta, vyp. 86, 1964, 84-97

TOPIC TAGS: turbine, turbine cooling, turbine blade, heat transfer, heat tolerance

TRANSLATION: Thermal tests were conducted for the purpose of comparing means of cooling turbine disks. The construction of an experimental set-up is described. As a result of the tests it was shown, that one-sided peripheral blowout under forced cooling air at an angle of 90° with the disk is most effective. This method is least sensitive to variation in the disk rpm and produces the best results both at the periphery and in the center of the disk. Among the reflector cooling devices the most effective is the type with air fed underneath the deflector, and with the subsequent air outflow through the artificial notches in the blade base. All deflector mechanisms are very sensitive to variation in rpm and less sensitive to variation in the flow of cooling air.

SUB CODE: 10/

Card 1/1 HW

UDC: 621.438

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOV, V.K.

Twenty-fifth anniversary of the L.M.Kaganovich First State Bearing Plant. Mashinostroitel' no.4:5-7 Ap '57. (MLRA 10:5)

1.Zamestitel' ministra avtomobil'noy pro-vshlennosti Soyuza SSR.
(Moscow--Bearing industry)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

SOLOVTSOV, S.S.; DEVYATOV, V.V.

Stamping of parts by the method of extrusion rolling. Trakt. i sel'khozmash. no.11:35-37 N '64. (MIRA 18:1)

1. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyatstvennogo mashinostroyeniya.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

ZIMKIN, Ye.A.; KLYUCHEVICH, V.F.; DEVYATOV, Ya.B.; P'YANKOVA, L.N.; GARANINA, Ye.Ye.

Effect of the methods of gelatin preparation on its photographic activity. Zhur. nauch. i prikl. fot. i kin. 10 no.4:247-250 Jl-Ag '65. (MIRA 18:7)

1. Kazanskiy filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta i Kazanskiy fotozhelatinovyy zavod.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

ZIMKIN, Ye.A.; DEVYATOV, Ya.B.; MAKLAKOV, A.G.

Carbohydrates in collagen and gelatin. Reducing the duration of liming. Zhur.prikl.khim. 38 no.11:2581-2585 N '65. (MIRA 18:12)

1. Kazanskiy filial Vsesoyuznogo nauchno-issledovatel'skogo kinofotoinstituta i Kazanskiy zhelatinovyy zavod. Submitted August 15, 1964.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVIATOV, YA. B.; ARBUZOV, B.A.; ABRAMOV, V.S.

"The Products of Condensation of Cyclones with p-Benzoquinone and Naphthoquinone", Zhur. Obshch. Khim., 9, No. 17, 1939. Laboratory of Organic Chemistry, Kazan' Chemico-Technological Institute imeni S. M. Kirov. Rec'd 22 Feb 1939., (pp 1559-1563).

[redacted] Report U-1614, 3 Jan 1952.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, A.P.; MIKHAYLOVA, O.A.; YAKUNINA, T.I.

Isolation of the causative agent of pseudotuberculosis from gray and white rats in Vladivostok. Izv.Irk.gos.nauch.-issl. protivochum.inst. 20:303-305 '59. (MIRA 13:7)
(VLADIVOSTOK--PASTEURELLA PSEUDOTUBERCULOSIS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, A. P., KHUNDANOV, L. E., and SHKURKO, E. D.

"Gamma-globulin in Experimental Anthrax Infection."

Veterinariya, Vol. 38, No. 6, 1961. p 45

Irkutsk Sci. Res. Inst, Min. Public Health USSR (Devyatova, A. P.)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

KHUNDAMOV, L.Ye.; DEVYATOVA, A.P.; PADALKO, Z.F.; LUK'YANOVA, V.I.; SHKURKO, Ye.D.

Comparative study on the effectiveness of antibiotics and γ-globulin in experimental melioidosis. Zhur. mikrobiol. epid. i immun. 32 no.7: 114-117 Je '61. (MIRA 15:5)

1. Iz Irkutskogo gosudarstvennogo nauchno-issledovatel'skogo protivochumnogo instituta Sibiri i Dal'nego Vostoka.
(MELOIDOSIS) (ANTIBIOTICS)
(GAMMA GLOBULIN)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

KHUNDANOV, L.Ye.; SHKURKO, Ye.D.; DEVYATOVA, A.P.

