"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.

Meiman, N. On the zeros of linear combinations of a class of entire functions. Doklady Akad. Nauk SSSR (N.S.) 62, 453-456 (1948). (Russian)

The notation is the same as in the preceding review. The integral functions $g(z)$, $h(z)$ are said to be a "real pair" if $\lambda g+\mu h=0$ has the same number of real roots for all real values λ, μ. It is known that $F=g+ih$ or $F_1=g-ih$ are in the class of functions belonging to B and having no zeros in $y<0$. The author gives best possible upper bounds for the number of complex roots of $f(z)=P(z)g(z)+Q(z)h(z)$, where P, Q are polynomials and g, h form a "real pair". The simplest result is: if P is of degree m, Q of degree n, then $f(z)$ has at most $2[(m+n+1)/2]$ complex roots. The proofs are based on previous work of the author and on the simple lemma: if $u(z)+iv(z)=d(z)F(z)$, where $F\epsilon B$ and d is an integral function taking real values on the real axis, then the number of complex roots of $u(z)=0$ or $v(z)=0$ does not exceed twice the number of roots of $u+iv=0$ in $y<0$.

W. H. J. Fuchs (Ithaca, N. Y.)

Source: Mathematical Reviews, Vol 10 No. 5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N. N.

Source: Mathematical Reviews, Vol 11 No. 9

Meyman, N. N. Card 1 of 2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.N.

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Meiman, N. N. Concerning a note of B. Geller. Uspehi Matem. Nauk (N.S.) 4, no. 6(34), 1 4-195 (1949). (Russian)

In the note of Geller [same vol., no. 2(30), 206-208 (1949); these Rev. 10, 702] it is stated that up to the present time necessary and sufficient conditions for all the roots of a polynomial to be real and negative have not been found. This statement is criticized by the author, who points out that necessary and sufficient conditions can be obtained (a) from the Sturm series for a polynomial and (b) from the theory of quadratic forms. The author further suggests that the important problem is to determine necessary and sufficient conditions that all the roots are real, since if all the roots are real, then a necessary and sufficient condition that they all are negative is that all the coefficients have the same sign. *A. W. Goodman* (Lexington, Ky.)

Source: Mathematical Reviews, 1950 Vol 11 No. 6

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

S/056/62/043/001/027/056
B104/B102

AUTHORS: Meyman, N., Gokhfel'd, I.

TITLE: Solution of equations of the Chew-Mandelstam type

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 1(7), 1962, 181 - 184

TEXT: The amplitude $A(\nu)$ of the interaction of neutral mesons satisfies the equation

$$A(\nu) = A(0) + \frac{1}{\pi}\int_0^\infty \sqrt{\frac{\nu'}{1+\nu'}}\left(\frac{1}{\nu'-\nu} - \frac{1}{\nu'}\right)|A(\nu')|^2 d\nu' + \frac{2}{\pi}\int_{-\infty}^{-1}\left(\frac{1}{\nu'-\nu} - \frac{1}{\nu'}\right)\frac{d\nu'}{\nu'}\int_0^{-\nu'-1}\sqrt{\frac{\nu''}{1+\nu''}}|A(\nu'')|^2 d\nu'' . \quad (1)$$

in the theory of Chew-Mandelstam (UCRL-8728, April 1959). $\nu = q^2/\mu^2$; q is the momentum in the c.m.s. The function $A(\nu)$ is investigated in the complex plane of ν with the two sections $(-\infty; -1)$ and $(0; +\infty)$. It is

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assumed that $A(\nu)$ is limited for $\nu \to \infty$. The equation only has a non-oscillating solution at infinity in the cases which have no physical sense (when the coupling constant is negative). This result is obtained from the general properties of analytical functions and should be of some methodical importance. There are 4 figures.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

SUBMITTED: January 27, 1962

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N. N.

MEYMAN, N. N.

Source: Mathematical Reviews, 1950, Vol. 11, No. 7

★Čebotarev, N. G., and Meĭman, N. N. The Routh-Hurwitz problem for polynomials and entire functions. Appendix by G. S. Barhin and A. N. Hovanskiĭ. Real quasipolynomials with $r=3$, $s=1$. Trudy Mat. Inst. Steklov. 26, 331 pp. (1949). (Russian)

The Routh-Hurwitz problem is the problem of finding conditions for the roots of a polynomial to lie in a half plane. This monograph contains two chapters by Čebotarev, one on the original Routh-Hurwitz problem (and generalizations to the case where a specified number of zeros lie in a half plane), and the other on the problem for quasipolynomials, which are expressions of the form $\sum_{n=1}^{m} a_n(z)e^{\lambda_n z}$ with real λ_n and polynomial $a_n(z)$. The rest of the book (except the appendix) is by Meĭman and deals with generalizations of the Routh-Hurwitz problem to entire functions, with some other results on the zeros of entire functions, and with preliminary material. Much of the material is more or less available in the periodical literature.

The first chapter is an account, mainly algebraic, and partly based on work by Yu. I. Neĭmark [summarized in Doklady Akad. Nauk SSSR (N.S.) 58, 357–360 (1947); 59, 853–856 (1948); these Rev. 9, 348, 428], of the generalized Routh-Hurwitz problem for polynomials. A final section by Meĭman treats the Nyquist diagram, also making use of work of Neĭmark. Chapter 2 contains miscellaneous results from the general theory of functions. Chapter 3 is a concise introduction to the theory of entire functions in general and functions of exponential type in particular.

Meĭman's principal objective is to generalize the Hermite-Biehler theorem (that the roots of $g(z)+ih(z)$ are all on the same side of the real axis when $g(z)$ and $h(z)$ are polynomials with real coefficients, if and only if the zeros of g and h are real and interlacing), and the Hermite determinant criterion. It turns out that the most general class to which the Hermite-Biehler theorem can be extended is the class B of entire functions $F(z)=g(z)+ih(z)$, g and h real on the real axis, with $\limsup |F(z)/\bar{F}(z)| \leqq 1$ uniformly in x as $y\to+\infty$.

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Bound: Mathematical Reviews, 1950 Vol 11 No. 7

A large number of theorems concerning analytic and Borel sets are proved, of which the following may be taken as typical. (1) In a compact Hausdorff space satisfying condition (B), every pair of disjoint analytic sets are contained in a pair of disjoint Borel sets. (2) In a compact Hausdorff space satisfying condition (B), an analytic set whose complement is analytic is a Borel set. (3) In a compact Hausdorff space satisfying condition (B), an analytic set is a Borel set if and only if it is representable by means of disjoint summands. (4) Every zero-dimensional compact Hausdorff space which is dense in itself and satisfies condition (B) contains an analytic set which is not a Borel set. (5) If X is a completely regular space such that X is an F_A-set in βX, then X is an F_A-set in every compact Hausdorff space containing X as a dense subspace. (6) Let f be a continuous mapping carrying a space X satisfying the hypotheses of (5) into a compact Hausdorff space Y. Then $f(X)$ is an F_A-set in Y. Finally, generalized notions of Borel set and analytic set are introduced, the ordinary countable operations being replaced by unions and intersections of larger families of sets and a corresponding generalization being presented for the operation (A). Some of the results obtained for ordinary Borel and analytic sets are extended to these more general cases. *E. Hewitt* (Seattle, Wash.).

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TA 175T30

MEYMAN, N.

USSR/Mathematics - Theory of Functions 1 Apr 50
Computational Techniques

"Conditions for Which the Derivative of the 'Majorant' of a Function is the 'Majorant' Derivative of the Function," N. Meyman, Inst Phys Problems, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXI, No 4, pp 609-612

Solution of gen problem, in theory of functions of real variable, of conditions for which the inequality $|f'(x)| < |w'(x)|$ follows from the inequality $|f(x)| < |w(x)|$ in neighborhood of the point x. Submitted 9 Feb 50 by Acad S. N. Bernshteyn.

175T30

[redacted]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEIMAN, N. N.

Theory of slow heterogeneous reactions in a moving liquid. V. G. Levich and N. N. Meiman. Doklady Akad. Nauk S.S.S.R. 79, 97-100(1951).—The differential equation of collective diffusion, $u(\partial c/\partial x) + v(\partial c/\partial y) = D(\partial^2 c/\partial y^2)$, where D = diffusion coeff., u and v, resp., are the tangential and the normal components of the velocity of flow of the liquid at the boundary layer, and c = the unknown concn. of the substance in the liquid, is solved under the general boundary condition $D(\partial c/\partial n) = \beta c$; further conditions are, $c = c_0$ at $y \to \infty$, and $c = c_0$ at $x = 0$, $y \neq 0$. The velocity components u and v are expressed by power series in y/δ, where δ is the thickness of the boundary layer. In terms of new variables $\xi = 4/3kx^{1/3}$ and $z = 2/3y^{3/2}x^{-1/3}$, the new function $\Omega(z, \xi) = c(x, y)/x^{1/3}$ satisfies the equation $(\partial^2\Omega/\partial z^2) + (1/z)(\partial\Omega/\partial z) - (1/9z^2)\Omega = \partial\Omega/\partial\xi$; its soln. leads to a soln. for $c(z, \xi)$, and thence for the flow $j(x,y)$. Near the edge of the x, y plane, the flow is detd. solely by the rate of the chem. reaction; farther from the edge, the rate of transfer of the substance plays an increasingly prominent role. At variance with Nernst's elementary theory of the diffusion layer, the effective thickness of the boundary diffusion layer varies following different laws in different portions of the x, y plane.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.N.

