Card   2/3

Card   3/3

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Ibraguimoff, I. I.   Sur les système

if they are finite. define σ^T, σ^- by   such that the int

IBRAGIMOV, I. I.

Theory of Functions of a Real Variable, Approximation of Functions (1606)
Dokl. AN Azerb. SSR, No 3, 1953, pp 135-141
Ibragimov, I. I.
"The Best Approximation of Differentiable Functions by Polynomials in the Mean"
Derives relations between the best approximation of a function f (x) and classes of
functions which are S-tuple integrals of the function corresponding to limited variation
or absolute continuity with variation not greater than unity.

SO: Referativnyy Zhurnal—Matematika, No 1, Jan 54; SO: (W-30785, 28 July 1954)

1. IBRAGIMOV, I. I.

2. USSR (600)

4. Approximate Computation

7. Best approximation of a function, the s th - derivative of which has a discontinuity of the first order. Dokl. AN SSSR 89, No. 6, 1953.

Derivation of the asymptotic value of the best approximation of function $f(x)$ whose s-th derivative $f^{(s)}(x)$ possesses in the interval $-1 = x = 1$ discontinuities of the first kind (at least in one interior point), where s is any real positive number not necessarily an integer (the case of s odd integer was considered by S. M. Nikol'skiy, DAN 55, No.2, 1947), which derivation is connected with finding the best approximation of $[a(x-c) + b/x-c/]$ $/x-c/^{s-1}(/c/<1)$, where a,b are reals. Presented by Acad S. N. Bernshteyn 25 Feb 53.

259T62

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2

7-14-54

Ibragimov, I. I. On best approximation in the mean of a function whose s-th derivative is of bounded variation on the interval [1-1, 1]. Doklady Akad. Nauk SSSR (N.S.) 90, 13-15 (1953). (Russian).

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Azerbaydzhan State Pedagogic Inst. im. Lenin, Baku.

IBRAGIMOV, I.I.

Deviations from zero of entire functions of finite power in
(Lp) space. Dokl. AN Azerb. SSR 11 no.2:79-86 '55.
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1. Azerbaydzhanskiy gosudarstvennyy pedagogicheskiy institut
im. V.I.Lenina. Predstavleno deystvitel'nym chlenom AN Azer-
baydzhanskoy SSR I.G.Yes'manom
          (Functions, Entire) (Spaces, Generalized)

IBRAGIMOV, I.I.

Mean quadratic approximation of complex variable functions in infinite domains by means of entire functions of finite degree.
Uch. zap. AGU no.4:3-11 '56.   (MLRA 9:11)

(Functions of complex variables)
(Functions, Entire)

IBRAGIMOV I.I.

SUBJECT   USSR/MATHEMATICS/Theory of functions   CARD 1/2   PC - 686
AUTHOR   IBRAGIMOV I.I.
TITLE   The quadratic approximation in the mean for functions of one
             complex variable in an infinite domain.
PERIODICAL   Uspechi mat.Nauk 11, 5, 50-56 (1956)
             reviewed 4/1957

Let D be an infinite, simply connected domain. Let G_R be the intersection of D and of $|z| \leqslant R$. Let $f(z)$ belong to the class $L_2(D)$ if

$$\| f \|_{L_2(D)} = \lim_{R \to \infty} \left\{ \iint_{(G_R)} |f(z)|^2 \, dx \, dy \right\}^{1/2} = \left\{ \iint_{(D)} |f(z)|^2 \, dx \, dy \right\}^{1/2} < \infty.$$

Let $g_\nu(z)$ be an entire function of finite degree ν, where

$$\overline{\lim_{r \to \infty}} \; \frac{\ln M(r)}{r} = \nu, \qquad M(r) = \max_{|z| = r} |g_\nu(z)| \, .$$

Let further
$$\omega_2(f; \delta) = \sup_{|h| < \delta} \left\{ \iint_{D_h} |f(z+h) - f(z)|^2 \, dx \, dy \right\}^{1/2}$$

be the generalized modul of continuity. Here D_h is such that the points z+h,

$|h| \leqslant \delta$, $z \in D_h$ remain inside of D. The polynomial $g_\nu(z)$ gives the best approximation in the sense of $L_2(D)$ if $J = \left\{ \iint |f(z) - g_\nu(z)|^2 \, dx \, dy \right\}^{1/2}$ has

a minimum. Let $\min_{(g_\nu)} J = A_\nu^{(2)}(f, D)$. The following theorems are proved:

1. In order that $g_\nu(z)$ yields the best approximation of $f(z)$ in the sense of the $L_2(D)$ it is necessary and sufficient that there exists no entire function $\varphi_\nu(z)$ of degree ν which belongs to the class $L_2(D)$ and satisfies the inequation

$$0 < \iint_D \text{Re} \left\{ \varphi_\nu(z) \left[f(z) - g_\nu(z) \right] \right\} dx \, dy < \infty.$$

2. In D there holds: $\omega_2(f; \delta) \leqslant 2A_\nu^{(2)}(f) + \nu \delta M$. This theorem is not only valid for the functions taken in the quadratic mean but also for the mean of p-th powers: $\omega_p(f, \delta) \leqslant 2A^{(p)}(f) + \nu \delta M$. M is a constant being independent of ν and δ .

3. There holds: $A_\nu^{(p)}(f, D) \leqslant C \, \omega_p(f; \frac{1}{\nu})$, where C is a positive constant.

AUTHOR: Ibragimov, I.I.   SOV/20-121-3-5/47

TITLE: Extremum Problems in the Class of the Trigonometric Polynomials
               (Ekstremal'nyye zadachi v klasse trigonometricheskikh polino-
               mov)

ABSTRACT: Let

$$T_{n_1,\ldots,n_k}(x_1,x_2,\ldots,x_k)=\sum_{\nu_1=-n_1}^{n_1}\cdots\sum_{\nu_k=-n_k}^{n_k} c_{\nu_1,\ldots,\nu_k}\, e^{i\nu_1 x_1+\cdots+i\nu_k x_k}$$

and

$$\left\|T_{n_1\cdots,n_k}\right\|_p =\left(\int_0^{2\pi}\cdots\int_0^{2\pi}\left|T_{n_1,\ldots,n_k}(t_1,\ldots,t_k)\right|^p dt_1\cdots dt_k\right)^{1/p},\ p\geqslant 1$$

Furthermore let $K(x_1,\ldots,x_k)$ be a function integrable in the
cube $(G_k) = (0\leqslant x_j\leqslant 2\pi,\ 1\leqslant j\leqslant k)$ with the Fourier coefficients
$b_{\nu_1,\nu_2\ldots,\nu_k}$ $(\nu_j=0,\pm 1,\ldots,\ 1\leqslant j\leqslant k)$.

Card 1/3

Extremum Problems in the Class of the Trigonometric   SOV/20-121-3-5/4⁴
Polynomials

Theorem: For the functional

$$J_k(T_{n_1,\ldots,n_k}) = \frac{1}{(2\pi)^k} \int_0^{2\pi} \cdots \int_0^{2\pi} T_{n_1,n_2,\ldots,n_k}(t_1,\ldots,t_k) \times$$

$$\times K(t_1,\ldots,t_k) \, dt_1 \ldots dt_k$$

it holds the inequality

$$\left| J_k(T_{n_1,\ldots,n_k}) \right| \leqslant$$

$$\leqslant (2\pi)^{-k/p} \| T_{n_1,\ldots,n_k} \|_p \left(\sum_{-n_1}^{n_1} \cdots \sum_{-n_k}^{n_k} \left| b_{\nu_1},\ldots,b_{\nu_k} \right|^p \right)^{1/p}$$

for all p, $1 \leqslant p \leqslant 2$.

Theorem: If $1 \leqslant p \leqslant 2$ and if $p' \geqslant p$, then it is

Card 2/3

Extremum problems in the Class of the Trigonometric   SOV/20-121-3-5/47
Polynomials

$$\left\| T_{n_1,\ldots,n_k} \right\|_{p'} \leq$$

$$\leq \left(\prod_{j=1}^{k} \frac{2n_j + 1}{2\pi} \right)^{1/p - 1/p'} \left\| T_{n_1,\ldots,n_k} \right\|_p$$

The third theorem gives estimations for the maximum of an algebraic polynomial and of its first derivatives in the cube $a \leq x_j \leq b$, $1 \leq j \leq k$ for $1 \leq p \leq 2$.