Gamma globulin in experimental anthrax infection. Veterinariia 38 no.6:45-46 Je '61. (MIRA 16:6)

1. Irkutskiy nauchno-issledovatel'skiy institut Ministerstva zdravookhraneniya SSSR.

(Gamma globulin) (Anthrax)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 20313-66 EWT(1)/T JK

ACCESSION NR: AP5011269 UR/0016/65/000/004/0012/0013

AUTHOR: Khveshchenko, Ye. N.; Padalko, Z. F.; Devyatova, A. P.; Rodionova, A. P.; Mirotvortsev, Yu. I.; Mirgorodskiy, N. T.

TITLE: Tularemia detection in Primorskiy kray

SOURCE: Zhurnal mikrobiologii, epidemiologii i immunobiologii, no. 4, 1965, 12-13

TOPIC TAGS: man, tularemia, Primorskiy kray, serologic test, natural focus, rodent, tick

ABSTRACT: The first case of tularemia in Primorskiy Kray was reported in 1963 in the Ussurisk district, but no evidence of tularemia natural foci has been found to date by the Primorskiy Antiplague Station. On the basis of clinical symptoms, the case of a 56 yr old patient, a native of the area, was diagnosed as an eye-bubonic form of tularemia. The patient's tularin intradermal test proved positive and agglutination reaction was markedly positive with a titer of 1:400. A tularemia culture was not isolated. The patient was hospitalized in an infectious disease hospital and treated with

Card 1/2

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

L 20313-66

ACCESSION NR: AP5011269

streptomycin. The patient was reexamined 3 mos after recovery at which time the agglutination reaction titer was 1:3200. It is assumed that the infection was transmitted through the water of the Lyuchikheza River in which the patient frequently washed. Intradermal tularin tests administered to village residents disclosed positive reactions in 18 persons, two of whom may be considered infected. The presence of various rodents and ticks in the area indicate that the extensive bacteriological investigation of the Antiplague Station should be continued to determine the natural foci of tularemia. Orig. art. has: None.

ASSOCIATION: Primorskaya krayevaya protivochumnaya stantsiya (Primorskiy Kray Antiplague Station)

SUBMITTED: 02Mar64 ENCL: 00 SUB CODE: LS

NR REF SOV: 000 OTHER: 000

Card 2/2 BK

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

3(0)

AUTHOR: Devyatova, E. I. SOV/20-125-1-44/67

TITLE: Marine Interglacial Deposits in the Basin of the Onega River (Morskiye mezhlednikovyye otlozheniya basseyna r. Onegi)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 1, pp 162-165 (USSR)

ABSTRACT: In the Onega River region towards the end of the interglacial marine transgression, the relief of the bedrock cover was carved into a network of erosion valleys and depressions. Thus the variation in the vertical distribution and the restriction of the interglacial sediments are dependent on the old form of the relief. The thickness of the sediments varies between 1.5 and 45 m. The author describes these sediments together with their fauna and flora remains along the rivers Tyolza, Somba, Tyoksa and Iksa as well as along the upper Mosha. They indicate that sublitoral, primarily arctic and arctic-boreal conditions prevailed. On the other hand, only a few litoral species are found in the faunal complex of the coastal zone. Arctic species are found only singly. Warm

Card 1/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

water molluscs had not at that time achieved a wide distribution and were only associated with local, well-warmed water. In deeper ocean regions a temperate faunal complex developed. Among the diatoms are marine, primarily sublitoral benthic diatom species; neritic plankton species are sparse. Also the diatom flora belong with respect to temperature, to a temperate boreal cold-water type, including a few warm-water types. According to their stratigraphic position as well as the fauna and diatom flora association, the Onega River sediments belong to the boreal transgression of the Dnepr-Valday (dneprovsko-valdayskoye) Interglacial Period. The spore-pollen diagrams confirm these findings. The data obtained in this line facilitated comparison with the diagrams of core borings of the European Plain. From this the following general sequence of vegetation development could be determined. During the climatic optimum, the consecutive high points (maximum growth periods) of oak (Quercus), elm (Ulmus), and hornbeam birch (Carpinus) follow one another. Following the climatic cooling towards the end of the interglacial period,

