"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOROGYAN, G., inzhener.

Using the Ts-200 manometric thermometer for measuring temperature in grain dryers. Muk.-elev.prom.22 no.2:9-10 F '56. (MLRA 9:6)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki.
(Grain--Drying) (Thermometers)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOROGYAN, G.A. Cand Tech Sci -- (diss) " Study of the process of thermic disinfestation of ~~the~~ wheat grain in a flow of hot gases." Mos,1957. 19 pp with diagrams 22 cm. (Min of Higher Education USSR. Mos Technological Inst of the Food Industry). 109 copies. (KL, 23-57, 112)



APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOROGYAN, G.A., nauchnyy sotrudnik; ZIBEL', B.Ya., inzh. [translator]; MESHCHERINA, O.Ye., bibliograf [translator]; KOZ'MINA, N.P., doktor biol.nauk, otvetstvennyy red.; GRIGOR'YEV, K.P., inzh., red.; KUPRITS, Ya.N., doktor tekhn.nauk, prof., red.; KUPRIYANOV, A.V., inzh., red.; LYUBARSKIY, L.N., doktor sel'skokhozyaystvennykh nauk, prof.red.; LANDA-DALEV, L.M., starshiy nauchnyy sotrudnik; GERZHOY, A.P., kand.tekhn.nauk, starshiy nauchnyy sotrudnik; FEDOSOVA, N.I., red.; GOLUBKOVA, L.A., tekhn.red.

[Drying and heat processing of grain; translations and abstracts] Sushka i termicheskaia obrabotka zerna; perevody i referaty. Moskva, Izd-vo tekhn. i ekon.lit-ry po voprosam mukomol'no-krupianoi, kombikormovoi promyshl. i elevatorno-skladskogo khoz., 1957. 90 p. (MIRA 11:5)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov ego pererabotki (for Dzhorogyan, Gerzhoy, Meshcherina). 3. Mel'kombinat imeni TSyurupy (for Zibel')
(Grain--Drying)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOROGYAN, G. A.

Using hot gases for the disinfestation of grain. Muk.-elev.prom. 23 no.8:29-30 Ag '57. (MIRA 10:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produkto yego pererabotki.
(Fumigation) (Grain--Diseases and pests)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

SOV/124-58-3-3025

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 68 (USSR)

AUTHOR: Dzhorogyan, G. A.

TITLE: The Heat Exchange During Pneumatic Transportation of Grain by Hot Gases (Teploobmen pri pnevmaticheskom transportirovanii zerna goryachimi gazami)

PERIODICAL: Tr. Vses. n. -i. in-t zerna i produktov yego pererabotki, 1957, Nr 33, pp 124-140

ABSTRACT: Bibliographic entry

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

KLIMOV, Stepan Yegorovich; KARABANOV, Sergey Aleksandrovich; DZHOROGYAN, G.A., kand. tekhn. nauk, red.; VYSOTSKAYA, R.S., red.; GOLUBKOVA, L.A., tekhn. red.

[Grain driers with furnaces operating on liquid and gas fuels] Zernosushilki s topkami, rabotaiushchimi na zhidkom i gazoobraznom toplive. Pod red. G.A.Dzhorogiana. Moskva, Izd-vo tekhn. i ekon. lit-ry po voprosam zagotovok, 1961. 77 p. (MIRA 14:12)
(Grain—Drying)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOROGYAN, G., starshiy nauchnyy sotrudnik

Small mobile grain [illegible]. Tekh.mol. 29 no.4:16 Ap '61.
(MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.
(Grain---Drying)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DEMIN, G., kand.tekhn.nauk; DZHOROGYAN, G., kand.tekhn.nauk; MEL'NIK, B., kand. tekhn.nauk; CHUKHAR'KO, Z., kand.ekonom.nauk

Improvement of the technology of postharvest processing of grain. Muk.-elev. prom. 28 no.8:6-8 Ag '62. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i produktov yego pererabotki.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOROGYAN, G., kand.tekhn.nauk; KASHCHEYEV, I., inzh.