There are 4 Soviet references.

ASSOCIATION: Institut fiziki i matematiki Akademii nauk Azerb SSR (Institut for Physics and Mathematics of the Academy of Sciences of the Azerb.SSR)

PRESENTED: March 17,1958, by S.N.Bernshteyn,Academician

SUBMITTED: March 17,1958

Card 3/3

16(1)

AUTHOR: Ibragimov, I.I.   SOV/38-23-2-6/10

TITLE: Extremum Problems in the Class of Entire Functions of Finite
         Order (Ekstremal'nyye zadachi v klasse tselykh funktsiy
         konechnoy stepeni)

ABSTRACT: Let $W_y^{(p)}$ denote the class of entire functions $f(z)$ of
          finite order y for which $\| f \|_p < \infty$ $(p > 0)$. Let $K(z)$ be
          a function regular in $|z| \geqslant \lambda$, $\lambda > y$, $K(\infty) = 0$. Let

$$I(f) = \frac{1}{2\pi i} \int_{|\varsigma| = \lambda} f(\varsigma)K(\varsigma)d\varsigma \text{ and } \phi(u) = \frac{1}{2\pi i} \int_{|\varsigma| = \lambda} e^{iu\varsigma}K(\varsigma)d\varsigma,$$

$$\| \phi \|_p = \left(\int_{-y}^{y} | \phi(u)^p \, du \right)^{1/p}.$$

          Theorem : From $f \in W_y^{(p)}$, $1 \leqslant p \leqslant 2$, it follows $f \in W_y^{(2)}$.

Card 1/3 Theorem: For $1 \leqslant p \leqslant 2$, $f(z) \in W_y^{(p)}$ it holds :

Extremum Problems in the Class of Entire Functions   SOV/38-23-2-6/10
of Finite Order

$$|I(f)| \leqslant (2\pi)^{-1/p} \|f\|_p \|\phi\|_p \, ,$$

where $\|f\|_p = \left(\int_{-\infty}^{\infty} |f(x)|^p \, dx \right)^{1/p}$

Theorem : $0 < p \leqslant 2$, $p' \geqslant p$, $f(z) \in W_y^{(p)}$. Then it is

$$\|f\|_{p'} < \left(\frac{y}{\pi}\right)^{1/p - 1/p'} \|f\|_p$$

Theorem : $1 \leqslant p \leqslant 2$, $p' \geqslant p$, $f(z) \in W_y^{(p)}$. Then it holds

$$\|f^{(n)}\|_{p'} \leqslant \left[\pi(n\,p + 1)\right]^{1/p' - 1/p} \cdot y^{n+1/p - 1/p'} \cdot \|f\|_p$$

Theorem : $1 \leqslant p \leqslant 2$, $p' \geqslant p$, $f(z) \in W_y^{(p)}$, $\|f\|_p \leqslant 1$.

Card 2/3   Then it is

Extremum Problems in the Class of Entire Functions   SOV/38-23-2-6/10
of Finite Order

$$\omega_{p'}(f;\beta) = \sup_{0 < h \leq \beta} \left(\int_{-\infty}^{\infty} \left| f\left(x + \frac{h}{2}\right) - f\left(x - \frac{h}{2}\right) \right|^{p'} dx \right)^{1/p'} \leq$$

$$\leq \left(2 \sin \frac{\gamma\beta}{2} \right)^{\frac{p'-p}{p'}} \cdot \left(\frac{\gamma}{\tau} \right)^{\frac{1}{p} - \frac{1}{p'}} \left[\omega_p(f;\beta) \right]^{\frac{p}{p'}}$$

The author mentions S.N. Bernshteyn, S.M. Nikol'skiy, and
M.G. Kreyn. - There are 10 Soviet references.

ASSOCIATION: Institut fiziki i matematiki AN Azerb. SSR (Institute of
               Physics and Mathematics AS Azerb. SSR)
PRESENTED: by S.L. Sobolev, Academician
SUBMITTED: March 7, 1958

Card 3/3

66400

SOV/20-128-6-4/63

16(1)   16.4400

AUTHOR: Ibragimov,I.I.

TITLE: Certain Finite Power Integral Functions of Many Variables

ABSTRACT: Let $W^{(p)}_{\nu_1 \ldots \nu_k}$ be the class of entire functions $f(z_1, \ldots, z_k)$ with the straight lines $(\nu_1, \ldots, \nu_k)$ for which

(1) $\| f(x_1, \ldots x_k) \|_p = \left(\int\limits_{-\infty}^{\infty} \cdots \int\limits_{-\infty}^{\infty} |f(x_1, \ldots x_k)|^p dx_1 \ldots dx_k \right)^{1/p} < +\infty.$

Theorem 1: Let $f(z_1, \ldots, z_k) \in W^{(p)}_{\nu_1 \ldots \nu_k}$ $(1 \leqslant p \leqslant 2)$; let $\gamma(z_1, \ldots, z_k)$ be regular in $|z_j| \geqslant \lambda$ $(1 \leqslant j \leqslant k)$. Let

(5) $I\left[f(z_1, \ldots, z_k) \right] = \frac{1}{(2\pi i)^k} \int\limits_{|\xi_1| = \lambda} \cdots \int\limits_{|\xi_k| = \lambda} f(\xi_1, \ldots, \xi_k) \gamma(\xi_1, \ldots, \xi_k) d\xi_1 \cdots d\xi_k$

Then

Card 1/3

5

Inequalities for the   66400
Certain/Finite Power Integral Functions of Many Variables SOV/20-128-6-4/63

(8) $\quad |I[f]| \leqslant (2\pi)^{-k/p} \| f \|_p \cdot \| \phi \|_p$,
where

(6) $\phi = \phi(u_1,..,u_k) = \dfrac{1}{(2\pi)^k} \displaystyle\int \cdots \int_{|\xi_1|=\lambda \quad |\xi_k|=\lambda} \exp\left[iu_1\xi_1 + ... + iu_k\xi_k\right] \delta(\xi_1,...,\xi_k) d\xi_1 \cdots$
$\cdots d\xi_k$

and

(7) $\quad \| \phi \|_p = \left(\displaystyle\int_{-\nu_1}^{\nu_1} \cdots \int_{-\nu_k}^{\nu_k} |\phi|^p \, du_1 .. du_k \right)^{1/p}$.

Several special cases and conclusions are given.

Theorem 2: Let $f(z_1,..,z_k) \in W^{(p)}_{\nu_1...\nu_k}$ and $1 \leqslant p < p' \leqslant \infty$, then

(14) $\quad \| f \|_{p'} \leqslant \begin{cases} \prod\limits_{j=1}^{k}\left(\dfrac{\nu_j}{\pi}\right)^{1/p - 1/p'} \| f \|_p & \text{for } 0 \leqslant p \leqslant 2 \\ \prod\limits_{j=1}^{k}\left(\dfrac{p\nu_j}{\pi}\right)^{1/p - 1/p'} \| f \|_p & \text{for } p > 2 \ . \end{cases}$

Card 2/3

Certain/Finite Power Integral Functions of Many Variables SOV/20-128-6-4/63

Inequalities for the   66400

Two further theorems give estimations of the norm $\| \ \|_p$, of a mixed derivative of $f \in W_{\nu_1 \cdots \nu_k}^{(p)}$ and the generalized modulus of continuity of f.

The author mentions S.N.Bernshteyn, and S.M.Nikol'skiy. There are 7 Soviet references.

ASSOCIATION: Institut matematiki i mekhaniki Akademii nauk Azerb.SSR (Institute of Mathematics and Mechanics AS Azerb.SSR)
PRESENTED: June 15, 1959, by M.V.Keldysh, Academician
SUBMITTED: June 11, 1959

Card 3/3

IBRAGIMOV, I.I.

