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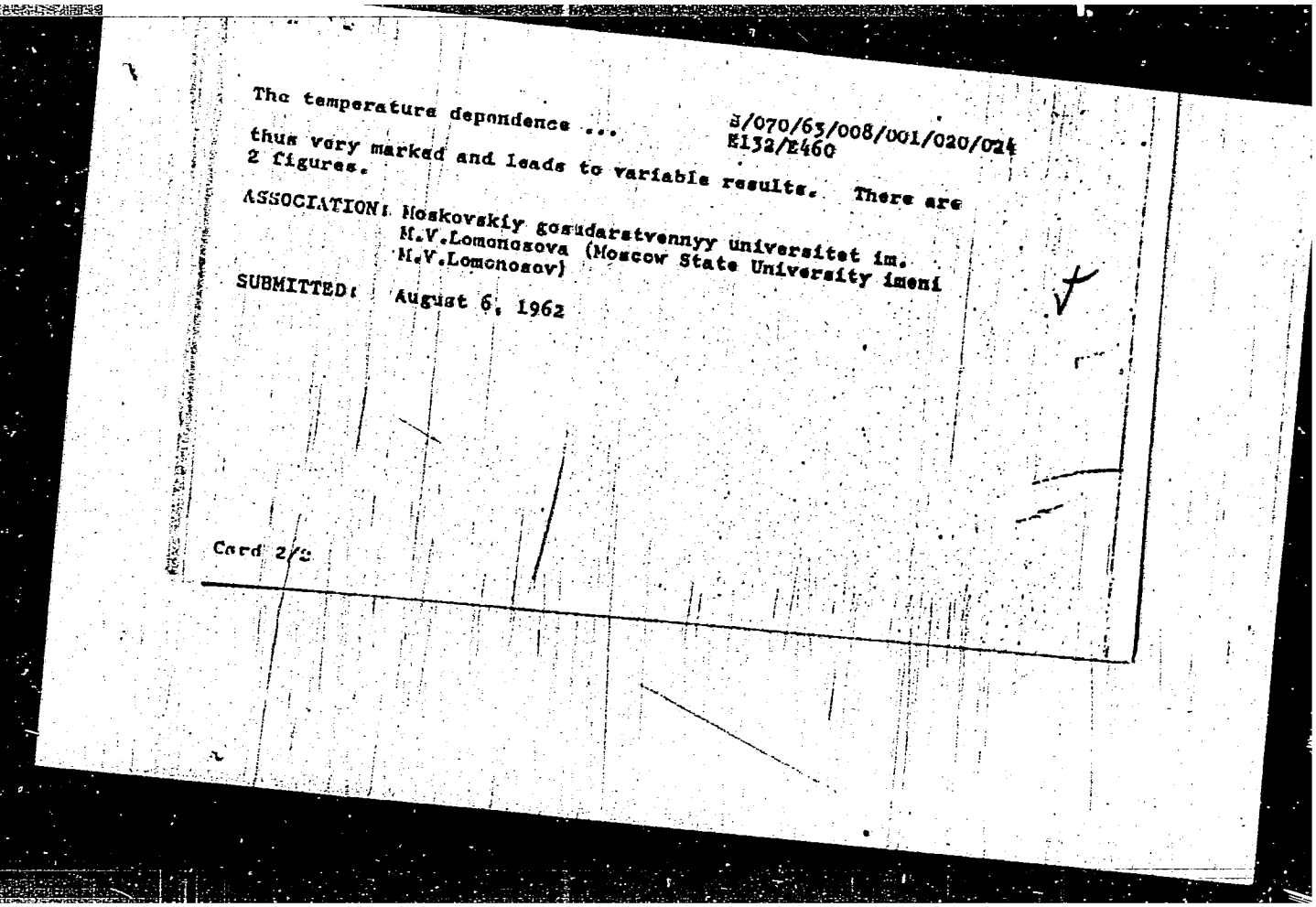

The temperature dependence ... S/070/63/008/001/020/024
E132/E460

thus very marked and leads to variable results. There are 2 figures.

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

SUBMITTED: August 6, 1962

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SEMENOV, Mikhail Vasil'yevich, prof.; MOLOKOVA, Ye., red.

[Theory of mechanisms and machines; friction in mechanisms. Written Lectures] Teoriia mekhanizmov i mashin; trenie v mekhanizmakh. Pis'mennye lektsii. Leningrad, Severo-Zapadnyi zaochnyi politekhn. in-t, 1962. 77 p.

(MIRA 17:5)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

GOSPITAL'NIK, Genrietta L'vovna; BRIL', R.Ya., nauchn. red.; MOLOKOVA, Ye., red.

[Technical and economic calculations in power engineering] Tekhniko-ekonomicheskie raschety v energetike; pis'mennye lektsii. Leningrad, Severo-Zapadnyi zaochnyi politekhnicheskii in-t, 1963. 70 p. (MIRA 17:1)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SAROMOTINA, Tamara Grigor'yevna; MOZHAYEV, S.S., prof., nauchn. red.; MOLOKOVA, Ye., red.

[Design of metal-cutting tools] Proektirovanie rezhushchikh instrumentov. Leningrad, Severo-Zapadnyi zaochnyi politekhn. in-t, No.2. [Cutters; written lectures] Reztsy; pis'mennye lektsii. 1962. 59 p. (MIRA 17:7)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVICH, Yu.M.

The question of determining the permeability coefficient of a layer. Uch.zap.Kaz.un. 116 no.1:55-58 '55. (MLRA 10:5)

1.Nauchno-issledovatel'skiy institut matematiki i mekhaniki im. N.G. Chebotareva.

(Permeability)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SOV/124-57-5-5795

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 108 (USSR)

AUTHOR: Molokovich, Yu. M.

TITLE: On the Problem of Determining the Permeability Coefficient of a Stratum (K voprosu ob opredelenii koeffitsiyenta pronitsayemosti plasta)

PERIODICAL: Uch. zap. Kazanskogo un-ta, 1956, Vol 116, Nr 1, pp 55-58

ABSTRACT: A description is given of a hydrodynamic method of determining the permeability of a stratum $k(x, y)$. The stratum is assumed to be under pressure, the fluid as incompressible, and the seepage as laminar. The following equation is used

$$\frac{\partial p}{\partial x}\frac{\partial \log k}{\partial x} + \frac{\partial p}{\partial y}\frac{\partial \log k}{\partial y} + \Delta p = 0$$

where p is the pressure and $\Delta = \partial^2/\partial x^2 + \partial^2/\partial y^2$. To find the desired function $k(x, y)$, the fields of pressure p_1 and p_2 representing two different instants of time are used. Thus, two equations are obtained.

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SOV/124-57-5-5795

On the Problem of Determining the Permeability Coefficient of a Stratum

$$\frac{\partial p_1}{\partial x}\frac{\partial \log k}{\partial x} + \frac{\partial p_1}{\partial y}\frac{\partial \log k}{\partial y} + \Delta p_1 = 0, \quad \frac{\partial p_2}{\partial x}\frac{\partial \log k}{\partial x} + \frac{\partial p_2}{\partial y}\frac{\partial \log k}{\partial y} + \Delta p_2 = 0$$

The general solution of this system of equations is represented by the function $\log_e k = \Phi(x, y, C)$, where C is a constant which is determined according to the known value of k at some point of the stratum. The permeability of a stratum is similarly determined for the case of the flow of a compressible fluid under pressure.

V. A. Karpychev

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SOV/124-58-10-11323

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 90 (USSR)

AUTHOR: Molokovich, Yu. M.

TITLE: The Problem of Determination of a Pressure Field in a Layer of Varying Permeability (K voprosu opredeleniya polya davleniya v plastakh peremennoy pronitsayemosti)

PERIODICAL: Uch. zap. Kazansk. un-ta, 1957, Vol 117, Nr 2, pp 120-124

ABSTRACT: The plane stationary field of a pressure p in a layer with varying permeability, $k(x, y)$, is being determined. A solution for the function $u = (p-p_0)\sqrt{k}$, where p_0 is the pressure at the circle of influence, is represented as a sum of two expressions. The first expression consists of a summation of harmonic functions with singularities situated at the wells. The second expression is in the form of an integral equation (obtained with the aid of Green's function), which the author proposes to solve by the method of successive approximations. In the case of a true circle of influence, the solution involves two infinite series of functions. Each successive function in the second series is obtained by integrating an expression containing the preceding function along the circular path. Convergence conditions for this series are given.

V. A. Maksimov

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVICH, Yu.M.

Restoration of the pressure function in formations of varying permeability, taking into account the viscosity of water and oil. Uch. zap. Kaz. un. 117 no.9:127-132 '57. (MIRA 13:1)

1. Nauchno-issledovatel'skiy institut matematiki i mekhaniki im. N.G. Chebotareva.
(Oil reservoir engineering)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVICH, Yu. M., Cand Phys-Math Sci (diss) -- "Determining the pressure function in a nonhomogeneous porous medium". Kazan', 1959. 7 pp (Min Higher and Inter Spec Educ RSFSR, Kazan' Order of Labor Red Banner State U im I. V. Ul'yanov-Lenin), 150 copies (KL, No 10, 1960, 125)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

16(1)

AUTHOR: Molokovich, Yu.M.

05261
SOV/140-59-5-17/25

TITLE: On an Approximate Method for the Solution of Linear Integral Equations

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 5, pp 164-170 (USSR)

ABSTRACT: The author investigates the approximate solution of integral equations of second kind of the type of Volterra and Fredholm. The proposed method is a modification of the method of averaging of functional corrections treated by Yu.D.Sokolov in [Ref 1,2, 3,4]. Sufficient conditions for the convergence of the method are given. For the same number of steps the method yields better results than that of Sokolov, but on the other hand it is combined with much more calculations. Two numerical examples are considered. A comparison with the exact solution shows errors of 1.03 and 1.9 % for second approximations.
There are 5 Soviet references.

ASSOCIATION: NIIMM imeni N.G.Chebotareva pri KGU (NIIMM imeni N.G.Chebotarev at the KGU)

SUBMITTED: October 28, 1958

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVICH, Yu. M. (Kazan')

"On the Determination of the Pressure Distribution in a Heterogeneous Oil Layer."

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

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVICH, Yu.M.