Drying pulse crop seeds in the German Democratic Republic.
Muk.-elev.prom. 28 no.9:29-31 S '62. (MIRA 15:10)
(Germany, East--Seeds--Drying) (Legumes)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

EWT(m) DIAAP/SSD/AFWL/ESD(gs)

Beta

ekspe[illegible]mental

neon, germanium, antimony, gold, beta spectrum, gamma
alpha particle scattering

[illegible] and [illegible]
[illegible] described elsewhere (Vasil'ye[illegible] et al., [illegible]
[illegible] 1958 and v. 26, 1495, 1962; ZhETF [illegible] 1959

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

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ACCESSION NR: AP4046439 ENCLOSURE: 01

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

89796

3.1810
9.9000 (also 1036)

S/169/61/000/003/013/022
A005/A005

Translation from: Referativnyy zhurnal, Geofizika, 1961, No. 3, p. 25, # 3G226

AUTHOR: Dzhorzhio, N. V.

TITLE: The Variation of the Relative Brightness of Emissions in λ 6,300 and 5,577 Å in the Various Forms of Polar Lights

PERIODICAL: V sb.: "Spektr., elektrofotometr. i radiolokats. issled. polyarn. siyaniy i svecheniya nochnogo neba". No. 2-3. Moscow, AN SSSR, 1960, pp. 45-48 (English summary)

TEXT: The author studies the variations in brightness of emission at λ 6,300 Å with respect to λ 5,577 Å in the spectra of polar light which were obtained in the season from September 1957 to March 1958 by the Loparskaya station (near Murmansk). More than 900 absolute measurements were carried out. The observations were conducted at dipping angles of Sun of 18° below the horizon. The measured intensities were corrected with respect to the atmospheric absorption. If the deactivation process is absent, the intensities $I_{6,300}$ and $I_{5,577}$ must be proportional. Nevertheless, the observation results showed that the ratio $r = I_{6,300}/I_{5,700}$ changes with the increase in glow intensity. Siton had obtained

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S/169/61/000/003/013/022
A005/A005

The Vatiation of the Relative Brightness of Emissions in $\lambda$ 6,300 and 5,577 Å in the Various Forms of Polar Lights

(RZhGfiz, 1959, No. 11, # 11807) the correlation between the magnitude r and the deactivation coefficient

$$r = \frac{A_{31} + A_{32} + d_3}{A_{21} + d_2} \left[ \frac{S_2}{S_3} + \frac{A_{32}}{A_{31} + A_{32} + d_3} \right], \qquad (1)$$

where $d_2$ and $d_3$ are the deactivation coefficients of the levels $D^1$ and $S^1$, $S_2$ and $S_3$ are the disturbation rates of these levels, $A_{ik}$ are the Einsteinian transition probabilities. One can expect that the perturbation mechanism is the same in equal-type forms of polar lights and, consequently, the ratio $S_2/S_3$ does not depend on the glow intensity. In this case, the variation of the ratio r is possible only in case of variation of the deactivation defined by the magnitudes of $d_2$ and $d_3$. Then the existence of a systematic variation of r with the glow intensity in equal-type forms of polar lights must point out, obviously, a corresponding variation of the deactivation coefficient according to formula (1). The analysis of the measurement results points out the noticeable tendency to decrease in r with increasing $I_{5,577}$ which is intense for rays and weaker for arcs. This

Card 2/3

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

89796

S/169/61/000/003/013/022
A005/A005

The Variation of the Relative Brightness of Emissions in λ 6,300 and 5,577 Å in the Various Forms of Polar Lights

dependence is sharper expressed for the upper part of homogeneous arcs than for the region of maximum brightness of the arcs. The upper red rays have the sharpest decrease in r with increasing $I_{5,577}$. The obtaines data point out, obviously, a considerable increase of the deactivation coefficient with increasing glow brightness, particularly, in the ray forms of glows.

L. Yerasova

Translator's note: This is the full translation of the original Russian abstract.

Card 3/3

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

KHARITONOV, V.N., inzh.; DZHOS, V.F., inzh.