Some problems in the theory of approximation of functions by
polynomials and integral functions. Trudy API   12:91-104 '60.
(Functions) (Polynomials)

88333

16.3300

AUTHOR: Ibragimov, I. I.

TITLE: Some Inequalities for Entire Functions of Exponential Type

TEXT: Let $W_\sigma^{(p)}$ ($p \geqq 1$) be the class of entire functions $f(z)$ of exponential type σ for which the integral

$$\| f(x) \|_p^p = \int_{-\infty}^{\infty} |f(x)|^p \, dx < \infty \qquad \text{exists.}$$

Theorem 1: If $f(z) \in W_\sigma^{(p)}$ and $1 \leqq p < p' \leqq \infty$, then

$$(1.2) \qquad \| f(x) \|_{p'} \leqq \begin{cases} \left(\frac{\sigma}{\pi}\right)^{\frac{1}{p} - \frac{1}{p'}} \| f(x) \|_p & (1 \leqq p \leqq 2), \\[2em] \left(\frac{p\sigma}{\pi}\right)^{\frac{1}{p} - \frac{1}{p'}} \| f(x) \|_p & (p > 2) \end{cases}$$

Card 1/5

88333

S/038/60/024/004/009/010XX
C 111/ C 333

Some Inequalities for Entire Functions of Exponential Type

Theorem 1^{*} : Obvious generalization of theorem 1 for an

$f(z_1, \ldots, z_n) \in W^{(p)}_{\sigma_1 \cdots \sigma_n}$.

To every entire function $f(z) = \frac{1}{\sqrt{2\pi}} \int_{-\sigma}^{\sigma} e^{izt} \varphi(t)dt$ there corresponds the conjugate function

$$\tilde{f}(z) = \frac{1}{\sqrt{2\pi}} \int_{-\sigma}^{\sigma} (i \ \text{sgn} \ u) \ e^{izu} \ \varphi(u)du .$$

Theorem 2: If $f(z) \in W^{(p)}_{\sigma}$ $(1 \leqq p \leqq z)$ and $\tilde{f}(z)$ is the conjugate function, then

$$(2.6) \quad \left| f(x + iy) \cdot \sin\alpha + \tilde{f}(x+iy) \cdot \cos\alpha \right| \leqq \left(\frac{\text{sh} \ p\sigma y}{\pi py}\right)^{1/p} \| f(x) \|_p$$

where α is real arbitrary.

Theorem 3: If $f(z) \in W^{(p)}_{\sigma}$ $(p \geqq 1)$ and $1 \leqq p < p' \leqq \infty$, then

Card 2/5

00333

S/038/60/024/004/009/010XX
C 111/ C 333

Some Inequalities for Entire Functions of Exponential Type

$$(2.9) \| f(x+iy) \|_{p'} \leqq \begin{cases} \left(\frac{sh\ p\sigma y}{\pi p y}\right)^{1/p - 1/p'} e^{\frac{p\sigma}{p'}|y|} \| f(x) \|_p & (1 \leqq p \leqq 2) \\ \\ \left(\frac{sh\ p\sigma y}{\pi y}\right)^{1/p - 1/p'} e^{\frac{p\sigma}{p'}|y|} \| f(x) \|_p & (p > 2 \end{cases}$$

Theorem 4: If $f(z) \in W_\sigma^{(p)}$ $(1 \leqq p \leqq 2)$ then

$$(3.2) \left| f^{(k)}(x+iy) \sin\alpha + \tilde{f}^{(k)}(x+iy) \cos\alpha \right| \leqq \left[\frac{\sigma ch\ p\sigma y}{\pi(kp+1)} \right]^{1/p} \cdot \sigma^k \| f(x) \|_p$$

where α is arbitrary real.

Theorem 5: If $f(z) \in W_\sigma^{(p)}$ $(1 \leqq p \leqq 2)$, then

$$(4.6) \left| f(x+iy) e^{-i\omega} + f(x-iy) e^{i\omega} \right| 2\left(\frac{\sigma}{\pi}\right)^{1/p} (ch^2 \sigma y - \sin^2 \omega)^{1/2} \| f(x) \|_p,$$

where ω is arbitrary real.
Card 3/5

88333
S/038/60/024/004/009/010XX
C 111/ C 333

Some Inequalities for Entire Functions of Exponential Type

Theorem 6: If $f(z) \in W_\sigma^{(p)}$ $(1 \leq p \leq 2)$ and $1 \leq p < p' \leq \infty$, then

$$(4.9) \quad \left| f(x+iy)e^{-i\omega} + f(x-iy)e^{i\omega} \right|_{p'} \leq 2\left(\frac{\sigma}{\pi}\right)^{\frac{1}{p} - \frac{1}{p'}} (ch^2 \sigma y - sin^2 \omega)^{\frac{1}{2}} \left| f(x) \right|_p$$

Theorem 7: If $f(z) \in W_\sigma^{(p)}$ $(1 \leq p \leq 2)$ and k is an arbitrary natural number, then

$$\max_{-\infty < x < \infty} \left| f^{(k)}(x+iy)e^{-i\omega} + f^{(k)}(x-iy)e^{i\omega} \right| \leq$$

$$(5.1) \quad \leq 2\left[\frac{\sigma}{\pi(kp+1)} \right]^{\frac{1}{p}} \cdot \sigma^k (ch^2 \sigma y - sin^2 \omega)^{\frac{1}{2}} \left\| f(x) \right\|_p$$

where ω is real arbitrary.

Card 4/5

68333

S/038/60/024/004/009/010XX
C 111/ C 333

Some Inequalities for Entire Functions of Exponential Type

The author mentions: S. N. Bernshteyn, N. J. Akhiyezer, S. M.
Nikol'skiy, A. S. Dzhafarov, M. G. Kreyn and A. F. Timan.

There are 10 references: 7 Soviet, 1 Swedish, 1 English and
1 Dutch.

ASSOCIATION: Institut matematiki i mekhaniki AK nauk Azerbaydzhanskoy
SSR (Institute of Mathematics and Mechanics of the
Academy of Sciences Azerbaydzhanskaya SSR)

PRESENTED: by M. V. Keldysh, Academician

SUBMITTED: March 16, 1959

Card 5/5

16.4100

S/039/60/052/003/006/007
C 111/ C 333

AUTHOR: Ibragimov, I. I. (Baku)

TITLE: Some Inequalities for Algebraic Polynomials

PERIODICAL: Matematicheskiy sbornik, 1960, Vol.52, No.3, pp.863-878

TEXT: Let

$$(0.3) \quad J(Q_n) \int_{-1}^{1} Q_n(t) \gamma(t) \, dt.$$

Theorem 1: If $Q_n(x)$ is an arbitrary algebraic polynomial of degree n
and $\gamma(x)$ a function integrable on $[-1,1]$, the Fourier-Legendre
coefficients of which are d_k (k = 0, 1, 2, ...), then for $1 \leq p \leq 2$
it holds:

$$(2.1) \quad |J(Q_n)| \leq n^{\frac{1}{p}-\frac{1}{2}} \left(\sum_{k=0}^{n} |d_k|^{p} \right)^{1/p} \|Q_n\|_{p} \, (1+o(1)),$$

where

$$\|Q_n\|_{p} = \left(\int_{-1}^{1} |Q_n(t)|^{p} dt \right)^{1/p}.$$

Card 1/8

85229

S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

Corollary 1: If $Q_n(x)$ is an arbitrary algebraic polynomial of degree n, then it is

1.) $$\max_{-1 \le x \le 1} |Q_n(x)| \le \begin{cases} \left(\dfrac{2}{p+2}\right)^{1/p} n^{2/p} \|Q_n\|_p (1+o(1)), & 1 \le p \le 2 \quad (3.1) \\[2ex] \left(\dfrac{2}{3}\right)^{1/p} (pn)^{2/p} \|Q_n\|_p (1+o(1)), & p > 2 \quad (3.2) \end{cases}$$

2.) for integer, even $p \ge 2$ and $|x| < 1$ it is

$$(3.3) \quad |Q_n(x)| \le \left(\frac{\pi}{2}\right)^{1/p} (1-x^2)^{-1/p} n^{1/p} \|Q_n\|_p \cdot (1+o(1)).$$