Determining the pressure field in a nonuniform oil layer. Izv.vys.ucheb.zav.; neft' i gaz 3 no.6:63-70 '60. (MIRA 13:7)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina.
(Oil reservoir engineering)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SALIMOV, R.B. (Kazan'); MOLOKOVICH, Yu.M. (Kazan')

Inverse problem of changing profiles in hydroaeromechanics. Izv. vys. ucheb. zav.; mat no.4:150-157 '63. (MIRA 16:10)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVSKIY, S. I.: Master Tech Sci (diss) -- "Some problems of focusing large electron currents in very-high-frequency tubes". Leningrad, 1958. 11 pp (Min Higher Educ USSR, Leningrad Electrical Engineering Inst im V. I. Ul'yanov (Lenin)), 150 copies (KL, No 6, 1959, 134)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

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68196

SOV/58-59-5-11037

9.3130

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 162 (USSR)

AUTHOR: Molokovskiy, S.I.

TITLE: Electron-Beam Focusing Conditions in an Axially Symmetric Magnetic Field in the Case of an Electron Gun Unscreened From the Magnetic Field

PERIODICAL: Izv. Leningr. elektrotekhn. in-ta, 1958, Nr 34, pp 200 - 212

ABSTRACT: The author analyzes the equations of motion employed in the LBV abd LOV for an electron in superposed electric and magnetic fields with axial symmetry. The equations of motion for the electron are derived from equations of motion written out in a Lagrangian form. A simple analysis leads to the following qualitative conclusions: 1) the focusing force due to the magnetic field is proportional to the difference between the magnetic flux penetrating a cross section of the beam at a given point and the flux passing through the surface of the cathode; 2) if a constant magnetic field is used for focusing, its magnitude must be very large; 3) the focusing action of the magnetic field depends on its direction in a given cross section with respect to the direction of the magnetic field on the cathode; 4) the action of the magnetic field can be focusing or

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Electron-Beam Focusing Conditions in an Axially Symmetric Magnetic Field in the Case of an Electron Gun Unscreened From the Magnetic Field

defocusing, depending upon the ratios between the field intensity and the flux magnitudes at a given site and on the cathode. The author derives the general conditions which the magnetic and electric field distributions must satisfy in order to obtain parallel and weakly converging beams. The author considers the applicability of the method of scale models of focusing systems when marked space-charge forces are present in the beam. The bibliography contains 6 titles.

V.I. Gurtovoy

Card 2/2

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SOV/58-59-7-15860

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 7, p 174 (USSR)

AUTHORS: Kuznetsova, A.V., Molokovskiy, S.I.

TITLE: Focusing an Electron Beam With a High Space-Charge Value Using the Magnetic Field of a Solenoid System

PERIODICAL: Izv. Leningr. elektrotekhn. in-ta, 1958, Vol 36, pp 125 - 129

ABSTRACT: The authors describe an experimental study dealing with the focusing of electrons by means of a longitudinal magnetic field generated by a system of coaxial solenoids. The initial formation of the beam was effected by a Pierce electron gun. The authors cite what experimental distribution of the magnetic field along the axis of the system yielded the highest assurance that 95% of the beam current would pass through the field.

L.S. Solov'yev

Card 1/1

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

SOV/58-59-5-11238

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 187 (USSR)

AUTHOR: Molokovskiy, S.I.

TITLE: Assessment of Klystron Volume-Charge Defocusing Forces Under Dynamic Conditions

PERIODICAL: Izv. Leningr. elektrotekhn. in-ta, 1958, Vol 38, pp 113 - 124

ABSTRACT: The author estimates the magnitude of defocusing forces acting in a radial direction upon clustered electrons in a bunched electron beam. The estimate is made on the following assumptions: 1) the problem is quasi-statical; 2) the beam possesses symmetric rotation; 3) the volume-charge density in the beam cross section is uniformly distributed. To simplify the calculations the real form of the electron packets is replaced by a rectangular one. The author examines the cases when the drift space is not bounded from the ends, and when it is bounded from one or both ends by conducting surfaces (e.g., grids); in all cases it is assumed that the electron beam is surrounded by a

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Assessment of Klystron Volume-Charge Defocusing Forces Under Dynamic Conditions SOV/58-59-5-11238

conducting cylindrical screen. The author obtains general formulae allowing an estimate of the radial electric-field component. He adduces an example where these forces under dynamic operating conditions grow substantially as compared to static conditions.

M.B. Golant

Card 2/2

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21650
S/109/61/006/003/005/018
E032/E314

26.2531 (also 1137, 1143, 1151)

AUTHORS: Molokovskiy, S.I. and Sushkov, A.D.

TITLE: A Study of the Electrical Field Due to a Dense Bunch of Charged Particles

PERIODICAL: Radiotekhnika i elektronika, 1961, Vol. 6, No. 3, pp. 375 - 380

TEXT: The study of the electrical field of a dense particle bunch, taking into account the effect of a conducting screen, is said to be of great importance to the solution of the general problem of charged-particle bunching. The present paper is concerned with the analysis of the electric field of a bunch with uniform distribution of the space charge and surrounded by a metallic screen. General expressions are given for the field distribution and these are said to be capable of extension to the case of a nonuniform axially symmetric charge distribution. The calculation of the electric field due to an axially symmetric space charge surrounded by a metal screen is obtained from the Poisson equation:

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

A Study of ....

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$$\frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial U}{\partial r}\right) + \frac{\partial^2 U}{\partial z^2} = -\frac{4\pi\rho}{\epsilon} .$$

This equation is solved using the Hankel integral transformation with finite limits. By multiplying both sides of the Poisson equation by

$$rJ_o\left(\lambda_i \frac{r}{a}\right)$$

where J_o is the zero-order Bessel function, λ_i is the i-th root of this function and a is the radius of the screen, the potential function is found to be of the form

$$U_J = \int_o^a UJ_o\left(\lambda_i \frac{r}{a}\right) rdr .$$

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A Study of ....

This function satisfies the differential equation

$$\frac{d^2U_J}{dz^2} - \left(\frac{\lambda_i}{a}\right)^2 U_J = -\lambda_i J_1(\lambda_i)U(a) - \frac{4\pi}{\epsilon}\rho_J \qquad (1)$$

where J_1 is the first-order Bessel function and ρ_J is the transformed space-charge density function given by

$$\rho_J = \int_0^a \rho J_0\left(\lambda_i \frac{r}{a}\right) r dr .$$

In order to obtain the required solution of the Poisson equation, it is then sufficient to determine the transformed potential function from Eq. (1) and substitute it into the formula

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E032/E314

A Study of ....

$$U = \frac{2}{a^2} \sum_i U_J \frac{J_o\left(\lambda_i \frac{r}{a}\right)}{\left[J_1(\lambda_i)\right]^2} \quad .$$

In this expression, the summation is carried out over positive values of λ_i . Without loss of generality it can then be assumed that the potential of the surrounding screen is zero, i.e. $U(a) = 0$. In that case, Eq. (1) is simplified to read

$$\frac{d^2U_J}{dz^2} - \left(\frac{\lambda_i}{a}\right)^2 U_J = f(z)$$

where

$$f(z) = -\frac{4\pi}{\varepsilon} \rho_J \qquad (2) \; .$$

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The solution of this equation can be found in the form

$$U_J = \int_{-\infty}^{+\infty} \Gamma(z,\zeta) f(\zeta) d\zeta \qquad (3)$$

where

$$\Gamma(z,\zeta) = -\frac{a}{2\lambda_i} e^{-\frac{\lambda_i}{a}|z-\zeta|} \qquad (4)$$

Substituting Eqs. (2) and (4) into Eq. (3), it is found that

$$U_J = \frac{4\pi a}{2a\lambda_i} \int_{\zeta} \rho_J e^{-\frac{\lambda_i}{a}|z-\zeta|} d\zeta,$$

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in which the integration extends over those values of ζ for which ρ_j differs from zero. Substituting this equation into the expression for U it is finally found that

$$U = \frac{4\pi}{\varepsilon a} \sum_i \frac{J_0\left(\lambda_i \frac{r}{a}\right)}{\lambda_i [J_1(\lambda_i)]^2} \int \rho_j e^{-\frac{\lambda_i}{a}|z-\zeta|} d\zeta. \qquad (5).$$

This expression determines the general form of the potential due to an axially symmetric space charge. In the special case of the single charged-particle bunch inside a metal screen and with ρ = const. (Fig. 1), the expression for U is of the form

$$U = \frac{8\pi b a \rho}{\varepsilon} \sum_i \frac{J_0\left(\lambda_i \frac{r}{b} \rho\right) J_1(\lambda_i \rho)}{\lambda_i^3 [J_1(\lambda_i)]^2} \varphi(\lambda_i, z), \qquad (6)$$

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where $p = b/a$ and

$$\varphi(\lambda_i, z) = \begin{cases} 1 - e^{-\lambda_i \frac{l}{2b} p} \operatorname{ch} \lambda_i \frac{z}{b} p, & |z| \leqslant \frac{l}{2}, \\ e^{-\lambda_i \left(\frac{|z|}{b}\right) p} \operatorname{sh} \lambda_i \frac{l}{2b} p, & |z| \geqslant \frac{l}{2}, \end{cases} \quad (7)$$

Hence the transverse and longitudinal components of the electric field are found to be

$$E_r = \frac{8\pi b \rho}{\varepsilon} \sum_i \frac{J_1\left(\lambda_i \frac{r}{b} p\right) J_1(\lambda_i p)}{\lambda_i^2 [J_1(\lambda_i)]^2} \varphi(\lambda_i, z), \quad (8)$$

$$E_z = \frac{8\pi b \rho}{\varepsilon} \sum_i \frac{J_0\left(\lambda_i \frac{r}{b} p\right) J_1(\lambda_i p)}{\lambda_i^2 [J_1(\lambda_i)]^2} \psi(\lambda_i, z), \quad (9)$$

Card 7/11

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A Study of ....

$$\psi(\lambda_i, z) = \begin{cases} e^{-\lambda_i \frac{l}{2b} p} \operatorname{sh} \lambda_i \frac{z}{b} p_i, & |z| \leqslant \frac{l}{2}, \\ \frac{z}{|z|} e^{-\lambda_i \frac{|z|}{b} p} \operatorname{sh} \lambda_i \frac{l}{2b} p_i, & |z| \geqslant \frac{l}{2}. \end{cases} \quad (10)$$

where in the case of Eq. (8) $\varphi(\lambda_i, z)$ is given by Eq. (10). Using the superposition principle, this expression can then be applied to the calculation of a periodic sequence. Fig. 2 shows the variation in the longitudinal component of the field at $z = 0.5\,\ell$ as a function of the radial coordinate. Fig. 3 shows the variation in the maximum relative magnitudes of the axial and radial components as functions of the relative dimensions of the bunch. The paper is concluded with a detailed examination of these general formulae in special cases. Thus, for example, Fig. 4 shows the variation of the field along the axis of the bunch in the presence ($p = 1$) and the absence ($p = 0$) of the screen. Fig. 5 shows the variation in the axial component inside and outside the bunch. There are 5 figures and 3 Soviet references.