Levitan, B. M., and Meiman, N. N. On a uniqueness theorem. Doklady Akad. Nauk SSSR (N.S.) 81, 729-731 (1951). (Russian)

Let $\sigma(\lambda)$ be such that for all real x

$$\int_{-\infty}^{\infty} \cos \lambda^2 x \, d\sigma(\lambda) = 0, \quad \int_{-\infty}^{\infty} |\cos \lambda^2 x| \cdot |d\sigma(\lambda)| < \infty,$$

and such that as $x \to +\infty$

$$\int_{-\infty}^{\infty} \exp(|\lambda|^2 x) |d\sigma(\lambda)| = O(\exp(\alpha x^2)),$$

where α is some positive constant. Then $\sigma(\lambda) = \text{const}$. This sharpens a previous result of B. M. Levitan [Doklady Akad. Nauk SSSR (N.S.) 76, 485–488 (1951); these Rev. 12, 605]. Analogous results are indicated for integrals with the sine-function or with Bessel functions. The result can be used to simplify the proof of eigen-function expansions over $(0, \infty)$.

F. V. Atkinson (Ibadan).

Source: Mathematical Reviews, Vol 13 No. 6

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

USSR/Mathematics - Inequalities, Differential May/Jun 52

"Differential Inequalities and Certain Problems Concerning the Distributions of Zeros of Integral and Single-Valued Analytical Functions," N. N. Meyman

"Uspekh Matemat Nauk" Vol VII, No 3 (49), pp 3-62

Studies the conditions for which the majoration relation (ratio) of 2 functions does not change during differentiation; that is, the inequality $|f'(x)| \leq |w'(x)|$ follows from the inequality $|f(x)| \leq w(x)|$. The existence of the admissible classes of functions for w and f permits one to consider the problem

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USSR/Mathematics - Inequalities, Differential (Contd) May/Jun 52

concerning the conditions for which the majoration ratio holds not only for the simple operator of differentiation but also for more complex linear differential operators. The attention of mathematicians to such problems was due in 1912 to S. N. Bernshteyn's inequalities for derivs of trigonometric polynomials.

218T61

MEYMAN, N. N.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N. [N]

Source: Mathematical Reviews, Vol. 13 No. 5

Meĭman, N. Some comparison theorems for analytic functions. Doklady Akad. Nauk SSSR (N.S.) 82, 185–188 (1952). (Russian)

The author introduces the following definitions. Class E consists of functions $F(z)$ regular in the whole plane except for isolated singular points, satisfying $|F(\bar{z})/F(z)|<1$ for $y<0$. Writing $f(z)=g(z)+ih(z)$ is to imply that $g(z)$ and $h(z)$ are real on the real axis, and then $\bar{f}(z)$ means $g(z)-ih(z)$. If $f(z)$ is regular in the whole plane except for isolated singular points, and $F(z)$ has the same property in the lower half plane, then $f(z)$ is called subordinate to $F(z)$ if $|f(z)/F(z)|\leqq 1$ and $|\bar{f}(z)/F(z)|\leqq 1$ for $y<0$. Subclasses of E are M (meromorphic functions in E), G (entire functions in E), HB (entire functions free of zeros in $y\leqq 0$), and various subclasses of HB. With the aid of theorems from a previous paper [same Doklady (N.S.) 71, 609–612 (1950); these Rev. 11, 509], the author proves the following theorems. 1. If $F(z)\epsilon E$ and $f(z)$ is subordinate to $F(z)$, then for $|t|<1$, $F_t(z)=F(z)-tf(z)$ belongs to E. 2. Under the the hypotheses of Theorem 1, $|f'(x)|\leqq|F'(x)|$ on the real axis, and

$$|F\bar{F}'|\sin\beta+|f\bar{f}'|\sin\gamma\geqq|\bar{F}f-f\bar{F}'|,$$

where

$$(k\cos\alpha\cos\gamma-\cos\beta)^2\leqq(1-k^2)\sin^2\alpha,\quad k=|f'(x)/F'(x)|,$$
$$\cos\alpha=|f(x)/F(x)|,\quad \beta=\arg F'(x)-\arg F(x),$$
$$\gamma=\arg f'(x)-\arg f(x).$$

Applications to entire functions of order 1 and 2 are pointed out. 3. Let $F_t(z)$ (of Theorem 1) belong to E for all $|t|<1$, then $|f(z)|\leqq|F(z)|$ for $y<0$. 4. Let A be a linear operator from E to E, such that $A\bar{f}=\overline{Af}$, and f subordinate to $F\epsilon E$. Then A^nf is subordinate to A^nF; and E can be replaced by the subclasses mentioned above.

The author discusses the connections between his results and those of B. Levin [Izvestiya Akad. Nauk SSSR, Ser. Mat. 14, 45–84 (1950); these Rev. 11, 510]. He also notes that the general results of Wigner [Ann. of Math. (2) 53, 36–67 (1951); these Rev. 12, 490] are contained in older results of Grommer, Čebotarëv and Meĭman, with references in particular to Meĭman [C. R. (Doklady) Acad. Sci. URSS (N.S.) 40, 46–49, 179–181 (1943); these Rev. 6, 59] and Čebotarëv and Meĭman [Trudy Mat. Inst. Steklov 26 (1949); these Rev. 11, 509].

R. P. Boas, Jr.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.N.

Meiman, N. N. Additions and corrections to the paper, "Differential inequalities and some questions of the distribution of zeros of entire and single-valued analytic functions". Uspehi Matem. Nauk (N.S.) 8, no. 6(58), 177–180 (1953). (Russian)

The paper appeared in the same journal (N.S.) 7, no. 3(49), 3–62 (1952); these Rev. 14, 259.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N. N.

USSR/Mathematics - Regulation Theory Jul/Aug 53

"Conditions Necessary and Sufficient That the Roots of a Polynomial Lack Positive Real Parts, and That the Multiplicity of Zero and Imaginary Roots Not Exceed an Assigned Number," V. S. Novoselov, Leningrad

Mat Sbor, Vol 33 (75), No 1, pp 215-218

Considers in the plane of the complex variable z the polynomial $f(z)=A_0z^n+\ldots+A_n$. Demonstrates two theorems involving sequences of differentiated Hurwitz determinants formed from the Hurwitz matrix for $F_n(y)$, where $F_n(y)=f(y)-\varepsilon f'(y)+\ldots\frac{\varepsilon^n}{n!}f^{(n)}(y)$. Namely, the sequence $D_k^n(0)$, $\frac{d}{d\varepsilon}D_k^n(\varepsilon)_{\varepsilon=0}$,... The values of the sequence determine the necessary and sufficient conditions for certain types of roots of f(z). Cites related work of N. G. Chebotarev and N. N. Meyman ("Routh-Hurwitz Problem for Polynomials and Integral Functions," Trudy Mat In-ta im Steklova, Vol 26 (1949)). Presented 21 Oct 52

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.N.

Theory of partial differential equations. Dokl. AN SSSR 97 no.4: 593-596 Ag '54. (MLRA 7:9)

1. Institut fizicheskikh problem im. S.I.Vavilova. Predstavleno akademikom M.V.Keldyshem
(Differential equations, Partial)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.N.

USSR/Mathematics - Thermal conductivity

Card 1/1 Pub. 22 - 6/40

Authors : Meyman, N. N.

Title : On the thermal conductivity equation

Periodical : Dok. AN SSSR 99/2, 209-212, Nov 11, 1954

Abstract : An application of Cauchy's theorem to a semi-space $t \geq 0$ for solving the general, non-linear or linear equation of the thermal conductivity $L(u) = \frac{\partial u}{\partial t} - D\frac{\partial^2 u}{\partial x^2} - A\frac{\partial u}{\partial x} - Bu - Q = 0$ is presented. The solution is presented in one space-variable, but it can easily be expanded on other variables by a simple reduction of certain conditions imposed upon the coefficients. One USSR reference (1954).

Institution : Institute of Physical Problems im. S. I. Vavilov of the Acad. of Scs. of USSR

Presented by: Academician M. V. Keldysh, August 12, 1954

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress, Moscow, Jun-Jul '56, Trudy '56, V. 1. Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Meyman, N. N. (Moscow). Some Applications of the Method of Finite Difference to Differential Equations. 60-61

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

VLADIMIRSKIY, V.V.; GOL'DIN, L.L.; DANIL'TSEV, Ye.N.; KOSHKAREV, D.G.; MEYMAN, N.N.

Ejection of proton beams from the 7 BEV alternating-gradient accelerator. Prib.i tekh.eksp.no.3:31-35 M-D '56. (Particle accelerators) (MLRA 10:2)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/1 PG - 336
AUTHOR MEIMAN N.N.
TITLE On the recurrence formulas for power sums of the zeros of the Bessel functions.
PERIODICAL Doklady Akad. Nauk 108, 190-193 (1956)
reviewed 10/1956

Let $\sigma_\nu^{(m)} = \sum \lambda_{\nu,j}^{-m}$, $m > 0$, Let $\lambda_{\nu,j}$ denote all zeros of the Bessel function $J_\nu(z)$ being different from zero. Then the following formulas are valid:

$$\sigma_\nu^{(2)} = \frac{1}{2(\nu+1)}$$

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$$\sigma_\nu^{(2k+2)} = \frac{1}{2(\nu+k+1)} \sum \sigma_\nu^{(2i)} \sigma_\nu^{(2k+2-2i)} .$$

Similar formulas are given for the negative power sums of the zeros of the function $zI'_\nu(z) - HI_\nu(z)$, $H = \text{const}$.