Corollary 2: If $R_n(x)$ is an arbitrary algebraic polynomial and [a,b] finite, then it is

Card 2/8

85229

S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

1.) $\max\limits_{a \leq x \leq b} |R_n(x)| \leq \begin{cases} (\frac{2}{2+p})^{1/p} n^{2/p} (\frac{2}{b-a})^{1/p} \|R_n\|_{p(a,b)}^{(1+o(1))}, & (3.10) \\ & 1 \leq p \leq 2 \\ (\frac{2}{3})^{1/p} (pn)^{2/p} (\frac{2}{b-a})^{1/p} \|R_n\|_p^{(1+o(1))}, & (3.11) \\ & p > 2 \end{cases}$

2.) (3.12) $|R_n(x)| \leq (\frac{\pi}{2})^{1/p} [(b-x)(x-a)]^{-1/p} (\frac{2}{b-a})^{-1/p} n^{1/p} \cdot$

$\cdot \|R_n\|_p^{(1+o(1))} \quad a < x < b,$

where

$$\|R_n\|_p = \left(\int_a^b |R_n(x)|^p \, dx \right)^{1/p} \cdot$$

Corollary 3: If $Q_n(x)$ is an arbitrary algebraic polynomial of degree

Card 3/ 8

85229
S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

n, then it is

(3.13) 1.) $\max\limits_{-1 \leq x \leq 1} | Q_n'(x) | \leq (\frac{5}{5p+2})^{1/p} n^{2+2/p} \| Q_n \|_p (1+o(1))$

(3.13*) 2.) $| Q_n'(x) | \leq (\frac{2}{3p+2}) \frac{n^{1+\frac{2}{p}}}{\sqrt{1-x^2}} \cdot \| Q_n \|_p (1+o(1))$
$|x| < 1$

Corollary 4: If b_0, $b_1, \ldots,$ b_n are the <u>Fourier-Legendre coefficients</u>
of the polynomial $Q_n(x)$ and if c_0, $c_1, \ldots,$ c_n are arbitrary complex
numbers, then for $1 \leq p \leq 2$ it is

$$| \sum_{k=o}^{n} c_k b_k | \leq n^{1/p-1/2} (\sum_{k=o}^{n} | c_k |^p)^{1/p} \| Q_n \|_p (1 \cdot o(1)).$$

Theorem 2: If Q (x) is an arbitrary algebraic polynomial of degree n
Card 4/8

85229
S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

and $1 \leq p < q \leq \infty$, then it is

$\| Q_n \|_q \leq \begin{cases} (\frac{2}{p+2})^{1/p-1/q} n^{2(1/p-1/q)} \| Q_n \|_p (1+o(1)), 1 \leq p \leq 2 & (4.1) \\ \\ (\frac{2}{3})^{1/p-1/q} (pn)^{2(1/p-1/q)} \| Q_n \|_p (1+o(1)), p > 2 & (4.2). \end{cases}$

Theorem 3: If $Q_n(x)$ is an arbitrary algebraic polynomial of degree n,
$1 \leq p < q \leq \infty$ and $[a, b]$ finite, then it is

$\| Q_n(x) \|_q \leq B_{p,q}(a,b) n^{2(1/p-1/q)} \| Q_n \|_p (1+o(1))$, where

$\| Q_n \|_p = (\int_a^b | Q_n(x) |^p dx)^{1/p}$ and

Card 5/8

85229

S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

$$
B_{p,q}(a,b) = \begin{cases} \left[\dfrac{4}{(b-a)(p+2)} \right]^{1/p - 1/q} & , \ 1 \leq p \leq 2 \\[4mm] \left[\dfrac{2p^2}{b-a} \right]^{1/p - 1/q} & \ p > 2 \ . \end{cases}
$$

Let

$$
(0.4) \quad E_n(f)_p = \min_{(Q_n)} \left(\int_{-1}^{1} \left| f(x) - Q_n(x) \right|^p \, dx \right)^{1/p} .
$$

Theorem 4: Let the $f(x) \in L_p(-1,1)$ be so that

$$
(5.1) \quad \sum_{n=1}^{\infty} n^{2\left(\frac{1}{p} - \frac{1}{q}\right) - 1} E_n(f)_p < +\infty \text{ where } 1 \leq p < q \leq \infty .
$$

Card 6/ 8

85229

S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

Then it is

$$(5.2) \quad E_n(f)_q \leq A_{p,q} \left\{ n^{2(\frac{1}{p} - \frac{1}{q})} E_n(f)_p + 4^{1/p-1/q} \sum_{\nu = n+1}^{\infty} \nu^{2(\frac{1}{p} - \frac{1}{q}) - 1} E_\nu(f)_p \right\}$$

where

$$A_{p,q} = \begin{cases} 2(\frac{8}{p+2})^{1/p-1/q} & \text{for } 1 \leq p \leq 2 \\ 2(2p)^{2(\frac{1}{p} - \frac{1}{q})} & \text{for } p > 2 . \end{cases}$$

The author mentions: A. A. Markov, S. N. Bernshteyn, N. K. Bari, G. K. Lebed', S. M. Nikol'skiy, A. A. Konyushkov.

Card 7/8

85229
S/039/60/052/003/006/007
C 111/ C 333

Some Inequalities for Algebraic Polynomials

There are 16 references: 11 Soviet, 4 American and 1 Polish.

ASSOCIATION: Institut matematiki i mekhaniki AN Azerb. SSR
(Institute of Mathematics and Mechanics of the
Academy of Sciences Azerbaydzhanskaya SSR)

SUBMITTED: March 20. 1959

Card 8/8

IBRAGIMOV, I.I.

Extremum problems in the class of entire functions of several variables of finite power. Trudy Inst. mat. i mekh. AN Azerb. SSR 1:5-26 '61.   (MIRA 14:11)

(Functions, Entire)

IBRAGIMOV, I.I.; DZHAFAROV, A.S.

Evaluating a derivative of an entire function of finite degree.
Izv. AN Azerb. SSR. Ser. fiz.-mat. i tekh. nauk no.3:3-11 '61.
(MIRA 14:10)

(Functions, Entire)

IBRAGIMOV, I.I.; MAMEDOV, R.G.

Some inequalities for polynomials of a complex variable. Dokl.AN SSSR
138 no.3:526-528 My '61.   (MIRA 14:5)

1. Institut matematiki i mekhaniki AN AzerbSSR. Predstavleno
akademikom V.I.Smirnovym.
      (Inequalities (Mathematics)) (Polynomials)

IBRAGIMOV, I.I.; DZHAFAROV, A.S.

Certain inequalities for an integral function of a finite power and its derivatives. Dokl.AN SSSR 138 no.4:755-758 Je '61.
(MIRA 14:5)

1. Institut matematiki i mekhaniki AN AzerbSSR. Predstavleno akademikom V.I.Smirnovym.
(Inequalities (Mathematics)) (Functions, Entire)

IBRAGIMOV, I.I.; DZHAFAROV, A.S., red.; DOLGOV, V., red. izd-va;
        POGOSOV, V., tekhn. red.

    [Extremum properties of integral functions of finite order]
    Ekstremal'nye svoistva tselykh funktsii konechnoi stepeni.
    Baku, Izd-vo Akad. nauk Azerbaidzhanskoi SSR, 1962. 314 p.
                                            (MIRA 16:1)
            (Functions, Entire)

IBRAGIMOV, I. I.

Experimental Determination of the Coefficient of Pulp Discharge Through
a Nozzle p. 141

TRANSACTIONS OF THE 2ND REPUBLICAN CONFERENCE ON MATHEMATICS AND MECHANICS
(TRUDY VTOROY RESPUBLIKANSKOY KONFERENTSII PO MATEMATIKE I MEKHANIKE), 184
pages, published by the Publishing House of the AS KAZAKH SSR, ALMA-ATA, USSR, 1962

IBRAGIMOV, I. I.