SUBMITTED: December 18, 1959

Card 8/11

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOVSKIY, S.I.

Conditions for obtaining minimum pulsations in electron flows focused by a uniform magnetic field in systems with partially screened cathodes. Radiotekh. i elektron. 6 no.11:1943 N '61. (MIRA 14:10)
(Electron beams) (Cathodes)
(Magnetic fields)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

S/109/62/007/006/019/024
D234/D308

9.3140

AUTHOR: Molokovskiy, S. I.

TITLE: Analytical design of electrode geometry for electrostatic focusing of band stream

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 6, 1962, 1048-1050

TEXT: The problem of electrode configuration reduces to a Laplace equation with certain boundary conditions which is solved by the author for the case $jd^2/U_a^{3/2}$, being less than 10^{-5} A/V$^{3/2}$ (j denotes the electron current density, d the distance of diode gap, U_a the potential of electrodes forming the diode gap); the potential distribution in the diode gap is then taken approximately as

$$\frac{z}{d} = (4{,}5B)^{1/2}\left(\frac{U}{U_m} - 1\right)^{1/2} \qquad (3)$$

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Analytical design of ...

(U_m = maximum potential in the middle surface of the gap, B = $2.33 \times 10^{-6} U_m^{3/2}/jd^2$). The equation of the profile of equipotential surface is found to be $(z/d)^2(1 + tg^2\theta) \cos 2\theta = 0.25$, which determines the form of electrodes securing rectilinear motion of the electron stream. There are 2 figures.

SUBMITTED: December 6, 1961

Card 2/2

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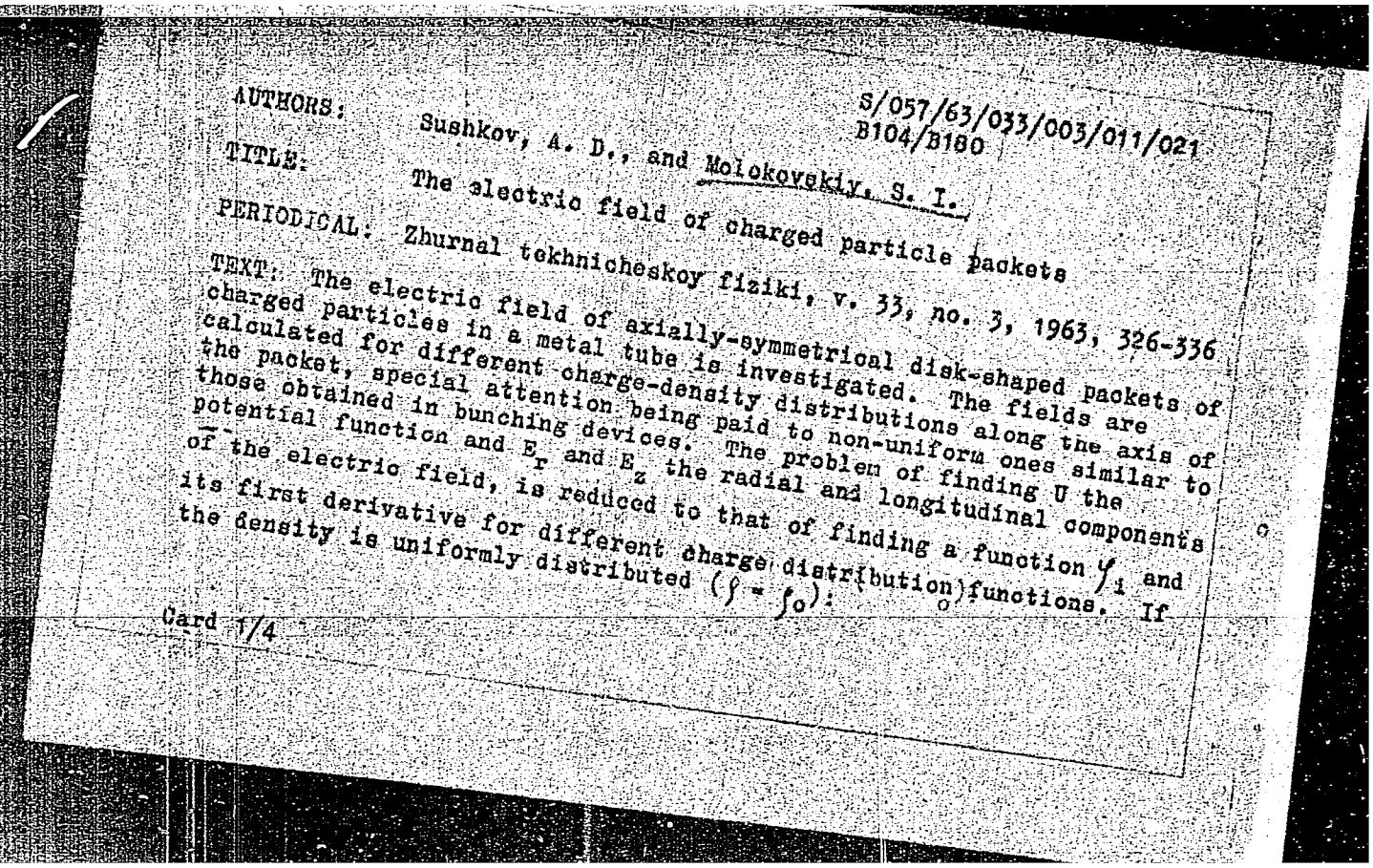

S/057/63/033/003/011/021
B104/B180

AUTHORS: Sushkov, A. D., and Molokovskiy, S. I.

TITLE: The electric field of charged particle packets

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 3, 1963, 326-336

TEXT: The electric field of axially-symmetrical disk-shaped packets of charged particles in a metal tube is investigated. The fields are calculated for different charge-density distributions along the axis of the packet, special attention being paid to non-uniform ones similar to those obtained in bunching devices. The problem of finding U the potential function and E_r and E_z the radial and longitudinal components of the electric field, is reduced to that of finding a function f_1 and its first derivative for different charge distribution functions. If the density is uniformly distributed ($f = f_0$):

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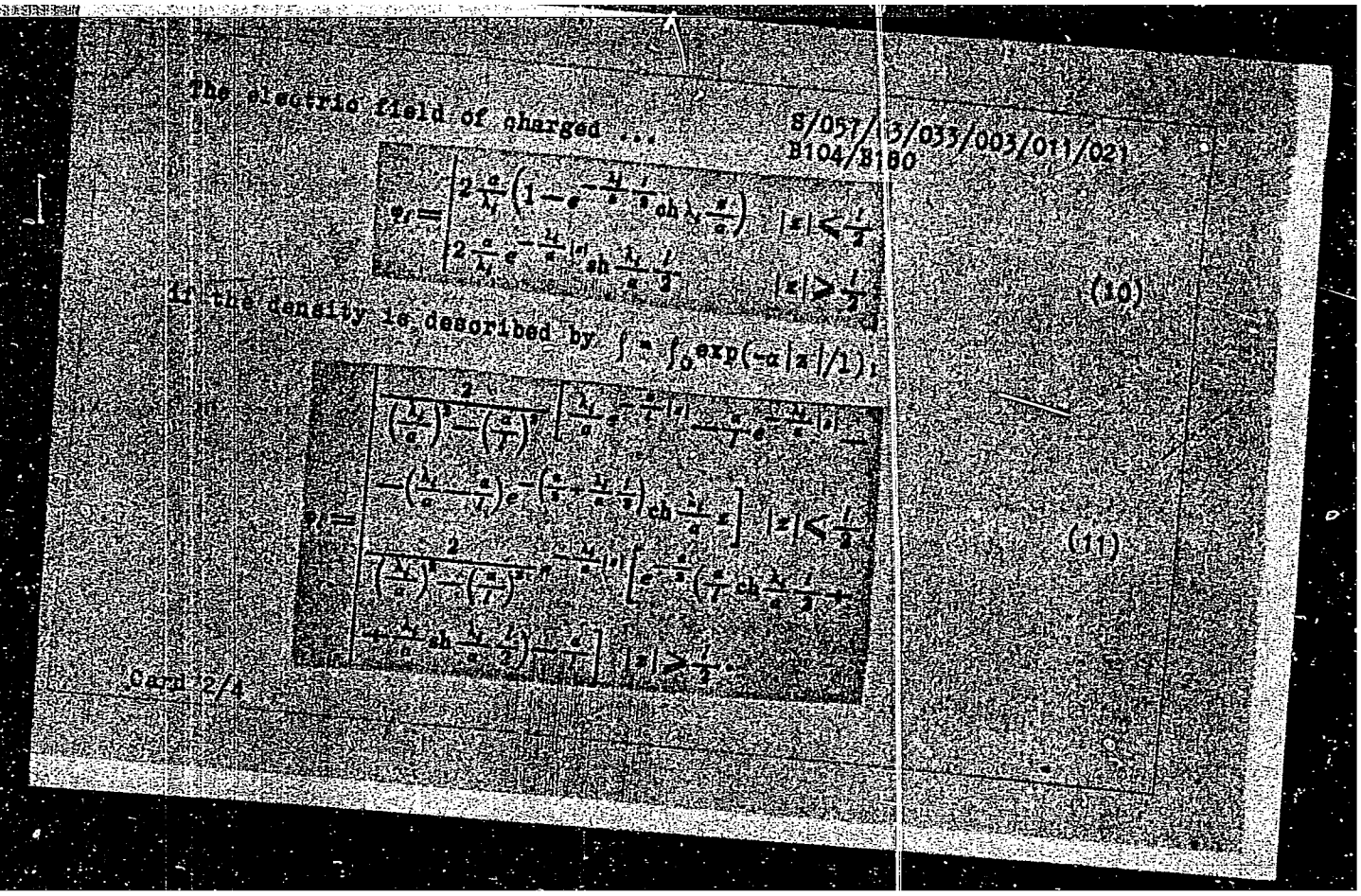

The electric field of charged ...