INSTITUTION: Heat-technical Laboratory, Acad.Sci. USSR.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N. N., VLADIMIRSKIY, V. V., GOLDIN, L. L., DANILTSEV, E. N.
KOSHKAREV, D. G.

"Deflection of the Beam of a 7 GeV Strong Focusing Proton Accelerator," paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No. 1, pp. 21-30, 1957

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

AUTHOR: Meyman, N. SOV/20-120-6-6/59

TITLE: The Principle of Monotonous Argument and the Differentiation of Inequalities (Printsip monotonnosti argumenta i differentsirovaniye neravenstv)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 6, pp 1191-1193 (USSR)

ABSTRACT: In [Ref 1] the author showed that in the neighborhood of a real point x it follows from $|f(x)| \leqslant |\omega(x)|$ the inequality $|f'(x)| \leqslant |\omega'(x)|$, if $\arg\left[\omega(x) - e^{i\varphi} f(x)\right]$ in a certain neighborhood of the point x for all φ changes in the same direction. This fact was denoted by the author as the principle of the monotonous argument. In [Ref 1] he proposed a scheme for the examination of the fulfillment of this principle. In the present paper this scheme is developed for multivalent functions After numerous definitions four theorems and several conclusions are formulated.
There are 6 references, 5 of which are Soviet, and 1 American.

ASSOCIATION: Teplotekhnicheskaya laboratoriya Akademii nauk SSSR (Pyrometric Laboratory of the Academy of Sciences of the USSR)

Card 1/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

The Principle of Monotonous Argument and the Differentation of Inequalities SOV/20-120-6-6/59

PRESENTED: February 12, 1958, by S.L. Sobolev, Academician

SUBMITTED: January 31, 1958.

1. Mathematics 2. Functions

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

16(1)

AUTHOR: Meyman, N.N. SOV/20-124-6-8/55

TITLE: On the ~~Zeros of~~ a Class of Nonunique Functions (O nulyakh odnogo klassa neodnoznachnykh funktsiy)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1211-1214 (USSR)

ABSTRACT: Without proof the author formulates numerous further properties of the classes H, B and HB already considered for several times by him in [Ref 1-3]. The results are obtained by modification of a theorem of Iversen concerning boundary points of Riemannian surfaces of meromorphic functions. Altogether the author gives seven theorems. There are 4 Soviet references.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR (Institute of Theoretical and Experimental Physics, AS USSR)

PRESENTED: November 6, 1958, by L.S.Pontryagin, Academician

SUBMITTED: November 4, 1958

Card 1/1

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

16(1)

AUTHOR: Meyman, N.N. SOV/20-125-5-5/6

TITLE: On the Theory of Functions of the Classes HB and B (K teorii funktsiy klassov HB i B)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 974-977 (USSR)

ABSTRACT: The paper is a continuation of the preceding publication of the author [Ref 1] and uses the same notations. Let $\omega(z)$ be a function of the class B in $\mathfrak{g}$ (or $\tilde{\mathfrak{g}}$), f(z) be a function admissible in $\mathfrak{g}$ (or $\tilde{\mathfrak{g}}$), let $|f(z)| \leq |\omega(z)|$ on the boundary and $|f(z) : \omega(z)| < 1+\eta$ for every η and $\rho(z) > R(\eta)$. Then $\omega(z)-tf(z) \in B$ in $\mathfrak{g}$ (or $\tilde{\mathfrak{g}}$) for every $|t| < 1$ and it has as much zeros as $\omega(z)$. The author gives a method which permits to construct functions of the class HB and B in domains of the type $\mathfrak{g}_\beta$ according to a given function of the class HB in the halfplane. Some results of Hörmander [Ref 3] are generalized. There are 4 references, 3 of which are Soviet, and 1 Swedish.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics, AS USSR)

PRESENTED: December 26, 1958, by L.S.Pontryagin, Academician

SUBMITTED: December 25, 1958

Card 1/1

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

16[illegible] SOV/20-1[illegible]-2-13/[illegible]4

AUTHOR: Meyman, N.N.

TITLE: On the Theory of Analytic Functions Deviating Least From Zero in a Domain

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2, pp 274-277 (USSR)

ABSTRACT: The author uses his earlier results [Ref 1,2,3,4,7], especially the function class HB considered there, in order to formulate a new principle which permits a uniform treatment of almost all known extremal problems of the type of Chebyshev-Bernshteyn. Fundamental principle: the solution of all problems of the least deviation results from the properties of the function class HB and the boundary functions of this class. Nine different examples for the application of this principle are given. The author mentions S.N.Bernshteyn. There are 8 Soviet references.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics, AS USSR)

PRESENTED: January 19, 1959, by L.S.Pontryagin, Academician

SUBMITTED: January 14, 1959

Card 1/1

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

30009
S/550/60/009/000/008/008
D234/D305

16,4100

AUTHOR: Meyman, [redacted]N. N

TITLE: Solving principal problems of the theory of polynomials and integral functions having smallest deviations from zero

SOURCE: Moskovskoye matematicheskoye obsh[redacted]hestvo. Trudy, v. 9, 1960, 507 - 535

TEXT: The results of this article were reported to the Moscow Mathematical Association on December 22, 1959. The author states that he was able to solve the problems with the aid of the properties of functions of class B introduced by him in hi[redacted] pre[redacted]ious papers. He formulates the following principle: Let the class of comparison [Abstractor's note: Not defined] be given by 2m conditions; then the extremum function is the real component of a class B function, having less than m zeros in the upper half-plane, the inverse proposition being also true. It is stated that this pinciple allows a solution of extremum problems for a wide class of analytic functions. The solution of the following problem is obtained and dis-

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30009
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D234/D305

Solving principal problems of ...

cussed in detail: Find a real integral function u(z) of a type not higher than σ, with smallest deviations from zero on the whole real axis, and having the form

$$u(z) = a_0 + \frac{a_1}{1!} z + \dots + \frac{a_{2m-1}}{(2m-1)!} z^{2m-1} + z^{2m} G(z), \quad (5.1)$$

$a_0, a_1, \dots, a_{2m-1}$ being arbitrary given numbers and G(z) an arbitrary real integral function. The result is extended to the case when 2m derivatives of any order

$$f^{(k_1)}(0) = a_{k_1}, \; f^{(k_1+1)}(0) = a_{k_1+1}, \dots, f^{(k_m)}(0) = a_{k_m}, \; f^{(k_m+1)}(0) = a_{k_m+1} \quad (5.24)$$

are given. The author then considers extremum problems of smallest deviations for real polynomials of a degree not higher than n in the interval (-1, +1), the interval being regarded as a cut. Three problems are solved: 1) A polynomial with smallest deviations from

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Solving principal problems of ... S/550/60/009/000/008/008
D234/D305

0, having given values at 2j points situated in the interval (-1, +1) and 2k points outside it; 2) A polynomial with given m pairs of derivatives at z = 0; 3) A polynomial with given r first derivatives. S.N. Bernshteyn is mentioned for his contributions in the field. There are 18 references: 16 Soviet-bloc and 2 non-Soviet-bloc. The reference to the English-language publication reads as follows: M.L. Cartwright, On functions which are regular and of finite order in an angle, Proc. London Math. Soc. 38, 1934.

SUBMITTED: October 27, 1959

Card 3/3

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

07550

16(1) SOV/20-130-2-4/69

AUTHOR: Meyman, N.N.

TITLE: On the Theory of Polynomials Deviating Least From Zero

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 2, pp 257 - 260 (USSR)

ABSTRACT: In the present paper the author gives a general construction which permits to find the solution of extremum problems possessing a unique solution with a certain number of points of maximum deviation from zero (e.g. the problem of the polynomial deviating least from zero on several intervals). The method is described for polynomials, but it is transferable to entire and other functions. One theorem is given. There are 2 Soviet references.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics AS USSR)

PRESENTED: May 28, 1959, by L.S. Pontryagin, Academician

SUBMITTED: May 27, 1959

Card 1/1

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

67905

SOV/20-130-3-5/65

~~16(1)~~ 16.4100

AUTHOR: Meyman, N.N.

TITLE: Polynomials Deviating Least From Zero With any Number of Given Coefficients

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 3, pp 503-506 (USSR)

ABSTRACT: Let r numbers $1, a_1, a_2, \ldots, a_{r-1}$ be given. Let a real polynomial $P_n(z; 1, a_1, \ldots, a_{r-1}) = z^n + a_1 z^{n-1} + \ldots + a_{r-1} z^{n-r+1} + \ldots$ be sought deviating least from zero on $[-1, +1]$, and the deviation $E = E(1; a_1, \ldots, a_{r-1})$. The solution is expressed for r = 1 by trigonometric functions [Ref 1], for r = 2 by elliptic functions [Ref 2] and for r = 3 by special automorphic functions [Ref 3]. The author considers the general case of an arbitrary r. The solution is based on the results of his preceding paper [Ref 4]. It is shown that

(1) $P_n(z) = E \cos \varphi(z)$,

where $\varphi(z)$ is expressed by a hyperelliptic integral with $3(r-1)$ unknown parameters and carries out a conformal mapping

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.

Some theorems on zeros and extremum properties of entire functions. Dokl. AN SSSR 140 no.4:755-758 O '61. (MIRA 14:9)

1. Predstavlero akademikom L.S.Pontryaginym.
(Functions, Entire)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.

Completeness of the zeros of entire functions. Dokl. AN SSSR 141 no.4:796-799 D '61. (MIRA 14:11)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR. Predstavleno akademikom L.S. Pontryaginym.
(Functions, Entire)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, N.; GOKHFEL'D, I.