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

Marine Interglacial Deposits in the Basin of the Onega River SOV/20-125-1-44/67

deciduous trees were replaced by light-needled forests, then dark-needled forests. The interglacial sediments here have a uniform character. A colder and younger Onega (onezhskaya) transgression could not be differentiated. During the last Valday (valdayskoye) glacial advance the whole region under discussion was covered with ice. The edge of the ice was east of this space. No clues of a younger glacial advance have been found. There are 2 figures and 3 Soviet references.

ASSOCIATION: Komi-filial Akademii nauk SSSR (Komi Branch, Academy of Sciences, USSR)

PRESENTED: October 6, 1958, by V. N. Sukachev, Academician

SUBMITTED: October 5, 1958

Card 3/3

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, Eleonora Ivanovna; MARKOV, K.K., doktor geogr. nauk, prof., otv. red.; IVENSEN, Yu.P., doktor geol.-mineral. nauk, otv. red.; SHENGER, I.A., red. izd-va; ZENDEL', M.Ye., tekhn. red.

[Stratigraphy of Quaternary sediments and paleogeography of the Quaternary period of the Onega basin] Stratigrafiia chetvertichnykh otlozhenii i paleogeografiia chetvertichnogo perioda v basseine reki Onegi. Moskva, Izd-vo Akad. nauk SSSR, 1961. 88 p. (MIRA 14:8)

(Onega Valley—Paleogeography) (Onega Valley—Geology, Stratigraphic)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, E.I.

Stratigraphy of Quaternary sediments in the western part of the Timan Ridge region. Trudy Inst.geol.Komi fil. AN SSSR no.3: 103-112 '62. (MIRA 16:9)
(Timan Ridge region--Geology, Stratigraphic)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, E.I.

Marginal formations of the Valday Glacier in Archangel Province. Trudy Kom. chetv. per. 21:21-29 '63. (MIRA 16:10)

1. Komi filial AN SSSR.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, E.I.; LOSEVA, E.I.; CHERNOV, A.A., doktor geol.-min. nauk, prof., otv. red.[deceased]; VARSANOF'YEVA, V.A., red.; VISKE, G.S., red.

[Stratigraphy and paleogeography of the Quaternary of the Mezen' Basin]Stratigrafiia i paleogeografiia chetvertichnogo perioda v basseine r. Mezeni. Leningrad, Nauka, 1964. 104 p. (MIRA 17:9)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.

Problem of the treatment of carriers of Corynebacterium diphtheriae. Zhur.mikrobiol., epid. i immun. 27 no.8:39-42 Ag '56. (MLRA 9:10)

1. Iz kafedry epidemiologii TSentral'nogo instituta usovershenstvovaniya vrachey.

(DIPHTHERIA, prevention and control, penicillin (Rus))
(PENICILLIN, therapeutic use, diphtheria prev. (Rus))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.

Results of treating diphtheria with penicillin tablets and aerosols. Zhur.mikrobiol.epid. i immun. 27 no.9:86-90 S '56. (MLRA 9:10)

1. Iz kafedry epidemiologii TSnetral'nogo instituta usovershenstvovaniya vrachey.

(DIPHTHERIA, prevention and control,
penicillin aerosols & tablets (Rus))
(PENICILLIN, therapeutic use,
diphtheria prev., tablets & aerosols (Rus))
(AEROSOLS, therapeutic use,
penicillin in diphtheria prev. (Rus))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

Devyatova, L.N.

DEVYATOVA, L.N.

Epidemiological observations in centers of dysentery infection. Zhur.mikrobiol.epid. i immun.,supplement for 1956:20-21 '57 (MIRA 11:3)

1. Iz TSentral'nogo instituta usovershenstvovaniya vrachey.
(DYSENTERY)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

USSR / Microbiology. Microbes Pathogenic for Man and Animals. Bacteria. Root Bacteria. F-4

Abs Jour: Ref Zhur-Biol., 1958, No 17, 76806.