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B104/B180

$$\varphi_1 = \begin{cases} 2\frac{\sigma}{\lambda_1}\left(1 - e^{-\frac{\lambda_1}{a}\frac{l}{2}} \operatorname{ch}\lambda_1\frac{x}{a}\right), & |x| < \frac{l}{2}, \\ 2\frac{\sigma}{\lambda_1} e^{-\frac{\lambda_1}{a}|x|} \operatorname{sh}\frac{\lambda_1}{a}\frac{l}{2}, & |x| > \frac{l}{2}. \end{cases} \quad (10)$$

If the density is described by $\rho = \rho_0 \exp(-\alpha|x|/2)$,

$$\varphi_1 = \begin{cases} \frac{2}{\left(\frac{\lambda_1}{a}\right)^2 - \left(\frac{a}{2}\right)^2}\left[\frac{\lambda_1}{a} e^{\frac{a}{2}|x|} - \frac{a}{2} e^{-\frac{\lambda_1}{a}|x|} - \right. \\ \left. - \left(\frac{\lambda_1}{a} - \frac{a}{2}\right) e^{-\left(\frac{a}{2} + \frac{\lambda_1}{a}\frac{l}{2}\right)} \operatorname{ch}\frac{\lambda_1}{a} x\right], & |x| < \frac{l}{2}, \\ \frac{2}{\left(\frac{\lambda_1}{a}\right)^2 - \left(\frac{a}{2}\right)^2} e^{-\frac{\lambda_1}{a}|x|}\left[e^{\frac{a}{2}\left(\frac{l}{2} \operatorname{ch}\frac{\lambda_1}{a}\frac{l}{2} + \right.\right. \\ \left.\left. + \frac{\lambda_1}{a} \operatorname{sh}\frac{\lambda_1}{a}\frac{l}{2}\right) - \frac{a}{2}}\right], & |x| > \frac{l}{2}. \end{cases} \quad (11)$$

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The electric field of charged ...

if $\rho = \rho_0 \operatorname{ch} \alpha z / l$:

$$\varphi_i = \begin{cases} \dfrac{2}{\left(\frac{\lambda_i}{a}\right)^2 - \left(\frac{a}{l}\right)^2} \left[\dfrac{\lambda_i}{a} \operatorname{ch} \dfrac{a}{l} z - e^{-\frac{\lambda_i}{a}\frac{l}{2}} \operatorname{ch} \dfrac{\lambda_i}{a} z \times \right. \\ \times \left(\dfrac{\lambda_i}{a} \operatorname{ch} \dfrac{a}{2} - \dfrac{a}{l} \operatorname{sh} \dfrac{a}{2} \right) \quad |z| \leqslant \dfrac{l}{2}, \\ e^{-\frac{\lambda_i}{a}|z|} \left[\dfrac{\operatorname{sh} \frac{l}{2}\left(\frac{\lambda_i}{a} - \frac{a}{l}\right)}{\frac{\lambda_i}{a} - \frac{a}{l}} + \dfrac{\operatorname{sh} \frac{l}{2}\left(\frac{\lambda_i}{a} + \frac{a}{l}\right)}{\frac{\lambda_i}{a} + \frac{a}{l}} \right] \quad |z| \geqslant \dfrac{l}{2}, \end{cases} \qquad (12)$$

ρ_i characterizes the potential distribution for different charge density distributions in the bunch and in the surrounding space. Fields of bunches with different charge distributions are compared. There are 7 figures.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Lenina)
(Leningrad Electrotechnical Institute imeni V. I. Ul'yanov (Lenin))

SUBMITTED: March 5, 1962

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

ACCESSION NR: AR4020694 S/0275/64/000/001/A044/A044

SOURCE: RZh. Elektronika i yeye primeneniye, Abs. 1A219

AUTHOR: Molokovskiy, S. I.

TITLE: Aberration of Pierce-type electron guns that shape a converging electron beam

CITED SOURCE: Izv. Leningr. elektrotekhn. in-ta, vy*p. 48, 1963, 76-80

TOPIC TAGS: electron gun, Pierce gun, beam focusing gun, electron trajectory, electrolytic trough method, perveance, gun perveance, beam profile, beam radius

TRANSLATION: Electron trajectories in Pierce guns are investigated by simulation in an electrolytic trough with allowance for space charge (a method analogous to that described by V. S. Lokushkov in "Le Vide," 1956, v. 11, 65, 328). Field patterns and electron tra-

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ACCESSION NR: AR4020694

jectories are presented for guns with typical perveance $K = 1 \times 10^{-6}$ $A/V^{3/2}$. As a result of the effect of spherical aberration at the output from the gun, the prcfile of the shaped beam differs strongly from that calculated. The beam radius in the plane where the cross section should be minimal turns out to be considerably larger than calculated. The shortcomings of the procedure wherein the influence of the anode opening is accounted for by replacing it with a thin lens are pointed out. The difficulties of producing an electron-optical system with large compression are shown to be connected with the effect of spherical aberration. Bibliography, 2 titles. N. O.

DATE ACQ: 03Mar64 SUB CODE: GE, SD ENCL: 00

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L 25581-66 EWT(1)/EWA(h) IJP(c) AT
ACC NR: AM6004761 Monograph UR/ 45 B+1

Molokovskiy, Sergey Ivanovich; Sushkov, Aleksandr Danilovich

Electron optical systems of super-high frequency devices (Elektronno-opticheskiye sistemy priborov sverkhvysokikh chastot) Moscow, Izd-vo "Energiya", 1965. 231 p. illus., biblio. 4,500 copies printed

TOPIC TAGS: electron beam, electron gun, electron optics, electron waveguide

PURPOSE AND COVERAGE: The book deals with electron-optical systems intended to obtain intense electron beams of varying configurations, used in microwave electronic devices. The book describes the physics of the phenomena occurring in electron beams with large space charge. The principles involved in the design of electron optical systems are described, together with the required calculations. Calculation procedures are given for almost all the principal shaping and transverse-limitation systems used in practice. The various expositions are illustrated with a large number of examples based on concrete constructions of electronic devices. Some general problems, knowledge of which is essential for the understanding of the physical processes and design procedures of electron-optical systems, are also included, such as space charge in electron beams in the presence and in the absence of positive ions, methods of stimulating of electrostatic fields in an electrolytic trough, methods of constructing electron trajectories with and without allowance for space charge. Authors thank A. A. Zhigarev for valuable remarks made during the review of the manuscript.

Card 1/2 UDC: 621.3.032 : 621.385.6

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ACC NR: AM6004761

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Ch. II. Effect of space charge in electron beams - - 42
Ch. III. Modeling of electrostatic fields in an electrolytic trough and construction of electron trajectories - - 65
Ch. IV. Design of electron guns - - 84
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SUB CODE: 09/ SUBM DATE: 20Apr65/ ORIG REF: 027/ OTH REF: 036

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

USSR / Cultivated Plants. Fruit Trees. Small Fruit Plants. Nut Trees. Tea. M

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 25083

Author : Molokoyedov, N. N.
Inst : Not given
Title : Concerning the Causes for the Destruction of Grape Spots Under Cover

Orig Pub : Vinodeliye i vinogradstvo SSSR, 1957, No 1, 34-36

Abstract : No abstract given

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOKOYEDOVA, L.F.

Some biological and physiological peculiarities of cucumber hybrids marked by heterosis. Fiziol. rast. 9 no.1:69-74 '62.
(MIRA 15:3)

1. Ukrainian Scientific-Research Institute of Vegetable and Potato Growing, Kharkov.

(Cucumbers--Varieties)

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L 26316-66 EWP(1)/EWT(m)/EIC(m)-6/T/EWP(e) IJP(c) BM/WH/WW
ACC NR: AP6003420 SOURCE CODE: UR/0190/66/008/001/0104/0108

AUTHOR: Solomko, V. P.; Molokoyedova, T. A.; Uskov, I. A.

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet)

TITLE: Effect of fillers on the morphological forms and mechanical properties of crystalline polymers

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 1, 1966, 104-108 and insert facing page 104

TOPIC TAGS: crystalline polymer, solid mechanical property, filler, polymerization, spherulite, bending strength

ABSTRACT: A study directed toward improving the mechanical properties of crystalline polymers by means of fillers has been carried out at Kiev State University. Polycaprolactam and two fillers, kaolinite and glass fiber, were used in the experiment. The effect of the fillers on the morphological forms and mechanical properties of the polymers was studied with specimens which contained varying ammounts of fillers. The specimens, 5--6 mm thick and 10 mm in diameter, were prepared as follows: 1) compression molding at 180°C and 1000 kg/cm^2; 2) heating to 270°C followed by cooling at a rate of 2--3°C/min to 270--180°C; 3) heat treatment at this temperature for 1 hr; and 4) cooling to room temperature at the same rate. It was found that specimens prepared by mixing finely divided polycaprolactam molding powder with 5 to 20% kaolinite turned out to consist of alternating kaolinite and polycaprolactam spherulite layers, and to be very brittle. To improve the structure and the mechanical properties of the filled

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

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polymer, it was found necessary to lower the filler content, and to improve the distribution of the filler while retaining its original finely divided state in the polymer. To this end the fillers were added to the polymer in the course of polymerization. Kaolinite or glass fiber (3 mm long) in the form of an aqueous suspension was added drop-wise to caprolactam polymerizing under an inert gas at 270° C, 35 min after the onset of the polymerization. As the drops hit the melt, they explode under the effect of the steam formed and cause the filler to distribute uniformly in the melt.

The effect of filler content and heat-treatment temperature on spherulite size in the improved polycaprolactam specimens was determined (See Fig. 1) using metallographic techniques. Micrographs of filled and nonfilled specimens heat-treated at 260° C showed that the filler concentrates in the boundaries and defect spots of spherulites.

The decrease in the spherulite size which occurs on addition of kaolinite (see Fig. 1) can be explained as follows: 1) kaolinite acts as a nucleating agent which accelerates crystallization, and 2) some of the filler is squeezed out into the less dense, amorphous interspherulite regions, concentrates within these regions, and hinders spherulite growth.

The effect of glass fiber on spherulite size requires further study, presently in progress.

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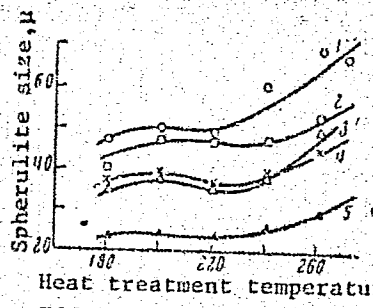

Fig. 1. Effect of heat treatment temperature on the size of spherulites of filled and nonfilled polycaprolactam (PC)
1 - Nonfilled PC; 2 - PC, filled with 0.5% kaolinite; 3 - PC, filled with 5% kaolinite; 4 - PC, filled with 0.5% glass fiber; 5 - PC, filled with 5% glass fiber.

Structural changes in filled polycaprolactam were shown to correlate with changes in its mechanical properties, e.g., the highest bending strength was exhibited by specimens filled with 2% kaolinite. Improvement of the mechanical properties of polycaprolactam by fillers can be attributed to two factors: 1) decrease of the spherulite size, and 2) strengthening of the amorphous interspherulite regions.