Improving the boring and blasting operations in the Artemovsk gypsum mine. Vzryv. delo no.57/14:297-302 '65. (MIRA 18:11)

1. Filial Instituta mekhaniki AN UkrSSR.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOSHI, V. M. Cand Tech Sci — (diss) "The role of surface phenomena in the process of distributing nitrogen and hydrogen between dissolved metal and gas phases during steel production," Moscow, 1960, 20 pp, 150 cop, (Moscow Institute of Steel im I. V. Stalin) (KL, 43-60, 118)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

S/148/60/000/011/003/015
A161/A030

AUTHORS: Dzhoshi, V. B.; Vishkarev, A. F.; Yavoyskiy, V. I.

TITLE: The role of surface phenomena in the distribution of nitrogen between molten metal and gas phases

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya. no. 11, 1960, 36 - 44

TEXT: The effect of nitrogen on the properties of steel is considerable, and its content in converter steel is higher than in other types. Many phenomena observed concerned with the behaviour of nitrogen are not yet clear, and investigations are necessary in view of the increasing extensive use of the converter process, particularly of the oxygen process. No reliable data are available on the effect of carbon on the nitrogen absorption rate, and only indirect data make some conclusions possible. The measurement of surface tension at high temperatures is only possible with two methods: "recumbent drop" and maximum pressure in the bubble". The latter was used in the described experiments at the Moscow Steel Institute.

Card 1/4

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

S/148/60/000/011/003/015
A161/A030

The role of surface phenomena in ....

The measuring installation was similar with the one formerly described (Ref. 6 - 7: 6 - S. I. Filippov, book "Theory of steel decarbonization", 1956; 7 - V. P. Grigor'yev, A. F. Vishkarev, B. G. Korolev, Ye. V Abrosimov, V. I. Yavoyskiy. Izv. vyssh. uch. zav. Chernaya metallurgiya, 1960, No. 4). The surface tension was measured with alundum capillaries giving stable indications during one hour when properly prepared. The end to be submerged into metal was turned down from outside and bored to a cone from inside, and the butt surface was ground. As stated in comparison with measurements using alundum and quartz capillaries, with the former the bulb separates mostly from the inner cone in the bored duct, with the diameter between 2.8 and 3.2 mm. The deviation from the true spherical shape of the bulb has to be taken into account in calculations, and this was done using the successive approximation method. Metal was melted in argon carefully purified from oxygen and steam using crucibles cut from magnesite brick. Samples were taken after a constant temperature of 1575 ± 10°C was reached; after the stabilized bubbling of argon (6-7 bubbles a minute), argon blowing was replaced by nitrogen (at the rate 2.5 - 3.0 lit/min), and the surface tension variations were measured, along with periodical sampling of metal for chemical analysis. The studied metal was killed armco iron

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with 0.03 % C; 0.13 % Mn; 0.18 % Si; 0.020 % S and 0.045 % P. The effect of the third component on the surface activity was studied with additions of electrolytic manganese, crystalline silicon and a synthetic iron-carbon alloy with 2.65 % C; 0.08 % Si and 0.06 % Mn. The N adsorption values were calculated using the Gibbs equation (Russian spelling) which is actually true for binary systems (considering iron-carbon alloy as one component). Conclusions: 1) Nitrogen in liquid iron presents a surface-active component. The surface tension varies with the nitrogen content; it drops when nitrogen is being absorbed, and rises when nitrogen is being liberated. 2) The increase of the carbon content in the iron is accompanied by a weakening surface activity of nitrogen, and the nitrogen adsorption varies in inverse proportion to the carbon content. 3) The effect of carbon on the surface activity of nitrogen is due to carbon adsorption in the surface layers, i.e., the carbon on the surface obstructs the adsorption of nitrogen. 4) The rate of nitrogen absorption and desorption with iron depends on the carbon content in iron; it drops with increasing carbon content. This means that the structure of the surface layer has a considerable effect. 5) The effect of silicon and manganese is analogous to the effect of carbon but less strong. There are 9 figures, 7 Soviet references and 3 English references. The three English language publications read as follows: Ref.1:



APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6



Chipman and Murphy. Metals Technology, No. 1, 1935. "Iron and Steel Division", AIMME, V - 116, 1935; Ref. 4 - Darken and Curry. Physical Chemistry of Metals; Ref. 8 - V. G. Paranjpe, M. Cohen, M. B. Bever, C. F. Floe. Journal of Metals, 1950, 188, No. 2, 261.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: May 20, 1960



APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOY, F.