Solving equations of the Chew-Mandelstam type. Zhur. eksp. i teor. fiz. 43 no.1:181-184 Jl '62. (MIRA 15:9)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.
(Ingegral equations) (Mesons)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

S/056/62/043/006/052/067
B102/B186

AUTHOR: Meyman, N. N.

TITLE: Asymptotic equality of total cross sections of particle and antiparticle

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 6(12), 1962, 2277-2280

TEXT: Since I. Ya. Pomeranchuk (ZhETF, 34, 725, 1958) proved the equality of the total scattering cross sections $\sigma_+(E)$ and $\sigma_-(E)$ at $E \to \infty$ several more general and more detailed studies have been made (Phys. Rev. 124, 2049, 1961; Phys. Rev. Lett., 4, 89, 1960; Nucl. Phys. 29, 300, 1962). The present paper proves the asymptotic equality of these cross sections under general assumptions as to the behavior of the cross sections at high energies, based on a study of the properties of analytical functions f(x) without making any use of the dispersion relations. Two fundamental theorems are formulated; the first one is a kind of a Lindelöf maximum principle: f(x) is regular in the upper semiplane and bounded on the real axis by $|f(x)| < M$, when either $|f(z)| < M$ at all points of the upper semi-

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

plane, or $f(z)$ increases faster than a certain exponent, i.e. an $\alpha > 0$ will exist such that $M(R) > e^{\alpha R}$ for large R, where $M(R)$ is the maximum of $|f(Re^{i\varphi})|$ inside the upper half of a circle of radius R. The second theorem defines the behavior of $f(x)$ inside the region considered from its properties of the boundaries. The properties of the analytical functions of the scattering amplitudes $A_{\pm}(E)$ are defined as follows: $A_+(E) = A_-(E)$; both are real in the interval $(-\mu, \mu)$; along the cuts $(-\infty, -\mu)$, $(\mu, +\infty)$ on the real axis, $A(E-i0) = A^*(E+i0)$. According to the Lindelöf theorem, $A_{\pm}(E)$ will increase more slowly than any exponent, i.e. for any $\varepsilon > 0$, $|A(E)| < e^{\varepsilon|E|}$ if $|E| > E_0(\varepsilon)$. Along the cuts $A(E)/\sqrt{E^2-\mu^2}$ will be bounded at $E \to \pm\infty$. Introducing $g(E) = [A_+(E) - A_-(E)]/\sqrt{E^2-\mu^2}$, and using the optical theorem $\Delta\sigma(E) = \sigma_+(E) - \sigma_-(E) = \mathrm{Im}\, g(E)$, it can be shown that along the cuts $g(-E+i0) = g^*(E+i0)$, $g(-E-i0) = -g(E+i0)$. With this relation the rate at which $\Delta\sigma(E)$ decreases can be determined. It is demonstrated that a sequence of energies $\{E_n\}$ exists such that with $E_n \to +\infty$, $g(E_n) \to 2k$ and therefore

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B102/B186

Asymptotic equality of total...

$\lim[\sigma_+(E_n)-\sigma_-(E_n)] = \lim \operatorname{Im} g(E_n) = 0$, i.e. along a certain sequence of energies $\{E_n\}$ the cross section difference $\Delta\sigma(E_n)$ tends to zero. Their results are finally applied to the case where, at high energies, the cross sections do not tend toward constants, but vary e.g. logarithmically. There is 1 figure.

SUBMITTED: July 12, 1962

Card 3/3

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

S/0056/64/046/004/1502/1504

ACCESSION NR: AP4031190

AUTHOR: Meyman, N. N.

TITLE: Asymptotic meson-nucleon scattering amplitude

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1502-1504

TOPIC TAGS: meson nucleon scattering, asymptotic amplitude, analytic continuation, retarded amplitude, advanced amplitude

ABSTRACT: An asymptotic expression is obtained for the retarded amplitude which is used for analytic continuation of elastic scattering amplitudes in the reaction $p + k \rightarrow p' + k'$ (k, p, k', p' -- momenta of the meson and nucleon with masses μ and M before and after scattering) in order to obtain analytic continuation. Normally the retarded amplitude cannot be expressed by means of ordinary functions, but by means of generalized functions, and the proof of the analyticity of these generalized functions is a very complicated matter

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ACCESSION NR: AP4031190

(N. N. Bogolyubov, B. V. Medvedev, and M. K. Polivanov, Voprosy* teorii dispersionny*kh sootnosheniy, 1958). It is shown that the retarded asymptotic amplitudes introduced in the present article, for any fixed $t > 0$, is none other than the Fourier transformation of some generalized function, and that this transformation is an analytic function in the upper half-plane. Accordingly, the retarded amplitude satisfies the dispersion energy with n subtractions if and only if the corresponding integral over the cut converges. The asymptotic advanced amplitude has similar properties. Crossing symmetry is also conserved, but only asymptotically. These conclusions have a bearing on other research by the author (ZhETF, v. 43, 2277, 1962 and v. 46, 1039, 1964), the conclusions of which become less conditional. "I am grateful to M. V. Terent'yev for numerous important discussions." Orig. art. has: 9 formulas.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics,

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L 17666-65 EWT(1) IJP(c)/SSD/ASD(a)-5/SSD(a)/AFWL/ESD(t)

ACCESSION NR: AP5000357 S/0056/64/047/005/1966/1983

AUTHOR: Meyman, N. N.

TITLE: The causality principle and the asymptotic behavior of the scattering amplitude

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1966-1983

TOPIC TAGS: elementary particle, particle scattering, particle scattering amplitude, elastic scattering, elastic particle scattering, scattering amplitude

ABSTRACT: The elastic scattering reaction of the $p + k \to p' + k'$ type of two particles with 4 momenta values, p and k before and p' and k' after scattering, is analyzed. For purposes of analysis, two auxiliary scattering amplitudes, "A_∞ ret(s,t) and A_∞ adv(s,t)" are introduced, both of which are demonstrated to be, under certain assumptions, functions of the same invariant variables. The first of these amplitudes is shown to coincide asymptotically with the amplitude of the reaction within its physical region, the second with

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ACCESSION NR: AP5000357

the amplitude of the cross reaction within the physical region of the latter. The author demonstrated the analyticity of both amplitudes with respect to the s-channel in the upper and lower half-planes respectively. Since the properties of $A_{\infty}^{adv}(s,t)$ in the lower half-plane are the same as those of $A_{\infty}^{ret}(s,t)$ in the upper, further analysis is reduced to the investigation of the latter only. The conditions for applicable generalized functions are then defined and their expressions derived on the basis of microcausality. The generalized function, represented in the form of contour integrals, is shown to retain analyticity in the upper half-plane in its Fourier transformation. Its increment in the closed upper half-plane remains less than that of any linear exponential function. The Pomeranchuk theorem and others concerning the asymptotic equality of the total cross sections for particles and antiparticles as well as of their differential cross sections prove to be correct even without assuming analyticity of the scattering amplitude. The experimental confirmation of equality of cross sections, therefore, cannot be regarded as an unequivocal proof of analyticity of the amplitude. Orig. art. has: 8 formulas.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

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L 17666-65
ACCESSION NR: AP5000357

SUBMITTED: 30May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 010 OTHER: 006 ATD PRESS: 3151

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2597.
S/080/60/033/010/028/029
D216/D306

53610

AUTHORS: Zil'berman, Ye.N., Meyman, S.B., and Kulikova, A.Ye.

TITLE: The synthesis of amides of substituted propionic and isobutonic acids

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 10, 1960, 2375 - 2376

TEXT: The present work deals with the high yield preparations of chloro-and oxy-amides of substituted propionic and isobutonic acids namely α, β dichloropropinamide (I) lactamide (II) β-chloropropinamide (III), α-oxyisobutyramide (IV), α-chloroisobutarchloride (V):

$$CH_2RCHR\ CONH_2 \qquad CH_2RCHR\ CONH_2$$

$$\text{I, II, III} \qquad CH_2$$

$$\text{IV, V}$$

where I, R R' Cl, II IV, R H, R' OH, III, V: R Cl, R

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

25074

The synthesis of amides ...