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This strengthening is very important in view of the established facts that polymers crystallize stepwise, and that the final steps, which involve slow crystallization of the amorphous regions, can last up to several years and cause changes in the properties of the polymer (aging). Concentration of filler particles in amorphous regions lowers molecular mobility, hinders molecular rearrangement to form the crystalline phase, and promotes stabilization of the original polymer structure.

Stabilization of the most favorable structures in the polymers could greatly contribute to an improvement of the mechanical properties of the end products. Preliminary studies by the authors of changes in the microstructure and crystallinity of filled and nonfilled polycaprolactam as a function of time suggested the feasability of stabilizing the structures of crystalline polymers by means of fillers. Further studies along these lines are in progress. Orig. art. has: 2 figures. [FSB: v.2, no.3]

SUB CODE: 11, 20, 07 / SUBM DATE: 17Feb65 / ORIG REF: 009 / OTH REF: 005

Card 4/4 dc

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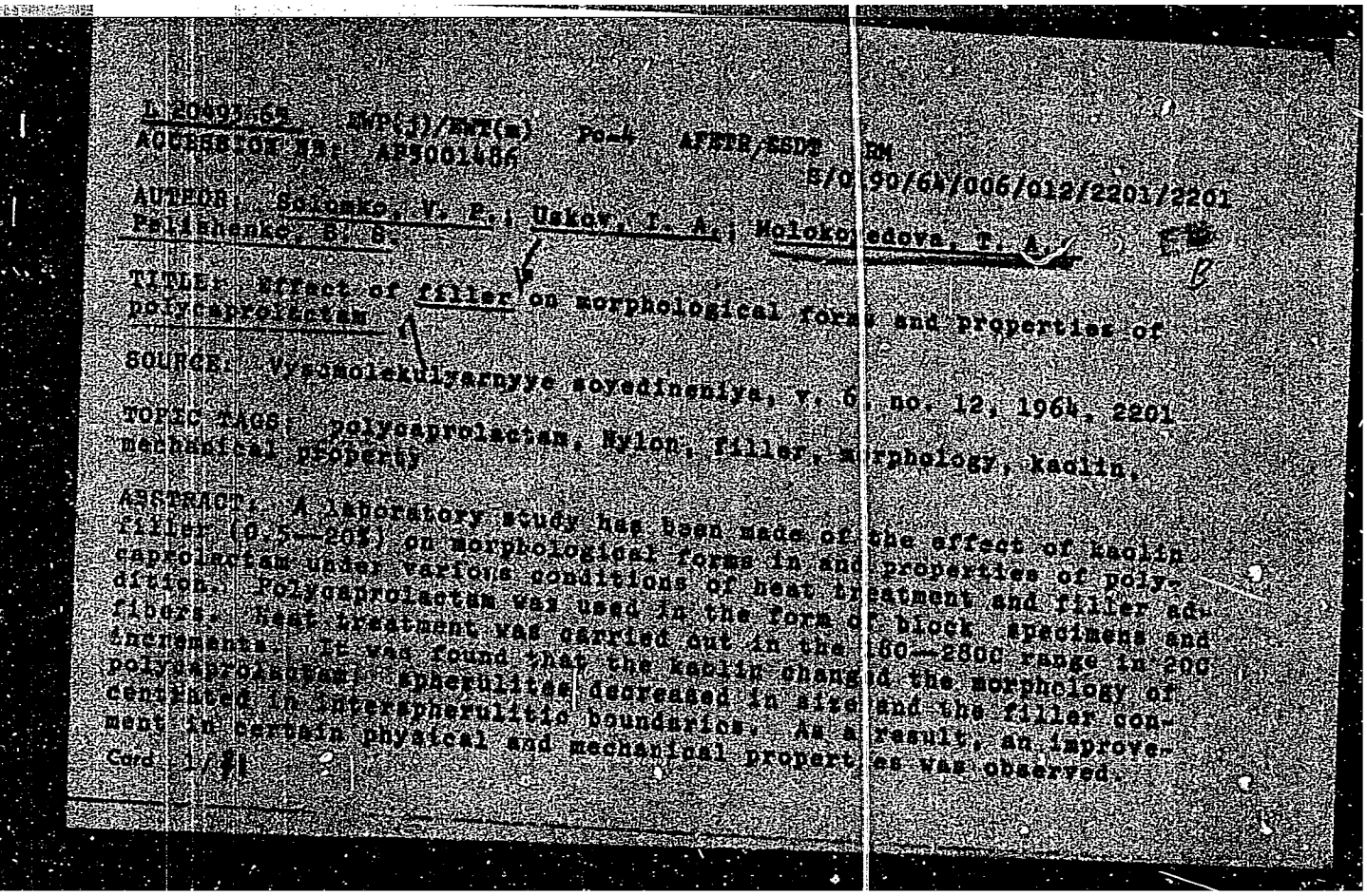

L 20493-65 EWP(j)/EWT(m) Po-4 AFETR/ESDT RM
ACCESSION NR: AP5001486 S/0190/64/006/012/2201/2201

AUTHOR: Solomko, V. P.; Uskov, I. A.; Molokoyedova, T. A.; Pelishenko, S. S.

TITLE: Effect of filler on morphological forms and properties of polycaprolactam

SOURCE: Vysomolekulyarnyye soyedineniya, v. 6, no. 12, 1964, 2201

TOPIC TAGS: polycaprolactam, Nylon, filler, morphology, kaolin, mechanical property

ABSTRACT: A laboratory study has been made of the effect of kaolin filler (0.5—20%) on morphological forms in and properties of polycaprolactam under various conditions of heat treatment and filler addition. Polycaprolactam was used in the form of block specimens and fibers. Heat treatment was carried out in the 180—280C range in 20C increments. It was found that the kaolin changed the morphology of polycaprolactam: spherulites decreased in size and the filler concentrated in interspherulitic boundaries. As a result, an improvement in certain physical and mechanical properties was observed.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOMUT, Norman

Physiologic factors in host-tumor relationship and metastases. Neoplasma, Bratisl. 5 no.2:101-105 1958.

1. Waldemar Medical Research Foundation, Inc. Port Washington, New York. Author's address: Norman Molomut Ph. D., Waldemar Medical Research Foundation, Inc., Port Washington, New York, U. S. A.

(NEOPLASMS, experimental,
host-tumor relationship & metastases, review)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

ACC NR: AP7004064 (A) SOURCE CODE: UR/0190/67/009/001/0040/0044

AUTHOR: Solomko, V. P.; Molokoyedova, T. A.; Uskov, I. A.; Polichkovskaya, T. V.

ORG: Kiev State University im. T. G. Shevchenko (Kiyevskiy gosudarstvennyy universitet)

TITLE: Effect of nonmodified and modified fillers on the morphology and dimensions of spherulites, and mechanical properties of polycaproamide and polyethylene

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 9, no. 1, 1967, 40-44

TOPIC TAGS: filler, morphology, spherulite, mechanical property, film

ABSTRACT: An investigation has shown that modified and nonmodified fillers significantly affect the dimensions and morphology of spherulites in methylpolysiloxane, modified and aminated aerosil, silica, kaoline and glass fiber. Surface modification of fillers induces a more pronounced interaction with a given polymer, as compared with nonmodified filler-polymer interaction. Addition of

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ACC NR: AP7004064

optimum concentrations of fillers induces a number of changed in spherulites such as morphological and dimensional, while a concentration of fillers exceeding optimum levels does not have any significant effect. Mechanical properties of the filled films are determined by the size of spherulites only at very low filler concentrations, when the filler acts primarily as a nucleation center. In the case of increased filler concentrations, its effect on the mechanical properties of a film becomes predominant. Orig. art. has: 3 figures. [AM]

SUB CODE: 20/SUBM DATE: 26Oct65/ORIG REF: 005/

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

HOLECKOVA, E.; HYCHLIKOVA, M.; MOLOMUT, N.

Toxicity of normal and immune rabbit sera to different mouse cells. Neoplasma 8 no.3:269-274 '61.

1. Waldemar Medical Research Foundation, Port Washington, L.I., N.Y., U.S.A.

(IMMUNE SERUMS toxicol) (NEOPLASMS immunol)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOMUZH, A.S., inzh.

Methods for estimating losses due to equipment repair in electric power plants. Energetik 11 no.7:26-27 Jl '63.
(MIRA 16:8)
(Electric power plants—Equipment and supplies)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOMUZH, F.F.

USSR/General Problems of Pathology - Tumors. T-5

Abs Jour : Ref Zhur - Biol., No 4, 1958, 17442

Author : Molomuzh, F.F.
Inst : -
Title : A Contribution to the Question of Eosinophilic Reticuloma.

Orig Pub : Tr. gos. n.-i. in-ta ukha, gorla i nosa, 1956, vyp. 8, 184-192.

Abstract : Three cases of eosinophilic reticuloma in a 3½ year old boy and 9 and 14-year old girls are reported. The complaints were basically limited to headaches and constant aching pains at the lesion sites, worse at night. There was moderate leukocytosis and an increase in eosinophils up to 7% in peripheral blood. There were multiple skeletal lesions in all children. A histologic study of the removed tumor revealed an eosinophilic reticuloma in all cases which, according to the author, occupies a transitional place between a tumor and a granuloma.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

KABANOV, I.; MOLOMZHAMTS, D.

Trade treaty between the Union of Soviet Socialist Republics and the Mongolian People's Republic. Vnesh.torg. 28 no.8:48-50 '58. (MIRA 11:9)

(Russia--Foreign economic relations--Mongolia)
(Mongolia--Foreign economic relations--Russia)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOMZHAMTS, D.

The Soviet Union renders us their friendly help. Vnesh. torg. 41 no. 2:20-21 '61. (MIRA 14:2)
(Russia—Foreign economic relations—Mongolia)
(Mongolia—Foreign economic relations—Russia)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONIEWICZ, N.

MOLONIEWICZ, N. Cost analysis of the erection of a prefabricated building sections factory. p. 14. Vol. 5, no. 9, Sept. 1956. BUDOWNICTWO PRZEMYSLOWE. Warszawa, Poland.

SOURCE: East European Accessions List (EEAL), Vol. 6, No. 4--April 1957

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONIEWICZ, S.; JOWOROWSKI, R.

"Drill for Laying Mines in the Earth Under Water." p. 198. (GOSPODARKA WODNA, Vol. 14, No. 5, May 1954. Warszawa, Poland.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3, No. 12, Dec. 1954, Uncl.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONIEWICZ, W.

"Designing a Sewer System for Surface Water." Part 1. p. 196 (GAZ, WODA I TECHNIKA SANITARNA, Vol. 27, No. 7, July 1953) Warszawa

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2, No. 10, October 1953. Unclassified.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONIEWICZ, Wanda

Congress of the Association of Hungarian Hydrologists. Gaz woda techn sanit 38 no.6:213-214 Je '64

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONOV, G.D., insh.