Inter province passenger traffic. Avt. transp. 37 no.12:48-49 D '59. (MIRA 13:3)

1.Zamestitel' upravlyayushchego Sumskim oblavtotrestom.
(Sumy Province--Motorbus lines)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHOZOVSKIY, B.

DZHOZOVSKIY, B.

23713 PLANIROVANIYA RABOTY V PEDAGOGICHESKOM UCHILISHCHE. NAR. OBRAZOVANIYA, 1949, NO. 7, S. 59-60

SO: LETOPIS' NO. 31, 1949

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, B.A.

"$\gamma$-$\gamma$ Angular Correlations in Mesonic Atoms," by B. A. Dzhrbashyan, Physics Institute, Academy of Sciences Armenian SSR, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 31, No 6 (12), Dec 56, pp 1090-1092

This article considers the problem of more accurately determining the spin of a $\mu$-meson by using data on the angular correlation between the directions of $\gamma$-quanta emitted in successive "mesonic" transitions.

It proposes a method for checking nuclear spins "for which the value I = 0 is doubtful or was obtained only from theoretical considerations.

The formula obtained is used to determine the spins of various mesons.

Acknowledgement is made to I. Ya. Pomeranchuk, K. A. Ter-Martirosyan, and L. M. Afrikyan. (U)

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, E.T.

Method for encasing a photoelectric device in measuring the turbidity in depth of an open stream. Izv.AN Arm. SSR. Ser.tekh.nauk 14 no.2:25-30 '60. (MIRA 14:3)

1. Institut energetiki i gidravliki AN Armyanskoy SSR.
(Photoelectric cells)
(Silt)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, E.T.

Relative speed of solid particles in a turbulent flow. Izv.AN Arm.SSR.Ser.tekh.nauk 16 no.2/3:59-67 '63. (MIRA 16:9)
(Hydrodynamics) (Turbulence)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, E.T.; OGANESYAN, D.M.

Curves of the distribution of longitudinal speeds of components of a sediment transporting flow. Izv.AN Arm.SSR.Ser.tekh.nauk 16 no.2/3:77-82 '63. (MIRA 16:9)

(Hydrodynamics)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, E.T.

Use of high-speed motion-picture photography for measuring the characteristics of a turbulent- two-component flow in an open channel. Usp.nauch.fot. 9:267-270 '64.

(MIRA 18:11)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

D

DZHRBASHYAN, M. M.

O nekotorykh ekstremal'nykh problemakh v nezhordanovykh oblastyakh. Erevan, DAN Arm SSR, 1:3 (1944), 5-12.
O kanonicheskom predstavlenii meromorfnykh v edinichnom kruge funktsiy. Erevan, DAN Arm SSR, 3 (1945), 3-9.
Nekotoryye voprosy teorii predstavimosti analiticheskikh funktsiy. Dissertatsiya (1945).
O predstavimosti nekotorykh klassov golomorfnykh v edinichnom kruge funktsiy. Erevan, DAN Arm SSR, 4 (1947).
O metricheskikh priznakakh polnoty sistemy polinomov v neogranichennykh oblastyakh. Erevan, DAN Arm SSR, 7 (1947), 3-10.

SO: Matematics in the USSR, 1917-1947
edited by Kurosh, A. G.,
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow-Leningrad, 1948

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

Representability of analytic finctions. Soob.Inst.mat.i mekh.AN Arm.SSR no.2:3-40 '48. (MLRA 9:8)

1. Institut matematiki i mekhaniki AN Arm SSR i Yerevanskiy gosudarstvennyy universitet imeni V.M. Molotova.
(Functions of complex variables)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

Dzhabrian, M. M. On an extremal problem in the theory

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M. M.