Author : Devyatova, L. N.
* Inst : ~~Not given.~~
Title : On the Problem of Clinical and Bacteriological Characteristic of Carriers of the Diphtheria Rod.

Orig Pub: Zh. mikrobiol., epidemiol. i immunobiol., 1957, No 12, 48-53.

Abstract: No abstract.

* Iz kafedry epidemiologii Tsentral'nogo instituta usovershenstvovaniya vrachey.

Card 1/1

50

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.

BELIKOV, G.P.; DEVYATOVA, L.N.

First All-Russian Conference of Epidemiologists, Microbiologists and Specialists in Infectious diseases. Zdrav. Ros.Feder. 2 no.1: 45-47 Ja '58. (MIRA 11:2)

(EPIDEMIOLOGY) (MICROBIOLOGY)
(COMMUNICABLE DISEASES)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

HELIKOV, G.P., DEVYATOVA, L.N.

Expanded plenary session of the administration of the All-Russian Medical Society of Epidemiologists, Microbiologists and Specialists in Infectious Diseases. Zdrav.Ros.Feder. 2 no.11:45-47 N '58 (MIRA11:12)

(COMMUNICABLE DISEASES)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.

Variability of Corynebacterium diphtheriae; data on epidemiological observations. Zhur.mikrobiol.epid. i immun. 29 no.5:88-90 My '58 (MIRA 11:6)

1. Iz kafedry epidemiologii TSentral'nogo instituta usovershenstvovaniya vrachey.

(CORYNEBACTERIUM DIPHTHERIAE, variability (Rus))

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.; MYASNIKOV, Yu. A.

"Life and death of epidemics" by M.G. Gol'din. Zhur. mikrobiol. epid. i immun. 29 no.12:118-120 D '58. (MIRA 12:1)
(EPIDEMICS)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.; BELIKOV, G.P.

Organization activities of the administration and local chapters of the All-Russian Medical Society of Epidemiologists, Microbiologists, and Specialists in Infectious Diseases, 1958-1959 D '59. (MIRA 13:5)

(BACTERIOLOGICAL SOCIETIES)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.

Active immunization and means for its realization in Great Britain. Zhur. mikrobiol. epid. i immun. 31 no.2:33-37 D '60. (MIRA 14:6)

1. Iz kafedry epidemiologii TSentral'nogo instituta usovershenstvovaniya vrachey.
(GREAT BRITAIN—VACCINATION)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, L.N.

Current data concerning the world-wide distribution of ornithosis.
Trudy TSIU 68:43-48 '64. (MIRA 18:5)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

MEZDENNYKH, I.S.; DEVYATOVA, L.N.; NELYUBOV, I.D.

Analysis of the occurrence of ornithosis in the U.S.S.R.
Trudy TSIU 80:20-24 '65. (MIRA 18:11)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, N. I.

USSR/Chemistry - Synthesis

Card 1/1 : Pub. 151 - 31/42

Authors : Slobodin, Ya. M.; Blinova, M. V.; and Devyatova, N. I.

Title : Synthesis of cyclopentanol

Periodical : Zhur. ob. khim. 24/9, 1639-1640, Sep 1954

Abstract : Various methods of reducing cyclopentanol were investigated. It was established that hydrogenation of cyclopentanol, over a Ni-catalyst applied on diatomaceous earth (kieselguhr) at 125°, results in formation of cyclopentane. The results obtained, during hydrogenation over a copper-chromium-barium catalyst at 160-170°, are described. Eight references: 3-German; 2-USSR; 2-French and 1-USA (1893-1944).

Institution : ...

Submitted : April 14, 1954

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

5.3610

78279
SOV/79-30-3-29/69

AUTHORS: Ioffe, I. S., Devyatova, N. I.