Interaction of basic open-hearth-type liquid slags with the gaseous phase containing sulfur. Izv.vys.ucheb.zav.; chern.met. no.8:53-60 Ag '58. (MIRA 11:11)

1. Zhdanovskiy metallurgicheskiy institut.
(Open-hearth process) (Chemistry, Metallurgic) (Sulfur)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONOV, G. D., Cand Tech Sci (diss) -- "The effect of the gaseous phase on the process of desulfurization of steel in basic open-hearth furnaces". Dnepropetrovsk, 1959. 16 pp (Min Higher and Inter Spec Educ Ukr SSR, Dnepropetrovsk Order of Labor Red Banner Metallurgical Inst im I. V. Stalin, Chair of Steel Metallurgy), 175 copies (KL, No 12, 1960, 127)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

S/137/62/000/002/005/144
A006/A101

AUTHOR: Molonov, G. D.

TITLE: The rate of sulfur absorption by liquid steel as a function of the partial pressure of sulfur dioxide

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 16, abstract 2A75 ("Sb. nauchn. tr. Zhdanovsk. metallurg. in-t", 1960, no. 6,13-16)

TEXT: Experimental melts were conducted in a 5-kg electric furnace with magnesite lining. A mixture of SO_2, O_2 and N_2 of a given composition was introduced into the operational space after the metal had melted. Low-carbon steel was used. During the melting process samples were taken for chemical analysis; the slag was removed by freezing onto a metal rod. It was found that the rate of S absorption was a directly proportional function of pSO_2; this proves the great importance of diffusion processes. The mixing of metal on account of C oxidation and gas turbulence near the metal surface, must considerably increase the rate of S absorption.

T. Kolesnikova

[Abstracter's note: Complete translation]

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

KUZNETSOV, A.F.; KHARITONOV, A.S.; MOLONOV, G.D.

Effect of the method of deoxidation and conditions of casting on the quality of pipe steel. Izv. vys. uchet. zav.; chern. met. 4 no.8:43-47 '61. (MIRA 14:9)

1. Zhdanovskiy metallurgicheskiy institut.
(Steel--Metallurgy)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

KAZANTSEV, I.G.; KUZNETSOV, A.F.; PRESNYAKOV, V.M.; MOLONOV, G.D.; KUZ'MA, I.D.; CHERNYSHEV, I.S.; OLESHKEVICH, T.I.; KISSEL', N.N.; ANTOKHIN, N.T.; ROYANOV, V.V.

Manufacture of very thick plate from capped steel. Izv. vys. ucheb. zav.; chern. met. 6 no.6:49-50 '63. (MIRA 16:8)

1. Zhdanovskiy metallurgicheskiy institut i zavod im. Il'icha.
(Steel ingots) (Rolling (Metalwork)--Quality control)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLONOV, G.D.; KUZNETSOV, A.F.; PRESNYAKOV, V.M.

Nonmetallic inclusions in capped steel. Izv. vys. ucheb. zav.; chern. met. 7 no.2:56-57 '64. (MIRA 17:3)

1. Zhdanovskiy metallurgicheskiy institut.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSAYEV, I. P.

"Investigation of Metal Flow in the Stamp Hollow During Mass Stamping." Cand Tech Sci, Belorussian Polytechnic Inst Imeni I. V. Stalin, 24 Dec 54. (SB, 14 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUM No. 556, 24 Jun 55

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSAYEV, I. P.

137-58-3-5071

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 87 (USSR)

AUTHOR: Molosayev, I. P.

TITLE: A Study of the Deformation of the Metal in the Cavity of a Die (Izucheniye protsessa formoizmeneniya metalla v polosti shtampa)

PERIODICAL: Sb. nauch. tr. Belorussk. politekhn. in-t, 1957, Nr 57, pp 69-80

ABSTRACT: Experiments were performed in order to establish how the pressure of the flow and the nature of filling in of the die are affected at the final instant of the stamping operation by the shape of the forging and the geometry of the die clearance. The deformation of separate elements in the regions of flow was studied from the first to the last instant of the entire process of shape transformation. The degree of nonuniformity of deformation was studied quantitatively. Research was carried out on Pb and, partially, Al specimens which were worked in a special stamping press equipped with insert dies for quick changes of the shape and dimensions of the forgings. The degree of deformation was measured by means of an indicator,

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137-58-3-5071

A Study of the Deformation of the Metal in the Cavity of a Die while the forces were registered by photo-optical means.

G.F.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSAYEV, I.P.; MEKHED, I.N.

Studying the temperature conditions of dies in hot forging. Kuz.-shtam. proizv. 3 no.11:21-22 N '61. (MIRA 14:11)
(Dies (Metalworking)) (Forging)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSHNAYA, T. N.

SOV/44 - 58 - 4 - 3354

Translation from: Referativnyy zhurnal, Matematika, 1958, Nr 4, p 156 (USSR)

AUTHOR: Purto, V. A. and Moloshnaya, T. N.

TITLE: On the Machine Translation of English into Russian (O mashinnom perevode s angliyskogo yazyka na russkiy)

PERIODICAL: Tr. 3-go Vses. matem. s"yezda., Nr 1, Moscow, AN SSSR 1956, p 196

ABSTRACT: Thesis of a report before the third All-Union Mathematical Congress. A method of translation is proposed by which definite classes of English and Russian words, typical structures of the English sentence, typical configurations from the given classes of words and the configurations in Russian corresponding to them are given. In translation configurations contained in an English phrase must be replaced by Russian configurations corresponding to them and then the Russian words must

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LOCKE , William Nash ,; MOLOSHNAYA, T.N.,[translator], PURTO, V.A.,[translator],; KUZNETSOV, P. S., red.

[Machine translation; a collection of articles] Mashinnyi perevod; sbornik statei. M, Izd-vo inostrannoi lit-ry, 1957. 314 p. [Translated from the English]. (MIRA 11:11)

(Machine translating)
(Translating machines)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSHNAYA, T. N., REVZIN, I. I., PURTO, V. A. and ROZENTSVEYG, V. Yu.

"Nekotorye Lingvisticheskie Voprosy Mashinnogo Perevoda." (Certain Linguistic Problems in Machine Translation) Voprosy Yazykoznaniya, No. 1, 1957, pp. 107-113

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSHNAYA, T. N.,

"Discrimination of Homonyms in the Machine Translation of English to Russian," p 215, Problems of Cybernetics, No 1, Moscow, Fizmatgiz, 1958. 268 p.

This collection of articles deals with general problems of cybernetics, information theory, theory of algorithms and automatic machines, theory of control systems, theory of games and tactics, methods of operations analysis, problems in the theory of calculating machines, programming, and the application of cybernetics to other sciences, such as biology, economics and linguistics. "Problems of Cybernetics," as a recurrent publication, will continue to include original papers, survey articles and translations, and like thepresent work, will contain the results of seminars in cybernetics held at Moscow Univ.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSHNAYA, T. N. (Moscow)

"The Algorithm of Machine Translation from English to Russian," Theses - Conference on Machine Translations, 15-21 May 1958, Moscow.

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AUTHOR: Moloshnaya, T.M.

TITLE: Questions concerning the distinction of homonyms in machine translation from English to Russian language

PERIODICAL: Referativnyy zhurnal, Matematika, no. 8, 1962, 73, abstract 8V444. ("Probl. kibernetiki". Vyp. 1. M., Gos. izd-vo fiz.-matem. lit., 1958, 215-221)

TEXT: The author describes rules for the distinction of homonyms; the rules form a part of the experimental algorithm for the English-Russian machine translation. The wide propagation of the lexico-grammatical homonymy in the English language complicates the translation ; therefore, the homonymy is removed before the analysis of the English text. The rules refer to the investigation of 67 lexico-grammatical homonym groups (the number of the groups is determined by the classification of the words used in the algorithm ; this classification differs from the usual classification in discourse parts). The distinction of the homonyms is carried out in two stages.

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Questions concerning the ...

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In the first stage morphological data are used and those cases are investigated for which a certain ending (for a homonymic stem) allows a unique identification of the discourse part to which the considered word belongs. In the second stage syntactical characteristics are used, i.e. the homonymy is searched by an investigation of the neighborhood of the word. The second stage is divided into several steps. The first step is formed by special rules for the investigation of some special cases. The second stage deals with general syntactical rules. For the different homonym groups the author compiles special tables, they contain lists of characteristic connections of the considered homonyms with other classes of words. Here two cases are possible. In the first case one of the homonyms of one pair forms connections only with such classes of words with which the second homonym enters into no connections. The appearance of such connections in the sentence allows to choose the first homonym, the absence - the second one. In the other case, the characteristic connections for different homonyms can overlap in a complicated way. The appearance of connections with one homonym allows the perception, if the

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connections with the other homonym are absent. Under appearance or absence of characteristic connections for both homonyms, additional special rules have to be applied. Since the classes of words forming the characteristic connections do not absolutely stand side by side in the sentence, therefore it is given in the tables which words can separate the components of the one or the other connection. In the last step the non-identified homonyms are investigated with the aid of syntactical data on the sentence which have not been considered for the word connections (existence of the predicate etc) If two homonym groups occur in parallel in the sentence, then - if possible - at first the first group is investigated, where all homonyms of the second group are taken into consideration. If the investigation of the first group is not possible (the homonyms of the first group form different connections with the homonyms of the second group), then one tries to investigate at first the second and then the first group.

[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

Moloshnaya, T. N.

N. N. Vasil'yev, Second International Congress on Cybernetics (3 March 1958); contents of the paper were published in the second issue of Problemy kibernetiki in the "Khronika" section.

Discussion of Y. A. Poletayev's book Signal (17 October 1958).

S. N. Braynes and G. Ya. Kobrinskaya, Investigation of the Physiological Mechanism of a Complex Reflex in Mice Under Labyrinth Conditions (31 October 1958).

A. M. Petrovskiy, Report on the Mission to the US (14 November 1958).

A. A. Lyapunov, and S. V. Yablonskiy, Problem of the Systematization of the Basic Concepts of Cybernetics (26 November 1958).

Y. Ya. Aksenov, Conference on Automation in Railroad Transportation (12 December 1958).

Yu. A. Shreyder, Means of Developing the Structure of Computers (26 December 1958).

A. P. Yershov, Report on the Cybernetics Symposium in London (26 December 1958);

M. G. Gaaze-Rappoport, Certain Problems of the Behavior of Living Organisms (13 February 1959).

N. Ye. Kobrinskiy, Cybernetic Problematic Topics in Economics (27 February 1959).

D. I. Volovaya, The Basis of Technical Norms of Weight and Speed of River Craft with the Aid of Electronic Digital Computers (13 March 1959).