PA 163T29

USSR/Mathematics - Personalities, Academy of Sciences

May/Jun 50

"'Metrical Theorems on Completeness and Representability of Analytical Functions,' Doctoral Dissertation," M. M. Dzhrbashyan

"Uspekh Matemat Nauk" Vol V, No 3 (37) pp 194-198

Dissertation given 30 Mar 49 to session of Learned Council, Mechanicomath Faculty, Moscow State U imeni M. V. Lomonosov. Official opponents: M. V. Keldysh, A. O. Gel'fond, and A. I. Markushevich.

163T29

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Let $h(s)$ be a bounded, positive, integ

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

A solid cylindrical shaft consisting of two circular cylinders of different radii is twisted by the axially symmetric forces distributed on the lateral surface of the shaft. An

DZHRBASHYAN, M. M. and ABRAMYAN, B. L.

"Torsion of Axles of Variable Cross Section," Zhur. Fiz., 37, No.2, 1951

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M. M.

USSR/Mathematics - Analytic Functions May/Jun 52

"Theorems of Uniqueness and Representability for Analytic Functions," M. M. Dzhrbashyan, Section of Math and Mech, Acad Sci USSR

"Iz Ak Nauk, Ser Matem" Vol XVI, No 3, pp 225-252

Analyzes certain problems of uniqueness and representability of analytic functions belonging to certain classes by means of the theory of infinite systems of linear eqs, given the successive derivs of the functions in an arbitrary set of points. Received 13 Dec 51.

217T67

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

$$c_n = (\tau\rho/\pi)\int_0 \int_0 \ldots$$

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

Urbanyan, M. M. On the growth of derivatives of

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

USSR/Mathematics -Approximations, Optimum 21 Jun 52

"Weighted-Best Approximation by Polynomials on the Real Axis," M. M. Dzhrbashyan, Sector of Math, Acad Sci Armenian SSR

"Dok Ak Nauk SSSR" Vol LXXXIV, No 6, pp 1123-1126

Discusses the problem concerning the dependence between the differential properties of functions and the order of decrease of their optimum approximations in the case of polynomial approximations on the finite segment. States that this problem has been completely studied by S. N. Bernshteyn and D. Jackson. Not studied, however, is subject

223T79

problem of weighted-optimum approximations. The purpose of this article is to present results devoted to solving this general problem. Submitted by Acad S. N. Bernshteyn 22 Mar 52.

223T79

DZHRBASHYAN, M. M.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

USSR/Mathematics - Entire (Integral) Functions 1 Jul 52

"Integral Representation and Uniqueness of Certain Classes of Entire (Integral) Functions," M. M. Dzhrbashyan, Sector of Math, Acad Sci Armenian SSR

"Dok Ak Nauk SSSR" Vol LXXXV, No 1, pp 29-32

Drives a number of results on representation and uniqueness of entire (integral) functions of finite order and of the normal type, which are integrable or bound by definite rays proceeding out from the origin of coordinates. Submitted by Acad M. V. Keldysh 17 Apr 52.

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

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Dzhabaryan M. M. Estimates of the [illegible] nomials and weighted best approxima[illegible] region [illegible]

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Mathematical Review
June 1954
Analysis

10-7-54
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Džrbašyan, M. M. On the integral representation and uniqueness of certain classes of entire functions. Mat. Sbornik N.S. 33(75), 485–530 (1953). (Russian)

The author proves, in more general form, the results announced in Doklady Akad. Nauk SSSR (N.S.) 85, 29–32 (1952); these Rev. 14, 33. He adds two theorems giving explicit representations involving $f^{(2n)}(0)$ for entire functions of special classes for which these derivatives determine the functions uniquely.

*R. P. Boas, Jr.*

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

Abel's summation of generalized integral transformations. Izv. AN Arm. SSR. Ser. FMET nauk 7 no.6:1-26 N-D '54. (MLRA 8:7)

1. Sektor matematiki i mekhaniki Akademii nauk Armyanskoy SSR.
(Integrals, Generalized)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN

USSR/Mathematics - Fourier integrals FD-1406

Card 1/1 : Pub. 47 - 3/6

Author : Dzhrbashyan, M. M.