"Some external peoblems for linear operators in the class of entire functions of finite order."

report submitted at the Intl Conf of Mathematics, Stockholm, Sweden, 15-22 Aug 62

IBRAGIMOV, I.I.; KASHKAROV, V.P.

      Laminar boundary layer of a fluid of variable viscosity.
      Trudy Sekt. mat. i mekh. AN Kazakh. SSR 2:161-168 '63.
                                   (MIRA 16:10)

IBRAGIMOV, I.I.; DZHAFAROV, A.S.

Evaluation of a differential operator in the class of integral functions of finite power. Dokl. AN SSSR 152 no.3:533-536 S '63.
(MIRA 16:12)

1. Institut matematiki i mekhaniki AN AzerbSSR. Predstavleno akademikom V.I.Smirnovym.

IBRAGIMOV, I.I.

    Evaluating the norm of a linear operator in the class of integral
functions of finite power. Dokl. AN SSSR 152 no.5:1054-1057 O
'63.   (MIRA 16:12)

1. Institut matematiki i mekhaniki AN AzerbSSR. Predstavleno
akademikom V.I.Smirnovym.

IBRAGIMCV,I.I.;KASHKAHCV,V.P.;LUK'YANCV,A.P.(Alma-Ata)

"The boundary layer on a moving continous flat surface"

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

IBRAGIMOV, I.I.; TURGUNOV, S.

Use of digital computers in a geodesic prob em. Izv. AN UzSSR
Ser. tekh. nauk 8 no.6:78-80 '64.

(MIRA 18:3)

1. Institut mekhaniki AN UzSSR i Vychislitel'nyy tsentr AN UzSSR.

IBRAGIMOV, I.I.

Inequalities for integral functions of finite power in the metric of a generalized Lebesgue space. Dokl. AN Azerb. SSR 20 no.4:13-18 '64. (MIRA 17:7)

1. Institut metamatiki i mekhaniki AN AzSSR.

L 2088-65   EWT(d)   IJP(c)/RAEM(t)

ACCESSION NR: AP4048311   8/0020/64/157/002/0258/0261

AUTHOR: Ibragimov, I. I.; Mamedkhanov, D. I.

TITLE: Relationship between norms with the weights of a finite-order integral
function on straight lines parallel to the real axis

SOURCE: AN SSSR. Doklady*, v. 157, no. 2, 1964, 258-261,

TOPIC TAGS: integral function, finite order integral function

ABSTRACT: In an earlier study by I. I. Ibragimov (Ekstremal'ny*ye svoystva
tsely*kh konechnoy stepeni, Baku, 1962) a similar investigation for the classes
of finite-order integral functions labeled B (γ) and W (p, φ) was made.
In the present article another class of such integral function, $\mathcal{G}$ (p, φ)
is studied. Four theorems are developed in the article, one for the class
W (p, φ) and three for the new class of functions. The theorems concern the
existence of certain inequalities which hold for the classes in question.

Card 1/2

L 2088-65
ACCESSION NR: AP4048311

ASSOCIATION: Institut matematiki i mekhaniki Akademii nauk AzerbSSR (Institute of Mathematics and Mechanics, Academy of Sciences, AzerbSSR)

SUBMITTED: 17Feb64   ENCL: 00   SUB CODE: MA

NO REF SOV: 004   OTHER: 001   JPRS

Card 2/2

MUMINOV, I.M., akademik, otv. red.; DZHAMALOV, O.B., zam; otv.
red.; KABULOV, V.K., zam. otv. red.; ABDUGANIYEV; A.A.,
red.; IBRAGIMOV, I.I., red.; UBAYDULLAYEV, I.Kh., red.;
KISELEVA, V.N., red.

[Application of mathematical methods and electronic
computers in economic research; conference materials] Pri-
menenie matematicheskikh metodov i EVM v ekonomicheskikh
issledovaniiakh; materialy konferentsii. Tashkent, Izd-vo
"Nauka," UzSSR, 1965. 277 p.   (MIRA 18:5)

1. Nauchnaya konferentsiya po voprosam primeneniya matema-
ticheskikh metodov i EVM v ekonomicheskikh issledovaniyakh,
Tashkent, 1963. 2. Chlen-korrespondent AN UzbekSSR (for
Kabulov). 3. AN UzbekSSR (for Muminov).

IBRAGIMOV, I.I.; KASHKAROV, V.P.; LUK'YANOV, A.T.

Boundary layer on a moving continuous flat surface. Izv. vys. ucheb. zav.; av. tekh. 8 no.2:18-25 '65.   (MIRA 18:5)
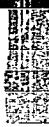
DZHAFAROV, A.S.; IBRAGIMOV, I.I.

Some inequalities with weight for entire functions of finite
power. Usp. mat. nauk 19 no.6:147-154 N-D '64 (MIRA 18:2)

L 00540-66   EWT(d)/T   IJP(c)
ACCESSION NR: AP5023875   UR/0042/64/019/006/0147/0154

AUTHOR: Dzhafarov, A. S.; Ibragimov, I. I.

TITLE: Some weighted inequalities for integral functions of finite degree

SOURCE: Uspekhi matematicheskikh nauk, v. 19, no. 6, 1964, 147-154

TOPIC TAGS: integral function, function analysis

ABSTRACT: Exact inequalities of S. N. BERNSHTEIN and S. M. NIKOL'SKIY are proved
for integral functions of finite degree in terms of norms containing a weight.
Orig. art. has 39 formulas.

ASSOCIATION: none

SUBMITTED: 20Feb60   ENCL: 00   SUB CODE: MA

NR REF SOV: 009   OTHER: 000   JPRS

Card 1/1

IBRAGIMOV, I.I., otv. red.; DZHAFAROV, A.S., red.; MAMEDOV, R.G.,
            red.; LABSKER, L.G., red.

[Studies on the current problems in the constructive
theory of functions] Issledovaniia po sovremennym proble-
mam konstruktivnoi teorii funktsii. Baku, Izd-vo AN
Azerbaidzhanskoi SSR, 1965. 637 p.   (MIRA 19:1)

1. Vsesoyuznaya konferentsiya po konstruktivnoy teorii
funktsiy, 2d, Baku, 1962.

IBRAGIMOV, I.I., red.

[Studies on the theory of differential equations and
the theory of functions] Issledovaniia po teorii differen-
tsial'nykh uravnenii i teorii funktsii. Baku, Izd-vo AN
Azerbaidzh. SSR, 1965. 164 p.   (MIRA 18:10)

1. Akademiya nauk Azerbaydzhanskoy SSR, Baku. Institut ma-
tematiki i mekhaniki.

ACCESSION NR: AP5012061   UR/0147/65/000/002/0018/0025

The authors give a brief review of some studies into the origin and develop

Card   2/3

IBRAGIMOV, I.I.; MALYSHEV, A.V.; PETROV, V.V.

IUrii Vladimirovich Linnik, 1915- ; on his 50th birthday.
Usp. mat. nauk 20 no.2:221-236 Mr-Ap '65.

(MIRA 18:5)

IBRAGIMOV, I.I.; ALIYEV, R.M.

Bes. quadrature formulae for certain classes of functions. Dokl. AN SSSR 162 no.1:23-25 My '65.   (MIRA 18:5)

1. Institut matematiki i mekhaniki AN AzerSSR. Submitted November 16, 1964.

L 8885-66   BXT/EWT(d)/EWP(1)   IJP(c)   GG/JXT(BF)/BB

ACC NR: AP5025314   SOURCE CODE: UR/0193/65/000/009/0042/0044

AUTHOR: Ibragimov, I.I.; Garayev, K.G.; Niyazov, F. Kh.   63

ORG: NONE   B

TITLE: Processing information in complex alphameric texts

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 9, 1965, 42-44

TOPIC TAGS: data readout, information processing, computer input unit, computer
technology, punched paper tape

ABSTRACT: The authors describe a printout unit and a readout monitor produced by the
Kazan Printer Factory (Kazanskiy zavod pishushchikh ustroystv). This equipment is
designed for handling information in complex alphameric texts. The PUVVI-92 printer
is designed for feeding alphameric data into a computer while simultaneously printing the
data sequentially on a form, and also for printing out information from computer signals.
The design and operation of the device are briefly described. The printout unit is a 46-
key typewriter with 31 Russian and 13 Latin letters, 10 digits and 38 auxiliary symbols.
The device prints 160 symbols per line at 8 — 9 symbols per second. The unit prints up
to three simultaneous copies, has seven control keys, measures 665 x 500 x 390 mm and
Card 1/2   UDC 681.142.004.14

weighs 28 kg. The supply voltage is 50 v. The KSU readout monitor is a punched tape
machine for making and monitoring punched tapes for computer input and simultaneously
printing out the information on a form in various types of code. The machine can be used
for comparison of punched tapes. When the tapes do not coincide, the machine automatically
shuts itself off and switches on a light to signal the error. The design and operation of the
unit are briefly described. The machine operates at 10 lines per second and has 55 different
symbols including the complete Russian alphabet, digits from 0 to 9 and various special
signs. The unit operates from +5 to +50°C at a relative humidity of 65 ± 15%. Orig. art.
has: 2 figures.