G. V. Savinov, Electrical Simulation of Certain Self-Adaptive Systems (10 April 1959; a part will be published in Problemy kibernetiki, No. 4).

A. A. Lyapunov, O. S. Kulagina, and T. N. Moloshnaya, Report on the Leningrad Conference on Mathematical Linguistics (24 April 1959, cf., pp 273-278 of this book).

report presented at the Moscow University Seminar on Cybernetics during 1958-59 school year. (under direction of A. A. Lyapunov)
(reported in Problemy kibernetiki, No. 3, 1960, p. 273)

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moloshnaya, T. N.

PHASE I BOOK EXPLOITATION SOV/4073

Problemy kibernetiki, vyp. 3 (Problems in Cybernetics, No. 3) Moscow, Fizmatgiz, 1960. 282 p. 15,000 copies printed.

Ed.: Aleksey Andreyevich Lyapunov; Comp. and eds.: O. S. Kulagina, O. B. Lupanov, B. Yu. Pil'chak, S. V. Yablonskiy, and Yu. I. Kiev.

PURPOSE: This book is intended for specialists in cybernetics, machine translation, and computers.

COVERAGE: This book contains articles on problems in cybernetics, programming, mathematical linguistics, machine translation, the theory of [illegible], and the theory of digital computers. In particular, the book discusses [illegible] dealing with the effective use of computers. The proceedings of the [illegible] on cybernetics held in 1958-1959 at Moscow University under the [illegible] of A. A. Lyapunov and of the conference on mathematical linguistics held April 15-24, 1959, in Leningrad are described. The editors thank M. L. [illegible], I. B. Zadykhaylo, V. S. Shtarkman, and G. V. Vakulovskaya. References accompany each article.

Tectlin, M. L., and L. M. Shekhtman. On Push-Pull Ferro-transistorized Circuits With Nonperiodic Reading 89

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IV. PROBLEMS OF MATHEMATICAL LINGUISTICS

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D234/D305

AUTHOR: Moloshnaya, T.N. (Moscow)

TITLE: Algorithm of translation from English into Russian

SOURCE: Problemy kibernetiki, no. 3, Moscow, 1960, 209-272

TEXT: The principal part in preparing the algorithm consisted in establishing the elementary configurations in both languages. Ch. Fries had catalogued the most frequent structures of English, but his structures are stated to be too complicated and numerous; they were separated into elementary grammatical configurations. The algorithm consists of the group of rules for analyzing the original sentence and for constructing the translated one. There is a special 'computer' vocabulary. The vocabularies are based exclusively on 1026 different words, found in 'Stability Theory of Differential Equations' of R. Bellman. No statistical analysis was made since the method is intended to be experimental. The first part of the paper is a general description in the following order: Basic vocabulary; structure vocabulary; elimination of homonyms; analysis of the Eng-

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Algorithm of translation from ... S/582/60/000/003/009/009
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lish sentence; processing and translation of prepositions; structural synthesis of the Russian sentence; morphological editing; substitution of Russian words and formation of required grammatical forms. A sentence, together with punctuation marks, must not contain more than 43 digits (owing to the maximum number of digits in the memory unit). The second part (appendix) contains detailed lists of rules, their explanations and some examples. There are 28 tables and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Ch. Fries, The Structure of English, N.Y., 1953.

SUBMITTED: February 14, 1958

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AUTHOR: Moloshnaya, T. N.

TITLE: An experiment in statistical investigation of grammatical configurations in an English mathematical text

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1962, 83 - 84, abstract 12V549 (In collection "Mash. perev. i prikl. lingvistika", no. 4, Moscow, 1960, 64 - 81)

TEXT: The article cites statistical data as to the frequencies of certain types of grammatical configurations in English mathematical texts. It is assumed that every word of the text enters in at least one configuration and that every configuration consists of two and only two elements. Within the limits of each configuration the author studies the multiplicity of its components - a number indicating how many words in a given sentence depend upon a given element. The author also introduces the notion of the submultiplicity of elements, measured by the number of words of a definite class, dependent upon a considered element within the bounds of one sentence. The results are cited of a sample investigation of the probabilities of various types of configurations, of the mul-

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tiplicities and submultiplicities of their elements, and the mean number of configurations per word of text.

R. M. Frumkina

[Abstracter's note: Complete translation]

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MOLOSHNAYA, T. N.

15

PHASE I BOOK EXPLOITATION SOV/6100

Akademiya nauk SSSR. Institut tochnoy mekhaniki i vychislitel'noy tekhniki.

Trudy (Academy of Sciences of the USSR, Institute of Precision Mechanics and Computer Technology. Transactions) no. 2. Moscow, 1961. 447 p. 1000 copies printed. Contributors not mentioned.

PURPOSE: This collection of articles is intended for scientific and technical personnel concerned with machine translation and computer technology.

COVERAGE: This collection of articles of the Institute of Precision Mechanics and Computer Technology, Academy of Sciences USSR, is the second in a series concerned with machine translation and mathematical linguistics. The collection contains reports written by members of the Machine-Translation Group of the Institute as well as reports by researchers from other organizations. The articles deal with various problems in machine translation, such as the possibility of an intermediate language, relationships between various languages, systems of recording, structure of

Card 1/6

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Academy of Sciences (Cont.) SOV/6100

algorithms, methods of independent analysis of a number of languages (Chinese, German, English, Russian, Rumanian, Swedish, Tartar, etc.), independent synthesis of the Russian language, some problems of binary Japanese-Russian and Chinese-Russian translation, theoretical translation problems, and problems associated with automatic recognition of speech elements and the introduction of written texts. No personalities are mentioned. There are 11 references: 2 Soviet and 9 English.

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Academy of Sciences (Cont.) SOV/5100

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16. Belokrinitskaya, S. S., and T. N. Moloshnaya. On the Algorithm for the Independent Morphological Analysis of the Swedish Language 280

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AUTHORS: Bagrinovskaya, G. P., Kulagina, O. S., Lyapunov, A. A., Moloshnaya, T. N.

TITLE: Some problems in mathematical linguistics arising in connection with machine translation

PERIODICAL: Referativnyy zhurnal, Matematika, no. 11, 1962, 88, abstract 11V501 (In collection: "Mash. perev. i prikl. lingvistika". no. 6, Moscow, 1961, 19 - 38)

TEXT: In this report, given at the Conference on mathematical linguistics in Leningrad in 1959, the possibilities are considered of a further development of the ideas of A. A. Lyapunov and O. S. Kulagina, formulated in O. S. Kulagina's paper "On a method of defining grammatical notions on the basis of the theory of sets" ("Problemy kibernetiki", Moscow, 1958, no. 1). It is proposed to distinguish three forms of information characterizing a sentence: a) indication of the context to which every word belongs (lexical information); b) indication of the families to which every word belongs (morphological information); c) indication of the configuration (syntactic information). The syntactic information

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consists in indicating the number of the vertex in the sentence tree, where every tree is considered as a subset of the universal Cantor tree. The latter assumption is verified by the two-term character of the majority of configurations in natural languages. A method is also indicated for describing the syntactic information by constructing the universal graph of families of the language, where pairs entering in the same configuration are considered as connected. It is claimed that it is necessary to couple the set-theoretic modelling of a language with the information-theoretic approach and then one will learn to estimate precisely the degree of approximation of the abstract model to the real language, and in this connection to establish statistically the fundamental (in contrast to the "non-fundamental") characteristics of the language. It is indicated that the solution of all these problems connected with machine translation may promote the development of the still inexistent theory of algorithms with ratings. In conclusion certain general considerations are presented as to the method of constructing translation algorithms, the employment of mathematicians and linguists, and the preparation of cadres in that domain.

I. I. Revzin

[Abstracter's note: Complete translation]

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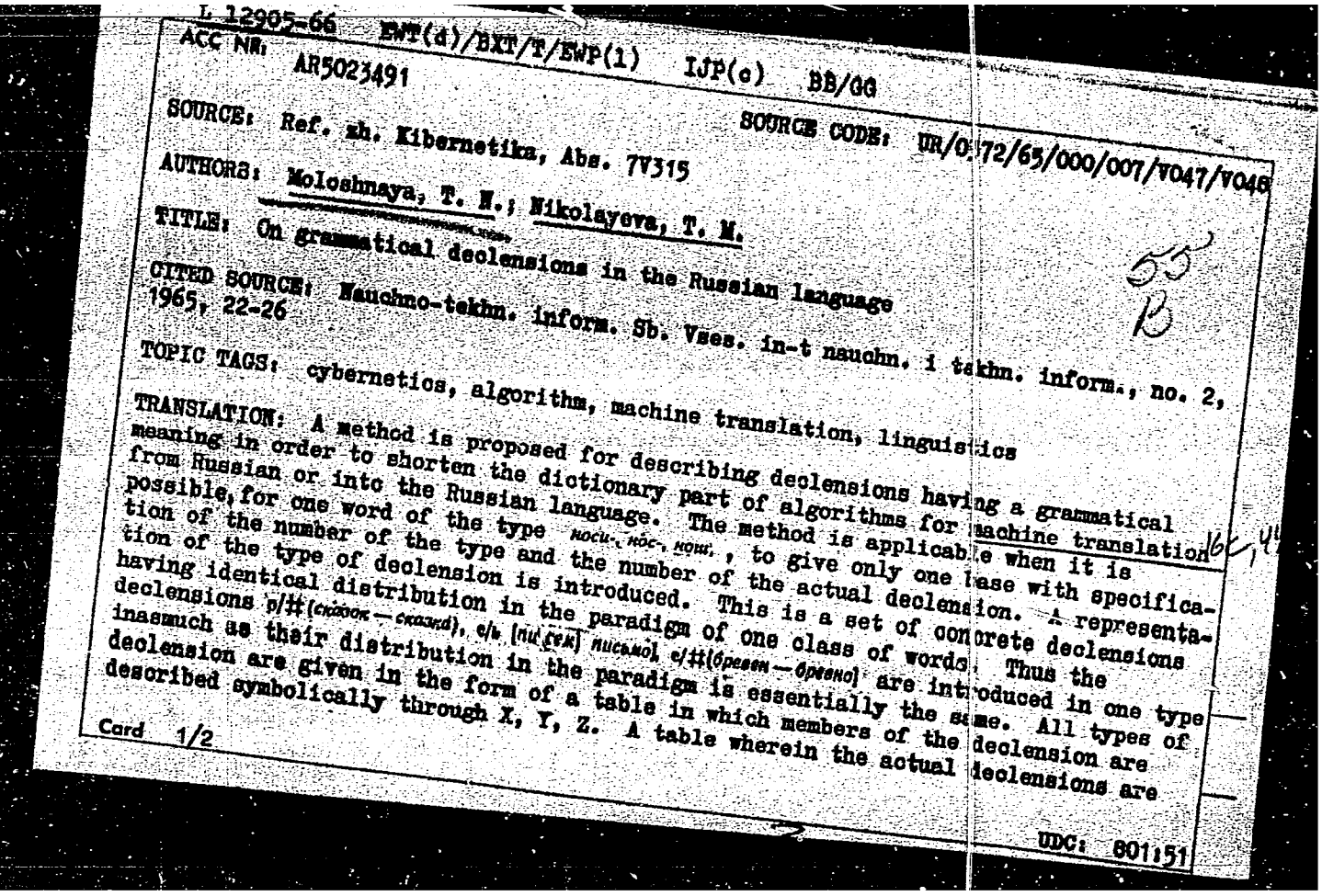

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ACC NR: AR5023491 SOURCE CODE: UR/0372/65/000/007/V047/V048

SOURCE: Ref. zh. Kibernetika, Abs. 7V315

AUTHORS: Moloshnaya, T. N.; Nikolayeva, T. M.