Title : Integral representation of functions which are continous on several rays (Generalization of the Fourier integral)

Periodical : Izv. AN SSSR, Ser. mat., Vol 18, 427-448, Sep-Oct 1954

Abstract : This article deals with the construction of a natural generalization of the apparatus of the Fourier integral and gives an integral representation for definite classes of continuous functions given on semi-axes in a complex region. These classes of functions can be represented as the limit of entire functions of finite order greater than 1/2, whose type tends to infinity. The article was presented by Academician I. M. Vinogradov.

Institution :

Submitted : January 26, 1953

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M. M.

USSR/Math - Integral Transformation

Card 1/1

Author : Dzhrbashyan, M. M.

Title : About one integral transformation and its application to the theory of whole functions.

Periodical: Doki AN SSSR 95, 6, 1133 - 1136, 21 April 1954

Abstract : An integral transformation applied to whole functions of a finite order and the normal type, whose square of moduli integrated along rays diverging from one origin, leads to a possibility of expressing them (whole functions) in the forms of Paley-Wiener results in presentation of whole functions of an exponential type.

Institution: Sect. of Math. of Acad. of Scs. of the Arm SSR and V. M. Molotov State Univ. of Erivan

Submitted : 19 Feb 1954

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M. M.

USSR/ Mathematics - Polynomials

Card 1/1 Pub. 22 - 4/47

Authors : Dzhrbashyan, M. M.

Title : Metric indications of the completeness of polynomials during suspended approximation of infinite curves

Periodical : Dok. AN SSSR 98/5, 713-716, Oct 11, 1954

Abstract : The formulation of numerous general proposals regarding suspension-polynomial approximations on infinite curves, of more general nature, is mentioned. Certain metric indications of the completeness of polynomials on infinite curves, which remain in force also for the case of suspension uniform approximations, are described. Five USSR references (1946-1952).

Institution : Academy of Sciences Arm-SSR, Mathematics Section

Presented by: Academician A. N. Kolmogorov, July 5, 1954

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

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DZHRBASHYAN,

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M. M.

Džrbašyan, M. M. Estimates for the derivatives of entire functions of finite order and normal type. Akad. Nauk Armyan. SSR. Izv. Fiz.-Mat. Estest. Tehn. Nauki 8 (1955), no. 2, 1-16. (Russian. Armenian summary) 1 - F/W

The author establishes inequalities for the derivatives of entire functions that are bounded in angular regions. In the first theorem the function is of order $\varrho \geqq \frac{1}{2}$, mean type $\sigma$, and bounded by $M$ for $|\arg z| \geqq \frac{1}{2}\pi/\varrho$; in the second, it is of order $\varrho \geqq 1$ and mean type $\sigma$, and bounded by $M$ for $|\arg z|$ and $|\arg z+\pi| \leqq \frac{1}{2}\pi(1-\varrho^{-1})$. In each case bounds (not sharp) are given for $|f^{(k)}(z)|$ on the boundary. In particular, in both cases $|f^{(k)}(0)| \leqq k!(\varrho/k)^{k/\varrho}\, C(k, \varrho)$, with $C(k, \varrho) = \frac{1}{2}(2-\varrho^{-1}+\varrho^{-1}e^{k/\varrho})$ in the first case and $1-\varrho^{-1}+\varrho^{-1}e^{k/\varrho}$ in the second; this is slightly more than follows from the usual estimate for the coefficients in terms of the order and type with no boundedness condition.

*R. P. Boas, Jr.* (Evanston, Ill.).

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

On the theory of certain classes of entire functions of several variables. Izv. AN Arm. SSR. Ser.FMET nauk 8 no.4:1-23 Jl-Ag '55. (MLRA 9:2)

1.Sektor matematiki i mekhaniki AN Armyanskoy SSR i Yerevanskiy gosudarstvennyy universitet imeni V.M.Moloteva.
(Functions, Entire)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

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pects of the theory of [illegible] and $E_n(z, \mu)$, where [illegible]

more rays in the complex [illegible]
author to generalize the Paley-Wiener representation [illegible]
[illegible] of exponential type to functions of order

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DZERGASYAN

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DZHRBASHYAN, M.M.