TITLE: N-Substituted Amides of Salicylic Acid and Its Derivatives. II. Meso-Acridylamide of Salicylic Acid

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 884-889 (USSR)

ABSTRACT: The reaction of salol with meso-aminoacridine yields a mixture of products from which the following three were identified: salicylic salt of meso-aminoacridine, mp 279-280°; meso-acridylamide, (I), mp 267-268°; and di-(meso-acridyl)-amine, mp 360°. The structure of (I) was confirmed by its synthesis from meso-chloro-acridine and amide of salicylic acid according to scheme (b).

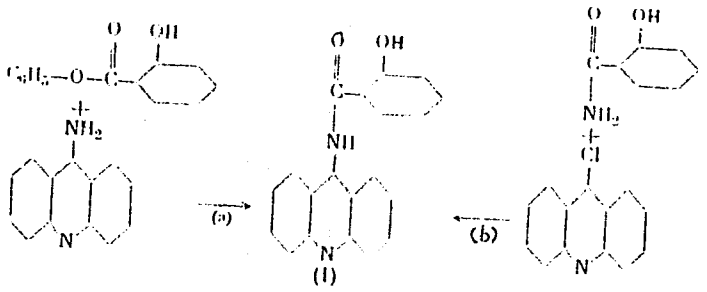
Card 1/5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

N-Substituted Amides of Salicylic Acid and Its Derivatives. II

78275
SOV/79-30-3-29/69



Di-(meso-acridyl)-amine forms with acids bright-red onium salts. This amine is formed as a result of secondary reaction of the formed amide with meso-aminoacridine. The structure of di-(meso-acridyl)--amine (VII) was confirmed by its synthesis from meso-chloroacridine and meso-aminoacridine. The color of this amine can be explained by possible tautomerism in its acridine rings resulting in acrid-oneimine structure.

Card 2/5

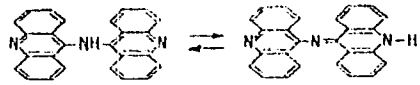
APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

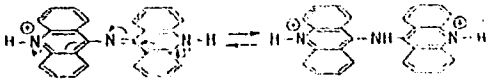
N-Substituted Amides of Salicylic Acid and Its Derivatives. II

78275
SOV/79-30-3-29/69

(VII)

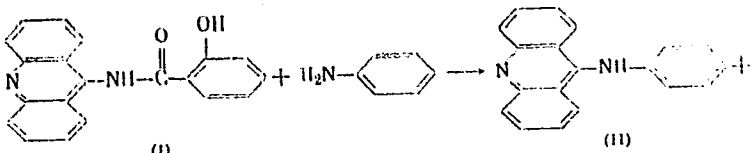


(VIII)

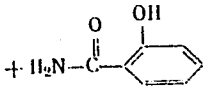


(IX) .

Meso-acridylamide of salicylic acid (I) reacts with other amines with elimination of salicylamide (III) and formation of corresponding substituted meso-aminoacridine (II)



(I) (II)



(III)

Card 3/5

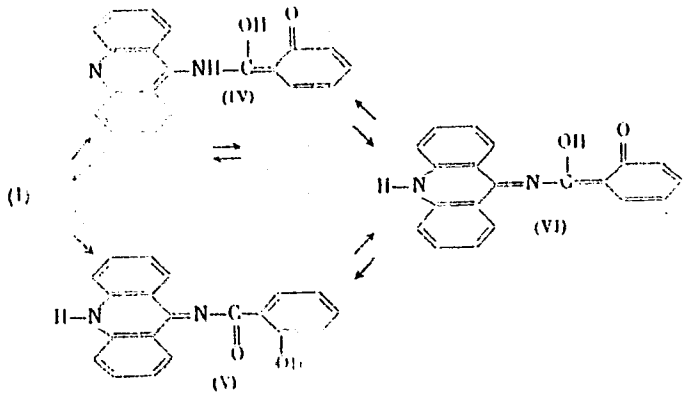
APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

N-Substituted Amides of Salicylic Acid and Its Derivatives. II

78275
SOV/79-30-3-29/69

The authors explain the instability of the bond between nitrogen atom and meso-carbon of the acridine ring in acridylamine of salicylic acid by the mutual effect of both groups of this compound. The bright yellow color of this acyl derivative can be also explained by this phenomenon.