TITLE: On grammatical declensions in the Russian language

CITED SOURCE: Nauchno-tekhn. inform. Sb. Vses. in-t nauchn. i tekhn. inform., no. 2, 1965, 22-26

55
B

TOPIC TAGS: cybernetics, algorithm, machine translation, linguistics

TRANSLATION: A method is proposed for describing declensions having a grammatical meaning in order to shorten the dictionary part of algorithms for machine translation from Russian or into the Russian language. The method is applicable when it is possible, for one word of the type носи-, нос-, нош, , to give only one base with specification of the number of the type and the number of the actual declension. A representation of the type of declension is introduced. This is a set of concrete declensions having identical distribution in the paradigm of one class of words. Thus the declensions р/# (сказок — сказка), е/ь [пи сем] письмо], е/# (бревен — бревно) are introduced in one type inasmuch as their distribution in the paradigm is essentially the same. All types of declension are given in the form of a table in which members of the declension are described symbolically through X, Y, Z. A table wherein the actual declensions are

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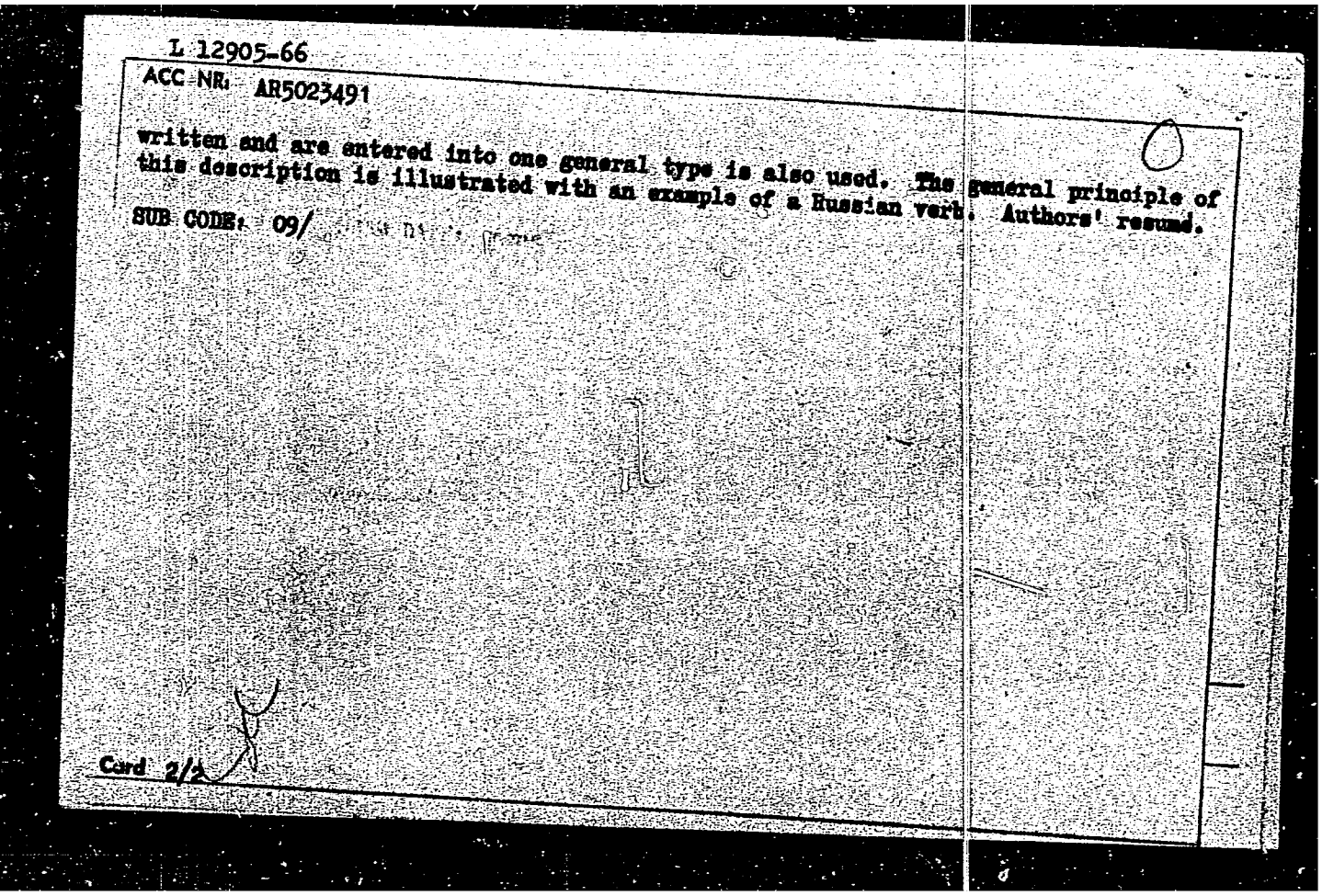

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written and are entered into one general type is also used. The general principle of this description is illustrated with an example of a Russian verb. Authors' resumé.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

Moloshnikov I.I.

GOLOVIN, G.M.; MOLOSHNIKOV, I.I.; ZHURAVLEV, S.V., kolkhoznik.

From wretchedness to well-being. Nauka i pered. op. v sel'khoz. 7 no.11:50-54 N '57. (MLRA 10:11)

1. Predsedatel' kolkhoza "Rossiya" Berezovskogo rayona, Voronezhskoy oblasti (for Golovin). 2. Predsedatel' Novo-Zhivotinnogo sel'soveta, kolkhoz "Rossiya", Berezovskogo rayona, Voronezhskoy oblasti (for Moloshnikov).

(Agriculture)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSHNIKOV, S.

We are achieving success through our persistent work. Zhil.-kom. khoz. 8 no.9:20-22 '58. (MIRA 11:10)

1. Direktor Kirovskoy gorelektroseti.
(Kirovsk--Electric networks)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSHNYY, N.M.

AID P - 2770

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 12/14

Authors : Moloshnyy, N. M., Trifonov, E. V. and Dumov, V. I., Engs.

Title : A new design of a turbine pump of the Kaluga Turbine Plant (PT-15-60u)

Periodical : Teploenerg., 9, 58-61, S 1955

Abstract : The design of a new turbine pump feeding small and medium capacity steam power plants is reported and a detailed description of the installation is given. Six diagrams.

Institution : Kaluga Turbine Plant

Submitted : No date

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

CHERNYSHEV, N.A.; NIKOLAYEVSKIY, G.F.; NOLOSKIN, A.F.

Using an electrolyte in dyeing for the class of insoluble azo dyes. Obm.tekh.opyt. [MLP] no.10:15-17 '56. (MIRA 11:11)
(Azo dyes) (Electrolites)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

FADEYEV, Ivan Petrovich, master kraskovarki; MOLOSKIN, Aleksandr Fedorovich; IVANOV, P.P., red.; PANKRATOV, A.I., tekhn.red.

[Dye preparation in the textile finishing factory] Kraskovarka otdelochnoi fabriki. Ivanovo, Ivanovskoe knizhnoe izd-vo, 1960. 92 p. (MIRA 14:12)

1. Zaveduyushchiy khimicheskoy laboratoriyey Ivanovskoy fabriki im. rabochego Fedora Zinov'yeva (for Moloskin).
(Textile finishing) (Dyes and dyeing)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSLVASKIY, V. K.

USSR/Fitting Out of Laboratories - Instruments, Their Theory, Construction, and Use, H

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61987

Author: Shklyarevskiy, I. N., Moloslvaskiy, V. K., Pakhomova, O. S., Ryazanov, A. N.

Institution: None

Title: Interferometric Method of Determining Dispersion of Liquids in Ultraviolet Region

Original Periodical: Uch. zap. Khar'kovsk. un-ta, 1955, 64, 147-150

Abstract: Liquid under study is introduced into gap between aluminized quartz plates clamped to slit of ISP-22 quartz spectrograph. Refraction index of distilled water determined by this method coincides with literature data within $5 \cdot 10^{-4}$. Determination of dispersion requires minute amount of liquid, 0.25 drop. Method is applicable to light absorbing liquids.

Card 1/1

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

VASIL'EV, I.G., inzh.; VOLOBRINSKIY, S.D., kand.tekhn.nauk, dots.; GUSEV, N.P., inzh.; MOLOSNOV, N.F., inzh.

Automatic voltage regulators used in separating capacity from a.c. traction networks. Elek. i tepl.tiaga 2 no.4:9-11 Ap '58. (MIRA 12:3)

(Voltage regulators)
(Electric railroads--Wires and wiring)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

EBIN, L.Ye., doktor tekhn.nauk; MOLOSNOV, N.F., inzh.

Power supply for agricultural consumers from a.c. traction substations. Mekh. i elek. sots. sel'khoz. 16 no.4:36-39 '58.
(MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva.
(Electric power distribution)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSNOV, N.F.

The K-50 portable measuring unit. Biul. tekh.-ekon. inform. no. 4:42-43 '61. (MIRA 14:5)
(Electric meters)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

ZUL', N.M., kand.tekhn.nauk; MOLOSNOV, N.F., inzh.

Attachment for double automatic reclosing. Energetik 11 no.5: 31-33 My '63. (MIRA 16:7)
(Electric switchgear) (Electric cutouts)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6

MOLOSNOVA, M.I.; GANDYBINA, L.A.; PETROSYANTS, M.A.

Temperature relations in the mountains of Central Asia and in the free atmosphere during the summer invasions of coldness. Trudy Sred.-Az. nauch.-issl. gidrometeor. no.23:55-65 '65. (MIRA 19:2)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R001135030002-6"