SUB CODE: 09 / SUBM DATE: none

Card 2/2

L 34052-66   EWT(d)/T   IJP(c)

ACC NR: AP6025469

SOURCE CODE: UR/0233/65/000/005/0013/0022

AUTHOR: Ibragimov, I. I.; Gamidov, A. A.

ORG: none

TITLE: Mixed approximations of the functions of a complex variable in opposite angles by means of integral functions [This paper was presented at the 7th All-Union Conference on the Theory of the Functions of Complex Variables, held in Rostov-on-Don in September 1963.]

SOURCE: AN AzerbSSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk, no. 5, 1965, 13-22

TOPIC TAGS: complex number, integral function, approximation, mathematic conference, polygonometry, mathematic space

ABSTRACT: The regions of the opposite angles are designated and defined as are the set of functions, the best mixed approximation of the set of functions, and the mixed continuity modulus of the set of functions. The relationship between the approximation and modulus is established in the form of an inequality. Direct approximation theorems are proved for the set of functions by means of integral functions in terms of the metrics of the angle spaces. Orig. art. has: 30 formulas. [JPRS: 35,884]

SUB CODE: 12, 05 / SUBM DATE: none / ORIG REF: 005 / OTH REF: 001

Card 1/1

IBRAGIMOV, I.I.; GAMIDOV, A.A.

Mixed approximations of functions of complex variables in
opposite angles by means of integral functions. Dokl. AN SSSR
166 no.1:23-25 Ja '66.   (MIRA 19:1)

1. Institut matematiki i mekhaniki AN AzerSSR. Submitted May 4,
1965.

L 14715-66   FWT(d)/T   IJP(c)

ACC NR: AP6004082   SOURCE CODE: UR/0020/56/166/002/0278/0280

AUTHORS: Ibragimov, I. I.; Rymarenko, B. A.

ORG: none

TITLE: Conditionally extremal problems in the class of entire functions of finite degree

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 278-280

TOPIC TAGS: complex variable, extremal function

ABSTRACT: The upper and lower bounds are found for the quantity

$$|\varphi_\sigma^\cdot|_{L_p} = \inf_{\varphi_\sigma \in \overset{+}{W}_\sigma^{(p)}} |\varphi_\sigma|_{L_p}. \tag{1}$$

where

$$|\varphi_\sigma|_{L_p} = \left(\int_{-\infty}^{\infty} [\varphi_\sigma(x)]^p dx \right)^{1/p} < \infty \tag{2}$$

is the norm of the class $\overset{+}{W}_\sigma^{(p)}$ ($p \geq 1$) of real entire functions of degree σ which are nonnegative on the real axis. The existence of extremal functions in $\overset{+}{W}_\sigma^{(p)}$ subject to linear functional restrictions is shown when there are extremal

Card 1/2   UDC: 517:512.6

L 14715-66

ACC NR: AP6004082

solutions in $W_\sigma^{+(1)}$ and $W_\sigma^{+(\infty)}$. This paper presented by Academician S. N. Bernshteyn on 7 May 1965. Orig. art. has: 19 formulas.

SUB CODE: 12/ SUBM DATE: 20Apr65/ ORIG REF: 005

BVK
Card 2/2

L 06411-67   EWT(d)   IJP(o)

ACC NR: AP6023630   SOURCE CODE: UR/0199/66/007/002/0285/0292

AUTHOR: Ibragimov, I. I.; Nasibov, F. G.

ORG: none

TITLE: Some extremal problems for linear operators in a class of entire functions of finite degree

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 7, no. 2, 1966, 285-292

TOPIC TAGS: linear operator, entire function

ABSTRACT: If $W_\sigma^{(p)}[M]$ is a class of entire functions $f(z)$ of finite degree σ satisfying the condition

$$\|f\|_p^p = \int_{-\infty}^{\infty} |f(x)|^p\,dx \leqslant M^p < +\infty \quad (p \geqslant 1),$$

and $B_\sigma[M]$ is a class of entire functions $f(z)$ of finite degree σ, real on the real axis and satisfying the condition

$$\sup_{-\infty<x<\infty} |f(x)| \leqslant M < +\infty,$$

and if $\mathfrak{M}$ is a class of functions $K(z)$ which are regular in a region $|z| \geqslant \lambda$ for which the function

$$\Phi(t) = \frac{1}{2\pi i} \int_{|\xi|=\lambda} e^{i\xi t} K(\xi)\,d\xi$$

Card 1/2   UDC: 517.53

L 06411-67

ACC NR: AP6023630

belongs to L_p $(-\sigma,\sigma)$ for any $\lambda(0<\lambda<\infty)$ and $p \geq 1$, the following integral operator is studied:

$$U[f; v] = \frac{1}{2\pi i} \int_{|\xi|=\lambda} f(\xi + v) K(\xi) d\xi,$$

where v is a real parameter. The problem solved is that of finding

$$\|U[f; v]\| = \sup_{f \in w_\sigma^{(p)}(1)} \left(\sup_{-\infty < v < \infty} |U[f; v]| \right)$$

for a given $K(z) \in \mathfrak{M}$, where $1 \leq p < 2$. Orig. art. has: 61 formulas.

SUB CODE: 12/   SUBM DATE: 12Jan65/   ORIG REF: 007

Card 2/2

IBRAGIMOV, I.I.

      Coefficient of the flow of clay mortar through openings in
      a structure. Izv. AN Kazakh. SSR. Ser. mat. i mekh. no.10:
      70-71 '62.   (MIRA 15:9)
                       (Hydrodynamics)

IBRAGIMOV, I. I.

"Data on the Pharmacology of Solusurmin." Cand Med Sci, Acad Sci Kazakh SSR, Inst of Physiology , Samarkand, 1955. (KL, No 12, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

L 24348-66   EWT(1)/EWP(m)/T-2/EWA(1)   WW/JXT(CZ)

ACC NR: AT6006423   SOURCE CODE: UR/3149/65/000/002/0165/0172

AUTHOR: Ibragimov, I. I.; Ustimenko, B. P.