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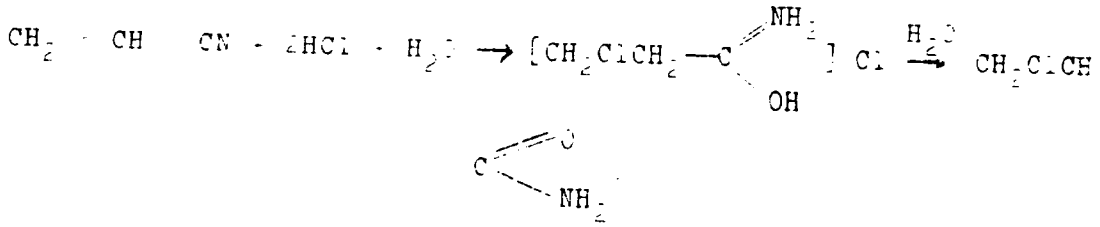
D216/D306

... H. The above compounds appear as intermediate products during the synthesis of important industrial monometers - acrylamides, metacrylamides and their chlorides. The authors avoid the formation of chloronitriles by directly reacting acryl and methacryle by the following reaction



It should be noted that α, β-dichloropropionamide (I) was discharged from the reacting mixture not as the chlorhydrate but as the free amide. A similar reaction was observed in the preparation of trichloroacetamide. The initial materials for the synthesis were freshly distilled ... metacrylonitrile and acetocyanhy-

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

25074

The synthesis of amides . . S/080/60/033/010/028/029
D216/D306

drin whose constants corresponded to the literature values. α, β-dichloropropionitrile synthetized by chlorination of acrylonitrile in the presence of pyridine has a n_D^{20} 1.4638, lactic acid nitrile, obtained by reacting acetaldehyde with prussic acid has a $n_D^{18.4}$ 1.4048. The hydration of nitriles was carried out in the medium of absolute sulphuric ether at 5-0°C, with stirring. α, β-dichloropropionamide (I) was synthetized from a solution containing 6.2 gms. (0.05 mole) α, β- dichloropropionitrile and 0.9 gm. (0.05 moles) of water in 20 mls. of ether into which 8 gm. of hydrogen chloride was introduced. The resulting precipitate was washed with ether and dried in a vacuum dessicator. 6.6 gm. of product was obtained, (93 % of theoretical), with a metling point was 107°. β-chloropropionamide (III) was prepared from the mixture of 10.6 gm. (0.2 moles) of acrylonitrile, 3.6 gm. (0.2 mole) water and 40 mls. of ether containing 36 gms. of HCl. After 19-20 hours 26.5 gm (93 %) of the amide hydrochloride (III) was filtered off dissolved

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in 50 mls. of water, neutralized with sodium carbonate using methyl orange, and then evaporated. From the residue 12.5 gm. (76 %) of product (III) was extracted with acetone with melting point 101°C. (recrystallized from ethylacetate). On mixing the test compound with manufactured (III) no depression of melting point was observed. Under analogous conditions interaction of metacrylonitrile, HCl and water did not produce a precipitate. The concentrated reaction mixture treated as described above gave 82 % of (V) with a melting point of 104°C (recrystallized from ethylacetate and % ether). α-oxy-isobutramide (IV) was prepared from 40 mls. of ether 3.6 gms. (0.2 moles) of water and 18 gms. of HCl (0.5 moles); 17 gm. (0.2 mole) of acetoncyanhydrine was added dropwise over 20 min. 27 gm. of the hydrochloride was obtained (7 %), melting point 85°C (with decomposition). The salt was unstable in air but could be stored in a dessicator. On hydrolysis of 15 gm. of salt as described for the previous compound, 9.5 gm. (86 % on initial) of product (IV) was obtained, melting point 94°C. (recrystallized from ethylacetate). Lactamide was synthetized from 1.8 gm. (0.1 mole) of wa-

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S/080/60/033/010/028/029
D216/D306

The synthesis of amides ...

ter, 40 mls. of ether and 7.2 gm. (0.2 moles) of HCl and dropwise additions over 10 min. of 8.9 gm. (0.1 mole) of lactonitrile. Left overnight the thick mass formed was treated with 25 mls. of water and neutralized with sodium carbonate using methyl orange. From the residue after concentration ethyl acetate extracted 6.6 gm. (74 %) of di amide (II), melting point 75-77 % (from methyl acetate). There are 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The references to the English-language publications read as follows: C.L. Stevens, J. Am. Chem. Soc., 70, 165, 1948. Ch.C. Price, J. Zomlefer, J. Org. Chem. 14, 210, 1949. H.R. Snyder, C.T.Elston, J. Am. Chem. Soc., 76, 3038, 1954.

SUBMITTED: February 24, 1960

Card 5/5

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

LOBASHOV, K.A.; ALANOVA, T.G.; SOKOLOV, V.P.; KAZAMATKIN, Ye.P.; LITVINOV, N.R.; MEYMAN, S.B.; GORBYLEVA, N.V.

New methods for the deactivation of waste slurries from organic synthesis industries. Zhur. VKHO 6 no.2:173-180 '61. (MIRA 14:3)

(Sewage disposal) (Chemistry, Organic—Synthesis)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

ZIL'BERMAN, Ye.N.; IVCHER, T.S.; MEYMAN, S.B.; KULIKOVA, A.Ye.; PEREPLETCHIKOVA, Ye.M.; TEPLYAKOV, N.M.

Formation of 2-cyclohexen-1-one in the dehydrogenation of cyclohexanol. Neftekhimia 2 no.1:110-114 Ja-F '62. (MIRA 15:5)
(Cyclohexenone) (Cyclohexanol)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

KULIKOVA, A.Ye.; MEYMAN, S.B.; ZIL'BERMAN, Ye.N.

Interaction of aliphatic dinitriles with oleic acid according to Ritter's reaction. Zhur.prikl.khim. 36 no.6:1367-1368 Je '63. (MIRA 16:8)

(Nitriles) (Oleic acid)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYMAN, Z.A.

Electrogastrography before and after gastric operations.
Trudy VNIIMIO no.3:128-133 '63 (MIRA 18:2)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNEL', G. (g. TSvota)

Scientific principles of violin design. Survey. Akust. zhur. 6 no.2:147-161 '60. (MIRA 13:8)
(Violin--Construction)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, S. A.

MEYNERT, S. A. Inzhener i [illegible], A. S. Inzh.
Nauchno-issledovatel' [illegible]
[illegible]

[illegible]
[illegible]

SO: Collection of Annotations of Scientific Research Work on Construction, completed in [illegible],
Moscow, [illegible]

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, V. A.

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 696 - X

Call No.: AF 645594

BOOK

Authors: GOLOVINTSEV, M. G. and V. A. MEYNERT

Full Title: NEW MACHINES FOR PIPELINE CONSTRUCTION

Transliterated Title: Novyye mashiny dlya stroitel'stva truboprovodov

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Originating Agency: None

Publishing House: State Scientific and Technical Publishing House of Petroleum and Fuel-mining Literature

Date: 1952 No. pp.: 139 No. of copies: 1,250

Editorial Staff: None

PURPOSE AND EVALUATION: The book describes the design and operation of new machinery used by the Ministry of the Petroleum Industry as labor-saving devices. The book can be used as a manual in training mechanics, foremen and other personnel servicing the new machinery and as a practical handbook for the engineering and technical staff at the construction site. The value of the book is that it gives a detailed description of excavating and other auxiliary machinery used at present by the Soviet petroleum industry.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, V.A.; YEREMENKO, N.T., inzhener, retsenzent; KASSATSIYER, M.S., inzhener, redaktor; MATVEYEVA, Ye.N., tekhnicheskiy redaktor;

[Cranes for pipe laying] Krany truboukladchiki. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 140 p. (MLRA 9:6)
(Cranes, derricks, etc.) (Pipelines)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, Vladimir Adamovich

BOGATYREV, Aleksandr Vasil'yevich; MEYNERT, Vladimir Adamovich; KHODKEVICH, Dmitriy Trofimovich; NOVIKOVA, M.M., vedushchiy red.; MUKHINA, E.A., tekhn.red.

[Mechanizing the cleaning, insulation and laying of main pipelines] Mekhanizatsiia ochistki, izoliatsii i ukladki magistal'nykh truboprovodov. Moskva, Gos.nauchno-tekhn.izd-vo neft.i gorno-toplivnoi lit-ry, 1957. 197 p. (MIRA 10:12)

(Pipelines)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

100-57-12-1/11

AUTHORS: Meynert, V.A., Rozenfel'd, S.M., Engineers.

TITLE: Continuous Production Method of Partitions. (Prokatnyy-sposob izgotovleniya peregorodok).

PERIODICAL: Mekhanizatsiya Stroitel'stva, Nr.12, 1957. pp.3-7 (USSR).

ABSTRACT: Between 1950 and 1954 a new process for the production of building units was leveloped in accordance with the methods of Engineers N. Ya. Kozlov and V. M. Bol'shakov. Fig.1 illustrates the improved type of plant for casting partitions developed in 1955/56 by the S.K.B. Mosstroy in collaboration with N. Ya. Kozlov. The TSPB Glavmosstroy have prepared plans for a new factory with a capacity of 500,000 m² of gypsum partitions per year. Fig.2 illustrates the storage section of the factory. Fig.3 illustrates a small bungalow, from gypsum panels, assembled in a few hours. The panels are formed from "gypsum-concrete mass" on conveyer belts, deposited in forms, vibrated and compressed up to 25 kg/cm² and dried for 48 hours. The compression values of these partitions are between 35 and 40 kg/cm². Specific weight is 1,350 to 1,400 kg/m³, which allows transportation by road. After drying, the slab still contains 12% water. A slab, 10 cm thick with an area

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Continuous Production Method of Partitions. 100-57-12-1/11

of 18 m^2 weighs 2,500 kg. Raw materials for 1 m^3 of these partitions are 0.4 m^3 sand, 0.45 m^3 sawdust, 450 kg gypsum and 310 - 320 l water. Fig.4 illustrates sand and gypsum bunkers with conveyor belts with a dosing device. Fig.5 shows a sawdust bunker with a conveyer belt and dosing device. The conveyer belts are driven by electric motor A073-4/6/8/12. The vibrating machines are type I-7. There are 5 Figures.

AVAILABLE: Library of Congress.

1. Gypsum partitions-Production

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, V., inzh.; CHUDINOVSKIY, L., inzh.

Rolling mill for making reinforced panels. Na stroi. Mosk. 1 no. 5:15-20 My '58. (MIRA 11:8)

1. Nachal'nik spetsial'nogo konstruktorskogo byuro Mosstroya (for Meynert). 2. Glavnyy inzhener spetsial'nogo konstruktorskogo byuro Mosstroya (for Chudinovskiy).
(Concrete slabs)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, Vladimir Adamovich; FILIPPOV, V.V., inzh., retsenzent; NIKITIN, A.G., inzh., red.; UVAROVA, A.F., tekhn.red.