Card 4/5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

N-Substituted Amides of Salicylic Acid and Its Derivatives. II

78275
SOV/79-30-3-29/69

There are 4 references, 1 Soviet, 2 U.K., 1 U.S. The U.S. and U.K. references are: Allen, C. T., Van Allen, J. A., Org. Snyth., 26, 92 (1946); Albert, A., Bruce Ritchil, J. Chem. Soc., 458 (1943); Dupre, D. I., Robinson, T. A., J. Chem. Soc., 549 (1945).

SUBMITTED: March 11, 1959

Card 5/5

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

IOFFE, I.S.; DEVYATOVA, N.I.; ROSKULYAK, L.A.

Sulfonic acids of fluorescein. Part 1: Condensation of sulfophthalic acids with resorcinol. Zhur.ob.khim. 32 no.7:2107-2111 Jl '62. (MIRA 15:7)
(Phthalic acid) (Resorcinol)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

IOFFE, I.S.; DEVYATOVA, N.I.

Sulfonic acids of fluorescein. Part 2: Preparation of sulfophthalic acids. Zhur.ob.khim. 32 no.7:2111-2115 Jl '62. (MIRA 15:7)
(Phthalic acid) (Fluorescein)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, N.I.

N-acyl derivatives of p-aminosalicylic acid containing residues of cycloalkanecarboxylic acids. Zhur.ob.khim. 32 no.5:1710-1711 My '62. (MIRA 15:5)

(Salicylic acid) (Acids, Organic)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

IOFFE, I.S.; DEVYATOVA, N.I.; GOFMAN, I.A.

Rhodamine dyes and related compounds. Part 9: Sulfonic acids of rhodamine B and their derivatives. Zhur.ob.khim. 34 no.2:640-644 F '64. (MIRA 17:3)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, N.I.

Carrier state of diphtheria. Report No.1: Dynamics of the diphtheria carrier state under various epidemiological conditions. Zhur. mikrobiol., epid. i immun. 41 no.9:3-8 S '64. (MIRA 18:4)

1. Moskovskiy institut vaktsin i syvorotok imeni Mechnikova.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, N.K., inzh.

Thermal properties of large-panel apartment houses with walls made of cellular concretes. Issl.po mikroklim.nasel.mest i zdan. i po stroi.fiz. no.2:124-140 '62. (MIRA 16:6)

1. Ural'skiy nauchno-issledovatel'skiy institut Akademii kommunal'nogo khozyaystva im. Pamfilova RSFSR.
(Sverdlovsk--Walls--Thermal properties)
(Lightweight concrete)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, V. A.

DEVYATOVA, V. A.—"Aerological Peculiarities of the Bottom Kilometer Layer of the Atmosphere." (Dissertation for Degree in Science and Engineering* Defended at USSR Higher Educational Institutions) Main Administration of the Hydrometeorological Service Attached to the Council of Ministers USSR, Central Inst of Forecasts, M., Moscow 1955* Geographical Sciences

SO: Knizhnaya Letopis' No. 37, 10 September. 1955.

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, Valentina Aleksandrovna; PINUS, N.Z., otvetstvennyy redaktor; VLASOVA, Yu.V., redaktor; BRAYNINA, M.I., tekhnicheskiy redaktor;

[Microaerological studies of the lower kilometric layer of the atmosphere] Mikroaerologicheskie issledovaniia nizhnego kilometrovogo sloia atmosfery. Leningrad, Gidrometeor.izd-vo, 1957. 143 p. (MLRA 10:5)

(Atmosphere)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"

"APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0

DEVYATOVA, V.A.; PYATYSHEV, R.V.; TYDEL'SKAYA, R.O.; CHERENKOVA, I.A.

Studying pulsations of the horizontal component of the velocity of winds up to an altitude of 5 kilometers. Trudy TSAO no.21: 52-175 '58. (MIRA 11:11)

(Winds)

APPROVED FOR RELEASE: 06/12/2000 CIA-RDP86-00513R000410310011-0"