ORG: None

TITLE: Investigation of the aerodynamics of a rotational jet along a cylindrical wall in a secondary flow

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy teploenergetiki i prikladnoy teplofiziki, no. 2, 1965, 165-172

TOPIC TAGS: secondary flow, fluid flow, flow analysis, rotational flow, nozzle flow

ABSTRACT: The authors present results of an experimental investigation of the aero-dynamics of a turbulent rotational jet flowing along a cylindrical wall in a secondary flow. This work is a part of the aerodynamic investigations of a semi-boundary layer flow conducted at Thermal Physics Laboratory, Kazakh Scientific-Research Institute of Power Engineering (laboratoriya teplofiziki Kazakhskogo nauchno-issledovatel'skogo instituta energetiki). The data obtained are compared with data for nonrotational jets. The jets were studied at different values of the parameters m and n ($0 \leqslant m \leqslant 0.4$; $0.086 \leqslant n \leqslant 0.31$). The cylindrical rod was 45 mm in diameter and the nozzle was 2.5 mm wide. A self-similarity of the velocities profiles and static pressures was obtained for the parameters
Card 1/2

L 24348-66

ACC NR: AT6006423   /

m and n studied. The existence of similarity between the profile of axial and the tangential
velocity components is shown. It is established that the existence of jet rotation leads to
a faster damping of the jet. The boundaries of the rotational jet are appreciably wider
than those of the nonrotational jet at identical values of the parameter m. The effect of
the parameters m and n on the pattern of jet flow is analyzed. The conclusions obtained
should be checked in an apparatus with a wider nozzle in order to exclude the scale
effect. The fundamental aims of further investigations of the flow under investigation
is the study of its turbulent structure, heat transfer processes, and a development of
methods of calculation. Authors express their gratitude to S. I. Isatayev who recommend-
ed the employment of a solution used in the measurements. Orig. art. has: 5 figures and
1 table.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 005

Card 2/2

L 30063-66   ERT(m)/EWT(l)/EWT(l)   IJP(c)   WW

ACC NR: AP6023750   SOURCE CODE: UR/3149/66/000/003/0124/0134

AUTHOR: Ustimenko, B. M.; Ibragimov, I. I.; Burminskiy, E. P.

ORG: none

TITLE: Experimental study of temperature profiles in a swirling semiconfined turbulent jet in a concurrent flow

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy teploenergetiki i prikladnoy teplofiziki, no. 3,1966, 124-134

TOPIC TAGS: incompressible liquid, turbulent jet, temperature profile, velocity profile, concurrent flow, semiconfined turbulent jet

ABSTRACT: Results are presented of an experimental study of the temperature distribution in a swirling turbulent jet of an imcompressilbe liquid propagating along a cylindrical wall both in the presence of a concurrent flow and without it. Both symmetric and asymmetric boundary conditions are considered. The effect of the parameter $m = u_f/u_j$ (where u_f and u_j refer to the velocity of the main flow and the jet, respectively) and of the vortex on the jet boundaries, temperature profiles, and the jet attenuation intensity was determined using the previously described experimental unit (Ibragimov, I. I., Ustimenko, B. P., Izvestiya Akademii Nauk Kaz. SSR, seriya fiz.-mat.nauk, 1964, no. 2) with swirl vanes. A comparison of the experimental relative maximum temperature profiles, the excess temperature profiles,

Card   1/2

L 38843-66

ACC NR: AP6023750   O

and the   velocity.   profiles   in   various   cross   sections
of the jet   showed the presence of flow self-modelling and a similarity in the excess
temperature and velocity profiles in the jet cross sections. With increasing
m parameter, the maximum excess temperature in the jet dropped rapidly and the
relative thermal boundaries of the jet underwent contraction. The presence of a
vortex leads to an expansion of the jet boundaries. Orig. art. has: 1 table and
11 figures.   [PS]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 007/

Card 2/2

L 36857-66   EWP(m)/EWT(1)/EWT(m)

ACC NR: AT6023751   SOURCE CODE: UR/3149/66/000/003/0135/0147

AUTHOR: Ustimenko, B. P.; Ibragimov, I. I.   *59*

B+1

ORG: none

TITLE: Calculation of the aerodynamics of turbulent, swirling jets developing along a cylindrical wall in a cocurrent flow

SOURCE: Alma-Ata. Kazakhskiy nauchno-issledovatel'skiy institut energetiki. Problemy teploenergetiki i prikladnoy teplofiziki, no. 3, 1966, 135-147

TOPIC TAGS: incompressible liquid, turbulent jet, jet aerodynamics, jet flow, TURBULENT FLOW, AERODYNAMICS

ABSTRACT: Equations are derived and solved for calculating the aerodynamics of turbulent, semiconfined swirling flows of an incompressible liquid propagating along a cylindrical rod. The following two cases are considered: 1) a submerged, swirling turbulent jet propagating along a cylindrical wall; and 2) a swirling turbulent jet propagating along a cylindrical wall in a cocurrent flow (see Fig. 1). The

Card 1/2

L 36857-66

ACC NR: AT6023751
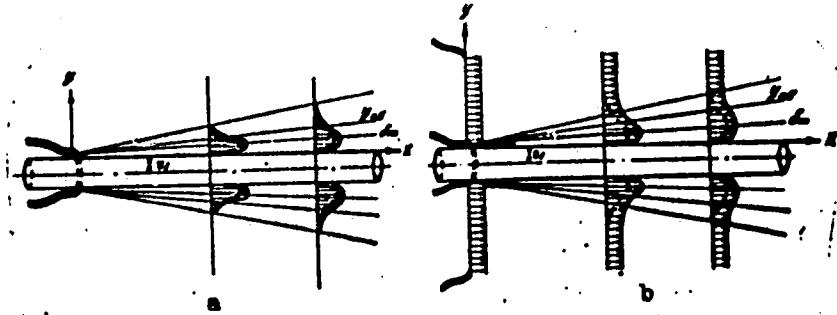
Fig. 1. Flow diagram

a - Submerged turbulent, swirling, semiconfined jet;
b - turbulent, swirling, semiconfined jet in a cocurrent flow.

dimensionless axial and tangential velocity profiles calculated by the derived equations are in close agreement with published experimental data. Orig. art. has: 7 figures and 44 formulas.   [PS]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001
ATD PRESS:5040

Card 2/2

L 36017-66   EWT(d)/T   IJP(c)

ACC NR: AP6027328   SOURCE CODE: UR/0020/66/168/003/0516/0518

AUTHOR: Ibragimov, I. I.; Agamaliyev, Ch. G.

ORG: none

TITLE: Completeness of the system of analytic functions

SOURCE: AN SSSR. Doklady, v. 168, no. 3, 1966, 516-518

TOPIC TAGS: analytic function, interpolation

ABSTRACT: The article concerns the completeness of the system of functions $\left\{ z^{n_p(n)}(\lambda_n z) \right\}$ by means of the ABEL-GONCHAROV interpolation formula in the case for which $F(z)$ is any entire analytic function and the sequence of complex numbers $\{\lambda_n\}$ is such that

$$|\lambda_0| \leqslant |\lambda_1| \leqslant \ldots \leqslant |\lambda_n| \leqslant \ldots; \quad \lim_{n \to \infty} |\lambda_n| = \infty.$$

It is shown that the same interpolation method can be used to prove a number of previously known results, and it is thereby shown that interpolation theory methods are effective for investigating the completeness of a system of analytic functions, as was first noted by A. O. Gel'fond. This paper was presented by Academician S. N. Bernshteyn on 4 September 1965. Orig. art. has: 13 formulas.

SUB CODE: 12 / SUBM DATE: 18May65 / ORIG REF: 006   [JPRS: 36,866]
Card 1/1 mLP   UDC: 517.5

KUZNETSOV, V.V.; KARABALAYEV, K.K.; IBRAGIMOV, I.M.

Fossil land turtle of Kirghizia. Mat. po geol. Tian'-Shania
no.4:135-146 '64.   (MIRA 17:10)

YEVDOKIMOV, E.S., vetvrach; POLYANSKIY, P.A., vetfel'dsher; IBRAGIMOV,
I.N., inzh.

Proposals for improving the Komarov disinfection apparatus.
Veterinariia 35 no.8:82 Ag '58.   (MIRA 11:9)

1. Turkmenskaya respublikanskaya vetbaklaboratoriya (for Yevdo-
kimov, Polyanskiy). 2. Ashkhabadskiy tekhnikum mekhanizatsii
sel'skogo khozyaystva (for Ibragimov).
          (Spraying and dusting equipment)

IBRAGIMOV, I.N., assistent

Effect of various doese of ultraviolet rays on skin reactivity.
Med. zhur. Uzb. no.6:43-46 Je '60.   (MIRA 15:2)

1. Iz kliniki koshnykh i venericheskikh boleaney (zav. - prof.
K.A.D'Yakov) Samarkandskogo gosudarstvennogo meditsinskogo instituta
imeni I.P.Pavlova.
          (SKIN—RADIOGRAPHY)   (ULTRAVIOLET RAYS—PHYSIOLOGICAL EFFECT)

IBRAGIMOV, I.N.