[Wheel-type excavators] Rotornye ekskavatory. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 156 p. (MIRA 12:5)
(Excavating machinery)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, Vladimir Adamovich; CHEKRYGIN, Ivan Gavrilovich; SHMAKOV, Aleksey Timofeyevich; GOROVOY, G.M., red.; STEPANOV, V.M., red. izd-va; DONSKAYA, G.D., tekhn. red.

[Road-building machinry; a manual for tractor operators] Dorozhno-stroitel'nye mashiny; posobie traktoristu. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1960. 174 p. (MIRA 15:3)

(Road machinery)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, V.A., inzh.

Over-all mechanization of operations in building large-panel apartment houses. Mekh. stroi. 17 no.6:5-7 Je '60. (MIRA 13:6)

(Apartment houses) (Building machinery)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, V.A., inzh.; POLYAKOV, V.I., kand. tekhn. nauk, nauchnyy red.; CHEKHOVSKAYA, T.P., red.izd-va; KASIMOV, D.Ya., tekhn. red.

[Operation of motor cranes] Rabota na avtomobil'nykh kranakh. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam., 1961. 159 p. (MIRA 15:2)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye po montazhu tekhnologicheskogo oborudovaniya i proizvodstva montazhnykh rabot. (Cranes, derricks, etc.)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

GAL'PERIN, Abram Isayevich; MEYNERT, V.A., inzh., retsenzent; DUBASOV, A.A., inzh., red.; SMIRNOVA, G.V., tekhn. red.

[Pipe laying cranes] Krany-truboukladchiki. Moskva, Mashgiz, 1961. 161 p. (MIRA 14:11)
(Cranes, derricks, etc.) (Pipeline—General)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNERT, Vlzdimir Adamovich; CHEKRYGIN, Ivan Gavrilovich; SHMAKOV, Aleksey Timofeyevich; STEPANOV, V.M., red.; GANYUSHIN, A.I., red. izd-va; MAL'KOVA, N.V., tekhn. red.

[Road machinery: handbook for the tractor driver] Dorozhno-stroitel'nye mashiny; posobie mashinistu traktorov. Izd.2., ispr. i dop. Moskva, Avtotransizdat, 1962. 234 p. (MIRA 15:6)
(Road machinery)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

VYRIKOV, Anatoliy Yakovlevich; MEYNERS, V.A., red.

Automatic fire extinction at enterprises of the lumbering, woodpulp, and woodworking industries. Avtomaticheskoe pozharotushenie na predpriiatiiakh lesnoi, tselliulozno-bumazhnoi i derevoobrabatyvaiushchei promyshlennosti. Moskva, Lesnaia promyshlennost', 19[illegible]. [illegible] p.
(MIRA [illegible])

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

BOGATYREVA, V.V.; VEYNBERG, V.B.; MAL'TSEV, Yu.V.; MEYNGARD, P.N.

Doublet focal mirror-lens monochromators. Opt.-mekh.prom. 25 no.5:16 My '58. (MIRA 11:9)

(Monochromators)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

7(6), 24(4)

SOV/20-121-4-[illegible]

AUTHORS: Veynberg, B. V., Dul'neva, N. M., Meyngard, P. M. Yakovenko, V. L.

TITLE: A Polar Spectrohydronephelometer (Polyarnyy spektrogidronefelometr)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 4, pp [illegible] (USSR)

ABSTRACT: This paper gives a short description of a polar spectrohydronephelometer which was designed in 1956 and of some results of the measurements by means of this apparatus. The polar hydronephelometer - an apparatus for transparency measurements - consists of a vessel filled with the water to be investigated. The objectives of the condenser and of a photometric device are immersed in this water. The luminosity of the ground glass of the photometer may be changed by 10^6 times by removal or turning of the measuring lamp and by introduction of a neutral light filter. The condenser sends a narrow cone of light into the water. If the decrease in light intensity is measured in a turbid water, the light of the condenser is directed straight into the objective of the photo-

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meter. The intensity of the scattered light is measured under various angles φ with respect to the beam of the condenser. By some measurements of this kind the indicatrix and the scattering index σ can be measured. The absorption index k may be deduced from the measured values of the index ε of the decrease of the light intensity and of σ. The measurements in the various parts of the spectrum are carried out by means of color filters. In order to determine the degree of the depolarization of light by water, the condenser was furnished with a polarizer and the photometric apparatus with an analyzer. The apparatus discussed in this paper makes it possible to investigate the properties of sea water and river water the extinction coefficient ε of which lies within the interval 0,1 - 6 m^{-1}. The indicatrices may be measured for any angle between 0,5° and 145° and for 180° (backward scattering). According to many measurements, the properties of the investigated sea water vary considerably near the shore. The indicatrices of the scattering of natural waters are considerably elongated. The intensity of the scattered light has a minimum at scattering angles of $\sim 120°$. For other regions of the sea, the shape of the scattering indicatrix depends only

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A Polar Spectrohydronephelometer

SOV/20-121-4-17/54

slightly on the transparency of the water. The light which is scattered by the water is depolarized most at angles of 90 - 120°. The degree of the depolarization of light by water depends in a high degree on the initial orientation of its polarization plane. There are 4 figures and 2 references, 2 of which are Soviet.

PRESENTED: March 3, 1958, by V. V. Shuleykin, Academician

SUBMITTED: March 8, 1958

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

36953

S/196/62/000/007/005/007
E032/E514

3.5150

AUTHORS: ~~Meyngard, P.N.~~, Popov, O.I. and Sholokhova, Ye.D.

TITLE: A recording photoelectric apparatus for the measurement of the transparency of air in the visible part of the spectrum

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika, no.7, 1962, 5, abstract 7V22. (Sb. "Aktinometriya i atmosfern. optika". L., Gidrometeoizdat, 1961,152-159)

TEXT: The photoelectric apparatus ФМ-45 (FM-45), in which the light flux is measured at two distances, was developed for the measurement of the absolute value of the transmission coefficient of air. A modulated light beam produced by a hot-filament lamp (6 V, 7.7 W) is divided into two parts by a system of lenses and mirrors. One of them is focused into a parallel beam and is passed through the layer of the atmosphere, finally reaching the photocell (type СЦВ-51, STsV-51). The second part of the beam reaches the photocell directly and is used as the comparison beam. The two beams are shifted in phase by 180°. The photocell output, which is proportional to the

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difference between the two light fluxes, is fed into an a.c. amplifier with a synchronous detector and is then recorded by the pen recorder ЭПП-09 (EPP-09). The latter records the transmission coefficient of air on a chosen scale for a given measuring base L. The pen recorder scale is linear with respect to the attenuation coefficient of air. The amplifying part FM-45 ensures measurements of the transmission coefficient with an absolute error of ±1%. The maximum measuring base is 0.5 km. The measurements can be carried out at all times of the day, both for high and average turbidities of the atmosphere (meteorological visibility range between 0.5-1 and 20-30 km). The optical and electrical parts are described and the results of field tests are reported.
4 figures, 7 references.

ASSOCIATION: GOI, Leningrad

[Abstracter's note: Complete translation.]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

SOKOLOV, Fedor Aleksandrovich, kand.tekhn.nauk, dotsent; USOV, Pavel Vasil'yevich, kand.tekhn.nauk, dotsent; MEYNGARD, S.A., red.; TOKER, A.M., tekhn.red.

[Engineering mechanics] Tekhnicheskaia mekhanika. 2., ispr. i dop. izd. Moskva, Proftekhizdat, 1962. 462 p. (MIRA 15:5)

(Mechanical engineering) (Mechanics)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

[illegible], Vy[illegible]; [illegible] ELE[illegible], [illegible], [illegible]
[illegible]; [illegible], S.A., [illegible].

[illegible] of [illegible] of machine [illegible]
[illegible] v. [illegible], Ma[illegible],
[illegible]

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

GOL'DIN, Iser Isaakovich; SOROKINA, M.I., red.; MEYNGARD, S.A., nauchn. red.

[Instruction in mechanical engineering] Prepodavanie tekhnicheskoi mekhaniki. Moskva, Vysshaia shkola, 1965. 165 p. (MIRA 18:7)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYNIN, L.P., inzh.

Calculation characteristics of laying large wall blocks. Stroit. prom. 36 no.6:30-31 Je '58. (MIRA 11:6)
(Concrete blocks)

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S/66[illegible]/61/[illegible]/[illegible]/[illegible]
D040/D112

AUTHORS: Kar[illegible]syna, A.I.; Meynster, I.G.