Results of heliotherapy under jalousie screens on patients with pruritic dermatosis and psoriasis. Med. zhur. Uzb. no.10:50-52 '61. (MIRA 14:10)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - dotsent S.Suleymanov) Samarkandskogo meditsinskogo instituta i Instituta kurortologii i fizioterapii imeni N.A.Semashko.
             (SUN BATHS)   (PSORIASIS)   (SKIN—DISEASES)

IBRAGIMOV, I.N., assistent

Change in the skin temperature in heliotherapy for eczema.
Nauch. trudy SamMI 23:131-134 '63   (MIRA 17:3)

Photosensitivity of the skin in eczema. Ibid. 135-138

1. Iz Samarkandskogo meditsinskogo instituta i Uzbekskogo
instituta kurortologii i fizioterapii.

IBRAGIMOV, I.N.

Some data -- helioaerotherapy for eczema and neurodermatitis
under E A.Cherniavskii's jalousies. Sbor.trud.Uz.gos.nauch.-
issl. inst. kur. i fizioter. 17:159-162 '62.   (MIRA 17:7)

AGALAROV, Ch.S.; ALESKEROV, S.A.; GEL'MAN, M.M.; GINZBURG, M.Ya.; IBRAGIMOV,
    I.S.; ZUL'FUGARZADE, E.; MAMEDLI, E.M.

"Information converter for electronic digital computers" by E.I.
Gitis. Reviewed by Ch.S. Agalarov and others. Izm.tekh. no.7:
64 Jl '62.   (MIRA 15:6)
            (Electronic digital computers)
                    (Gitis, E.I.)

ALIKIN, R.I.; GORDIYENKO, P.I.; BESPROZVANNYY, I.G.; ZHIBTSOV, P.P.;
    ZOLOTAREV, P.A.; ZUSMANOVSKAYA, L.L.; IBRAGIMOV, K.G.; KOZOREZOV,
    M.A.; KOKOREV, A.T.; KUPRIANOV, Yu.V.; KUROCHKA, A.L., kand.
    tekhn. nauk; LITVINOVA, L.M.; LOZANOVSKIY, A.L., kand. tekhn.
    nauk; MAVDRIKOV, F.I.; MAKHAN'KOV, L.V.; PUKALOV, V.I.; RAYLYAN,
    A.F.; SVERDLOV, V.Ya.; SKLYAROV, B.S.; SOLOV'YEV, K.M., kand.
    tekhn. nauk; STUKALKIN, A.N.; SUROVIKOV, A.A.; TIKHONOV, N.G.;
    SHTEPENKO, P.K.; YANOV, V.P.

[VL80 electric locomotive.] Electrovoz VA80. Novocherkassk. Nauchno-
issledovatel'skii institut elektrovozostroeniia. Sbornik nauchnykh
trudov, vol. 5)   (MIRA 18:5)

IBRAGIMOV, Kh.

Studying the decisions of the 22d Congress. Prof.-tekh. obr.
19 no.5:20-21 My '62.   (MIRA 15:5)

1. Zamestitel' nachal'nika Glavnogo upravleniya professional'no-
tekhnicheskogo obrazovaniya pri Sovete Ministrov Uzbekskoy
SSR.
                (Uzbekistan—Communist education)

I BRAGIMOV, KH. Q.

SOV/99-59-10-7/11

30(1)
AUTHOR: Doroshko, P.K., Engineer

TITLE: Extra-mural Session of the Scientific Council of the
VNIIGiM at the "Pakhta-Aral" Sovkhoz

PERIODICAL: Gidrotekhnika i melioratsiya, 1959, Nr 10, pp. 58-60 (USSR)

ABSTRACT: The Extra-mural Session of the Uchenyy sovet Vsesoyuz-
nogo nauchno-issledovatel'skogo instituta gidrotekhni-
ki i melioratsii imeni A.N. Kostyakova (Scientific
Council of the All-Union Research Institute for Hy-
draulic Engineering and Melioration imeni A.N. Kostya-
kov) was held from 15-17 July 1959 at the "Pakhta-
Aral" sovkhoz (Kazakh SSR) and was devoted to the in-
troduction and further development of sprinkling and
other methods of mechanized watering in cotton-grow-
ing districts. The Session was attended by representa-
tives of 76 research, planning, construction and ope-
rating organizations connected with the water economy
of the Kazakh, Uzbek, Turkmen, Moldavian and Ukrainian
republics, and also by representatives of cotton sov-
khozes and kolkhozes in the Golodnaya step' region.
The Session heard the following papers: Tashchi, A.M.,
VNIIGiM, Corresponding Member of the Irrigation
Academy on "The Introduction of New Irrigation Equip-
ment in Cotton-growing"; the Director of the "Pakh-
ta-Aral" sovkhoz V.V. Fulikov on "The Results and
Prospects of Using Sprinkling Equipment on the "Pakht-
ta-Aral" Sovkhoz"; Senior Agronomist of the "Pakht-
ta-Aral" Sovkhoz A.V. Paradizov on "The System of Agro-
meliorative Measures on the "Pakhta-Aral Sovkhoz in
Irrigating Cotton with Sprinklers"; Candidate of Agri-
cultural Sciences Z.S. Lysak of the VNIIGiM on
the Scientific and Practical Results of Studies of
Cotton Sprinkling"; Candidate of Engineering Science
N.N. Edkov of the VNIIGiM on "the Technical and Eco-
nomic Indices of Sprinkling Machines"; Candidate of
Agricultural Sciences V.F. Nechayev of the Ukrainskaya
do-meliorativnaya on the Introduction of Sprinkling in
on Experience from the Ukb SSR; Candidate of Agricultural Sciences
L.M. Reznikov of the VNIIGiM, stantsiya (Pakhta-Aral
Pakhta-Aral'skaya opytnaya) on "Cotton-watering Machines
Experimental Station) on Cof Agricultural Sciences
with Sprinklers"; Candidate of the with Sprinkling"; Candi-
date of Agricultural Sciences in Soils with Order of
the Water-Salt Cycle in Soils of Irrigation
GiM on "The Economic Efficiency of Irrigation Cotton
VNIIGiM on "The Experience of Organizing Sprinkling
with Sprinklers"; Engineer Irrigation Cotton Over
ter Utilization in Sprinkling Cotton Over
Areas"; Candidate of Engineering Science of Irrig
agraz of the VNIIGiM on "The Experience of Using
Sprinkling Machines on the "Pakhta-Aral Sovkhoz"
Candidate of Engineering Sciences L.M. Reznikov of
the VNIIGiM on "Leveling Irrigable Areas with Long-
Based Levelers"; Engineer I.I. Volchko of the
VNIIGiM on "The Irrigation of Cotton and Other Agri-
cultural Crops with Watering Installation Aid of
Flexible Pipes". In the discussion on points raised

Card 1/7

Card 2/7

Card 3/7

IBRAGIMOV, Kh.G., insh.

Planning the use of water in sprinkler irrigation. Trudy
VNIIGiM 35:55-65 '60.   (MIRA 14:9)
                    (Sprinkler irrigation)

IBRAGIMOV, Kh.G.

"Experiments in the Organization of Planned Water Utilization in Cotton Farming with Overhead Irrigation";

dissertation for the degree of Candidate of Technical Sciences (awarded by the Timiryasev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2, 1963, pp 232-236)

IBRAGIMOV, K.I.

Deep-well viscosimeter. Azerb. neft. khoz. 39 no.6:25-26 Je '60.
                                                    (MIRA 13:10)
                          (Viscosimeter)

IBRAGIMOV, K.I.

Differential deep-well viscosimeter [in Azerbaijani with summary in Russian]. Azerb. neft. khoz. 41 no.11:46-48 N '62. (MIRA 16:2)
(Viscosimeter)

L 57825-65   EPR(a)-2/ENT(m)/EPF(n)-2/EWP(t)/EWP(b)   Pt-7/Pu-4   IJP(c)
ACCESSION NR: AP5012004   RM/JD/JG   GB/OI 17/65 /000 /000 /A00 1/A006