TITLE: Investigation of the hardness of plastics

SOURCE: Plastmassy kak antifriktsion[illegible] materialy. Inst. [illegible] AN SSSR. Moscow, Izd-vo AN SSSR, 1961, [illegible]-14

TEXT: The Brinell hardness, spring-back capacity, and the water and oil absorption of the following polyamide- and polyethylene-type plastics were investigated: caprone, polycaprolactam, АК7 (AK7), АГ4 (AG4), Р 4[illegible] (R4[illegible]), М 7 (M7), ЭД 6М (ED6M), НД (ND) polyethylene, plexiglas, alkyd-stereme resin, teflon, П 6[illegible] (P68) and П 5[illegible] (P5[illegible]). The obtained data are presented in graphs and tables and include the variations of hardness [illegible] caused by absorption of different quantities of water and oil. The Rockwell-Superficial hardness tester was used for measurements. The fluid absorption was determined in accordance with the ГОСТ 4650-49 (GOST 4650-49) standard requirements. Specimens were soaked in water and oil at room temperature and 100°C, and the quantity of absorbed water or oil determined [illegible]

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S/[illegible]
[illegible]

Investig[illegible]

analytic scales. The hardness of polyamide plastics in [illegible] state and after elimination of the [illegible] 16 kg/mm² as against 1.[illegible] kg/mm² for HL polyethylene which [illegible] difference in their molecular bond forces, i.e. [illegible] kcal/[illegible]. Absolutely dry specimens soaked in oil at room temperature for 2[illegible] scarcely changed in weight (by fractions of one per cent [illegible]) in oil at a temperature of 100°C increased their weight by [illegible]. Conclusions: (1) Determination of the Brinell hardness of high polymers with the use of the Rockwell-Superficial tester proved expedient; (2) the method of hardness determination accompanied by estimation of the relative spring-back is a sensitive method of examining the swelling, caused by the effect of water and oil. The hardness as well as the elasticity of polyamide plastics vary as the result of absorption of water or oil: [illegible] reduced, and the spring-back increased, which correspond [illegible] changes of high polymers. There are [illegible] figures and [illegible]

Card 2/[illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

S/66[illegible]
D04[illegible]/D11[illegible]

AUTHORS: Kuritsyna, A.D.; [illegible]

TITLE: [illegible]

SOURCE: [illegible] AN SSSR, 19[illegible]

TEXT: The [illegible] measurements [illegible] angles [illegible] the metal-fluid-air and [illegible]-fluid-air [illegible] by Ada[illegible] The measurements were made by the "inclined-plate method" [illegible] and [illegible] (Ref. [illegible]: N.K. Adam, Fizika i khimiya [illegible] and theoretically developed by P.A. Rebinder for studies of flotation processes (Ref. [illegible]: P.A. Rebinder, M.Ye. Lipets, M.M. Rimskaya, A.[illegible]. Gaubman, Fiziko-khimiya flotatsionnykh yavleniy [The physical chemistry of the flotation phenomena], Izd-vo AN SSSR, 19[illegible]). The special test device designed at the laboratoriya iznosostoykosti (Wear-Resistance Laboratory) for the tests is described in

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

Determinati[illegible] ... Tests w[illegible] ... and [illegible] al alloy w[illegible] ... [illegible]

[illegible] and [illegible] ... [illegible], zinc, and [illegible] П [illegible] (P[illegible]), teflon, [illegible] ЭД [illegible] М

(copper, nickel, tin, [illegible] ... , AK[illegible] (AK[illegible]), M[illegible] (M[illegible]), P[illegible] (R[illegible]) and [illegible] for compar-

[illegible] -polymers, [illegible] polyethylenes, AГ[illegible] (AG[illegible]). [illegible] was used as a reference [illegible] ... [illegible] iron

[illegible] low-pressure polyethylene ... paraffin was used [illegible] and [illegible] ... [illegible] obtained by

(EDOM). Glass coated with paraffin [illegible] ... (θ); the θ and [illegible] surface tensions [illegible] ... Isotil-

isome of the contact angle [illegible] ... water-air-paraffin surface [illegible] used in the tests were: [illegible] ... [illegible]

equilibrium of the [illegible] investigators. The fl[illegible]s used in the tests [illegible] Д-1 (D-1) [illegible] ... [illegible] as

[illegible] majority of investigators, АВТОЛ-4 (avtol-4) oil, Д[illegible] ... surface [illegible] separat[illegible] ... [illegible]

led water [illegible] water. The effect of different surface [illegible] ... Conclusions:

with [illegible] stear[illegible] acid. The effect on the θ angle was determined. [illegible] as follows, for the

and the surface roughness on the [illegible] may be classified by polarity as [illegible] ... [illegible]

(1) The tested materials may be classified [illegible] increases with the [illegible] ...

polarity of a solid surface increases with the [illegible] ...

angle:

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

Determi[illegible]

[illegible] 0

[illegible] ... ...

[illegible] ... ...

[illegible] ... ...

[illegible] ... ...

[illegible] ... ...

[illegible] ... ...

(N. B: [illegible] cleaning).

(2) Tests on paraffin-coated surf[illegible] [illegible] predictable. The accuracy [illegible]

Card [illegible]

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[illegible] contact ... [illegible]

follows: C. [illegible] and H. Hart[illegible]. [illegible] Philosophical magazine and journal [illegible], 19[illegible], [illegible]: [illegible] Wettability and friction of Polytetrafluoroethylene [illegible]: Effect [illegible] Pre-bonding Treatments. J. [illegible] Polymer Science, vol. XXIV, [illegible].

Card [illegible]

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

26391
S/032/61/027/008/016/020
B124/B215

15.8510

AUTHORS: Kuritsyna, A. D., and Meynster, P. G

TITLE: Methods of determining the hardness and the elastic recovery coefficient of plastics

PERIODICAL: Zavodskaya laboratoriya, v. 27, no 8, 1961, 1030 - 1033

TEXT: The authors determined the hardness of high polymers by means of a Rockwell superficial device and a steel ball 3.175 mm in diameter. The ball is pressed into the sample under the action of the initial load P_0. The indentation depth is not recorded by the device. The load is then increased up to the effective quantity $P = P_0 + P_1$ and the full indentation depth h_1 of the ball, which is due to the additional load P_1, is measured. The residual depth h_2 is obtained when this load is removed. The elastic part (h_{el}) of the indentation depth of the ball in the sample can be determined from the difference $h_1 - h_2$. In the present paper, two factors were determined: a) hardness in kg/mm^2 and

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

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S/012/61/027/008/016/020
B124/B215

Methods of determining...

b) elastic shape recovery of indentation, expressed as the ratio between recovered (elastic) depth of indentation and total depth in %. The hardness was determined from the relation between load and area of the impressed spherical segment. The hardness of high polymers, unlike that of metals, was determined, not from the indentation diameter, but only from the depth of indentation. The load was always chosen such as to yield a ratio of d (indentation diameter) to D (diameter of the ball) = 0.2 to 0.5, which gives an indentation depth of 32 to 222μ. For determining the indentation depth, a previously determined correction factor was taken into account for the proper elasticity of the device. For plastics, the time of loading is 2 - 5 min. Before the tests, the surfaces of the plastic samples were first ground with water-resistant П3-230 (PZ-230) emery paper, and then with ultrafine M14-14 (M-14) emery paper, both times in water. The hardness of most thermoplasts is independent of the load, whereas the hardness of thermoreactive plastics increases somewhat as the load increases. In plastics, the elastic deformation depends on the type of material rather than on the load. Table 1 gives the hardness values of the tested materials; they are comparatively low and vary between 3 and 30 Brinell units i.e. they

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hardly differ from the hardness of plastic metals. As to the elastic recovery of the indentation depth, there is a great difference between plastics and metals (Fig. 4). Humidity and oil absorption have a strong effect upon the mechanical properties of high polymers. The hardness of polyamides depends mainly on the content of moisture and unreacted monomers. Experiments showed that swelling of samples which had first been dried at 100°C until constancy of weight was reached, was very small after 24 hr, namely, several tenth % by weight. With П-68 (P-68), АК-7 (AK-7), polycaprolactam, and П-54 (P-54), swelling at 100°C in the same oil after 11 hr is 2.1, 0.82, 2.7, and 1.24 %, respectively; if the change in the linear dimensions of the samples is very small, the corresponding values are 0.2, 2, 0.5, and 0.8 %, respectively. As compared to the absolutely dry materials concerned, the hardness of the polymers is reduced by 67 % for P-68, by 50 % for AK-7, by 55 % for polycaprolactam, and by 62.5 % for P-54. Oil absorption increases elasticity by 3 - 4 %. There are 4 figures and 2 tables.

ASSOCIATION: Institut mashinovedeniya Akademii nauk SSSR (Institute of Sciences of Machines of the Academy of Sciences USSR)

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S/032/62/028/004/016/026
B124/B101

AUTHORS: Kuritsyna, A. D., and Meynster, P. G.

TITLE: Determination of elastoplastic properties of polymers on compression.

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 485 - 488

TEXT: Constant static compression load was applied to cylindrical samples and the change of deformation with time measured at about 20°C using a Rockwell Superficial device, in order to determine the modulus of elasticity of polymers. Deformation versus time loading and unloading curves are either completely reversible, when stress applied is below the limit of elasticity of the polymer, or exhibit a continuous increase in residual deformation and transition to steady flow. The following characteristics were calculated from the experimental data obtained: (A) initial (conventional instantaneous) normal modulus of elasticity $E_1 = \frac{P}{\varepsilon_0}(h/S)$, where P is load, ε_0 initial strain, h the height of the original sample, and S the cross-sectional area; (B) modulus of high

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elasticity $E_2 = \frac{P}{\gamma_{max} - \gamma_0}$ (h/S); (C) steady modulus of elasticity E_3 calculated with respect to both elastic and highly elastic deformation; (D) true (relaxation) viscosity $\eta_1 = \frac{Ph}{S}\left(\frac{d\gamma}{dt}\right)_{resid.}$, where $d\gamma$ is the change of deformation, P/S effective flow-supporting stress, and t time; (E) relative viscosity η_2 determined from tan α - tan β. The following values are given: Ftoroplast-4 (fluoroethylene): E_1 = 11650 - 13800 (kg/cm^2); E_2 = 26220 - 27600 (kg/cm^2); E_3 = 7800 - 10,000 (kg/cm^2); $\eta_1 = (0.30 - 0.98)\cdot 10^{12}$ (g/cm·sec); $\eta_2 = (0.11 - 0.7)\cdot 10^{10}$ (g/cm·sec). Caprone: E_1 = 17600; E_2 = 35200 - 44000; E_3 = 10300 - 12360; $\eta_1 = (1.0 - 5.4)\cdot 10^{12}$; $\eta_2 = (0.12 - 0.30)\cdot 10^{11}$; П-54 (P-54) : E_1 = 8090; E_2 = 22900 - 36000; E_3 = 6148 - 6500; $\eta_1 = 0.46\cdot 10^{12}$; $\eta_2 = (0.17 - 0.58)\cdot 10^{10}$. П-68 (P-68) : E_1 = 16700; E_2 = 34300; E_3 = 119400; $\eta_1 = 0.30\cdot 10^{12}$;

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$_2 = 0.83 \cdot 10^{10}$. Anid: $E_1 = 26100$; $E_2 = 12500$; $E_3 = 21700$; $_1 =$;
$_2 = 6 \cdot 10^{11}$. -49 (R-49) : $E_1 = 30900$; $E_2 = 300910$; $E_3 = 22500$; $_1 =$;
$_2 = 1.12 \cdot 10^{10} - 6 \cdot 10^{11}$. Mixture of 80% caprone, 3% graphite, and 17% bakelite: $E_1 = 30000$; $E_2 = 90000$; $E_3 = 21300$; $_1 = 1.6 \cdot 10^{12}$; $_2 = 10^{10}$. It was found that (1) change of the size of Ftoroplast samples has a substantial effect on E_2 and a weak effect on the other parameters; (2) E_2 and $_2$ of P-54 and caprone samples increase if the tests are repeated. There are 2 figures and 1 table.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

S/032/62/028/004/018/026
B124/B101

AUTHORS: Kuritsyna, A. D., and Meynster, P. G.

TITLE: Determination of hardness of polymers at high temperatures

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 4, 1962, 491 - 493

TEXT: A Rockwell Superficial setup equipped with an electrically heated table and indenter was used to measure the hardness and elastic recovery (ratio of the indentation depth after removal of load to that obtained with full load) of polymers at temperatures between 20 and 150°C. When the logarithms of the measured hardness numbers are plotted against temperature (Fig. 3), critical points of transition from the amorphous to the highly elastic, and from the highly elastic to the viscous region of the polymer can be determined, the angles of the curve sections indicating the changes of mechanical properties with temperature. The elastic recovery-versus-temperature curves show a slight decrease of elastic recovery with increasing temperature. There are 4 figures.

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Determination of hardness ...

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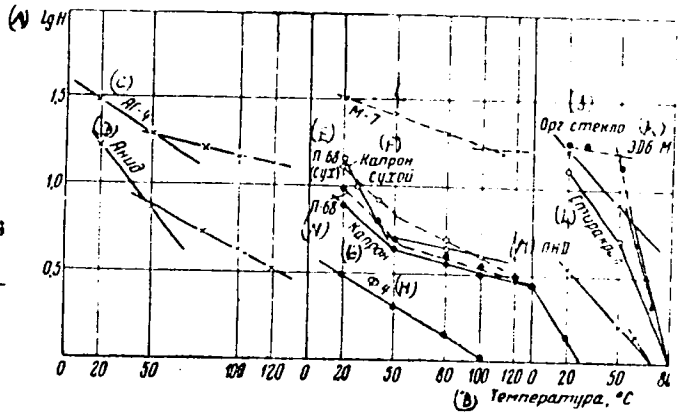
B124/B101

Fig. 7. Dependence of the logarithm of hardness on temperature for plastics. Legend: (A) log H; (B) temperature, °C; (C) AG-4; (D) Anid; (E) P-68 (dry); (F) caprone, dry; (G) caprone; (H) F-4; (J) glass-like plastic; (K) ED6-M (epoxy resin); (L) styracryl; (M) LDP = low-density polyethylene; (N) P-68.



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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

L 39699-66 EWP(j)/EWT(m)/ETC(m)-6/T IJP(c) RM/WW/DJ/GD-2/GS

ACC NR: AT6008945 (A) SOURCE CODE: UR/0000/65/000/000/0051/0064

30
24
B+1

AUTHORS: Kuritsyna, A. D.; Meynster, P. G.

ORG: none

TITLE: Laboratory studies of physical and antifriction properties of plastics

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'zheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research and experiment in application). Moscow, Izd-vo Nauka, 1965, 57-64

TOPIC TAGS: hardness, plastic, resin, polymer, polymer property, polymer deformation, heat effect, antifriction material, elasticity

ABSTRACT: The physical properties of polymer materials were studied by various methods. Hardness was tested by sphere pressing; the modulus of elasticity by compression of specimens under static loading; microhardness on testing machine PMT-3; the limiting angles of moistening by sloped plate method carried out on a special test device. The results of hardness testing at varying temperature are shown in Fig. 1. The hardness tests permitted qualitative evaluation of: 1) spherical indentor deformations as a combination of reversible elastic and residual deflections; 2) relative elasticity of polymer materials as manifested in form recovery after load release; 3) hardness at different temperatures. A logarithmic relationship is shown to exist between the applied pressure and spherical indentation for the polymers tested. Materials used in

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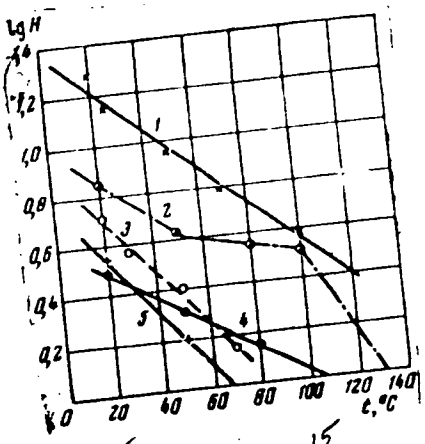

Fig. 1. Variation of hardness of polymer materials with temperature. 1 - polyformaldehyde; 2 - caprone; 3 - polypropylene; 4 - fluoroplastic; 4 and 5 - PND.

the tests include polyformaldehyde, caprone, polypropylene, fluoroplastic, PND resin, PVD resin, organic glass, resins M-7, P-49, P-68, and anide resin. Several filler materials in varying concentrations were added to selected resins. Additional plots are shown indicating the variation of modulus of elasticity with temperature and with compressive stress; data on microhardness and wettability are tabulated. Orig. art. has: 2 tables and 7 figures.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYOROVA, G.F.; BORODIYUK, N.A.

Effect of ultrasonic waves on whooping cough vaccine and diphtheria anatoxin; annotation. Zhur. mikrobiol., epid. i immun. 40 no.4:56 Ap '63. (MIRA 17:5)

1. Iz Instituta epidemiologii i mikrobiologii imeni Gamaleia AMN SSSR.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

PODAR, E.Ya.; MEYPALU, V.E. [Meipalu, V.]

Actinomycosis of the uterus. Akush. i gin. [illegible]
Mr-Ap '64. [illegible]

1. Kafedra patologicheskoy anatomii (zav. - dotsent E.Ya. [illegible]) [illegible]
i kafedra akusherstva i ginekologii (zav. - prof. V.E. Faynberg) [illegible]
Tartuskogo universiteta.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

Country : USSR E
Category: Virology. Bacterial Viruses (Phages)

Abs Jour: Ref Zhur-Biol., No 23, 1958, No 103499

Author : Chanishvili, T.G.; Meypariani, A.N.; Avalishvili, G.I.
Inst : -
Title : Study of the Process of Bacteriophagia under Aeration Conditions. First Report

Orig Pub: Sb. Bakteriofagiya. Tbilisi, Gruzmedgiz, 1957, 261-263.

Abstract: Cultures of Flexner dysentery bacteria and paratyphoid Breslau bacteria were grown in five-liter flasks containing three liters of fish bouillon or of Hottinger's medium, through which air was insufflated for one or two hours and then five cubic centimeters of the corresponding phage inoculated. The greatest

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

MEYPARIANI, V. G.

"Durability of Drop Hammers in Forging Gear-Type Pieces."
Min Higher Education USSR, Georgian Order of Labor Red Banner Polytechnical Inst imeni S. M. Kirov, Tbilisi, 1955. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: M-955, 16 Feb 56

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033730002-2

137-58-6-12175

Translation from Referativnyy zhurnal Metallurgiya, 1958, Nr 6, p 143 (USSR)

AUTHORS Gedevanishvili G.K., Meypariani, V.G.

TITLE The Effect of Rolling Rate on the Deformation of Metal During Rolling Through Sectional Passes (Vliyaniye skorosti prokatki na deformatsiyu metalla v razreznom kalibre)

PERIODICAL Tr. In-ta metalla i gorn. dela. AN GruzSSR, 1957, Vol 8, pp 97-107

ABSTRACT Investigations were carried out in order to establish how the rate of rolling (R) affects the nature of deformation of metal being rolled, under conditions of unrestricted expansion, through sectional passes with an 8 mm crest and a 45° angle. The experiments were carried out on a two-high laboratory R mill at R rates of 2.16, 4.44, 5.4, and 8.1 m/sec. The Pb specimens employed were 20 mm wide and 8, 10, 12, or 14 mm high. The clearance between crests was kept constant at 6.5 mm and the relative reductions of the strip at the neck, depending on the height of the specimen, amounted to 12.5, 27, 43, and 52.4%. As a result of the experiments performed it was established that the mean height of the flanged profile (and, consequently,

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