Dzhrbashyan, M. M. Some questions of the theory of

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

Torsion of prismatic bars. Nauch.trudy Erev.un.48 no.2:49-70 '55.
(Torsion) (MIRA 9:9)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

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DZHRBASHYAN, M.M.

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Džrbašyan, M. M. and Tamadyan, A. P. On best approximation by entire functions in a complex region. Dokl. Akad. Nauk SSSR (N.S.) 104 (1955), 345-348. (Russian)

The authors state numerous theorems, both direct and inverse, dealing with the best approximation $A_\sigma$ by means of entire functions of given order $\varrho$ of type not exceeding $\sigma$, to functions belonging to various classes defined in appropriate angular domains. For $\varrho=1$, some of their results reduce to known theorems about approximation on the real axis by entire functions of exponential type. The following statements may serve as samples. If $\varrho>1$, $f(z)$ is bounded and continuous, and $\sup|f'(z)|\leq M$ in $|\arg z|<\frac{1}{2}\pi(1-1/\varrho)$ and $|\arg z+\pi|<\frac{1}{2}\pi(1-1/\varrho)$, then (for this domain) $A_\sigma\leq CM\sigma^{1/\varrho}$, where $C$ is independent of $\sigma$ and $f$. If $\varrho\geq\frac{1}{2}$, and $A_\sigma<Ce^{-\sigma\gamma}$ for every positive $\sigma$, with $\gamma$ and $C$ independent of $\sigma$, in $|\arg z|\geq\frac{1}{2}\pi/\varrho$, then $f(z)$ is analytic and bounded in the region containing the negative real axis and bounded by the curve $r^\varrho\cos\varrho\theta=\gamma$.

*R. P. Boas, Jr.* (Evanston, Ill.).

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

Dzhrbashyan, M.M.

Call Nr: AF 1108825

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

Gladkiy, A. V. (Barnaul). On the Effectively Unbounded Additive Set Functions. 79

Danilyuk, I. I. (L'vov). Quasi-analytic Functions of Many Variables on Manifolds. 79-80

Dzhrbashyan, M. M. (Yerevan). On the Weighted Polynomial Approximations in Complex Regions. 80

Dzyadyk, V. K. (Lutsk). Precise Evaluation of the Best Approximations for a Class of Periodical Functions. 80-82

There are 2 references, both of them USSR.

Dzyadyk, V. K. (Lutsk). On Approximations by Polynomials of Non-periodical Functions Satisfying the Condition Lip $\alpha$ $(0<\alpha<1)$. 82-83

Mention is made of Bernshteyn, S. N., Nikol'skiy, S. M. and Timan, A. F.

Card 25/80

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

Quisi-analytic class of functions of weight-polynomial approximation on the whole real axis. Dokl.AN Arm.SSR.23 no.3:97-102 '56.
(MLRA 10:1)

1. Chlen-korrespondent Akademii nauk Armyanskoy SSR.
(Functions, Analytic)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

~~DZHRBASHYAN, M.M.~~ DZHRBASHYAN, M.M.

SUBJECT USSR/MATHEMATICS/Theory of approximations CARD 1/3 PG -672
AUTHOR DŽRBAŠJAN M.M., CHAČATRJAN I.O.
TITLE On the completeness of the function system $\{z^{\lambda_n}\}$ in the complex domain for a weighted quadratic approximation.
PERIODICAL Doklady Akad.Nauk 110, 914-917 (1956)
reviewed 4/1957

Let the sequence of positive numbers $\{\lambda_n\}$ satisfy the condition $\lambda_{n+1} - \lambda_n \geqslant h > 0$. Then for $r \to \infty$ holds (Malliavin, Acta Math. 93, 3-4 (1955)):

$$\lambda(r) \equiv 2 \sum_{\lambda_n < r} \lambda_n^{-1} < \frac{2}{h} \log r + C_1 .$$

Let the function $P(r)$ which is defined on $(0,+\infty)$ for $r \geqslant 1$ admit the representation

$$P(r) = P(1) + \int_1^r \frac{\omega(t)}{t}\, dt ,$$

where $\omega(t) \uparrow +\infty$ for $t \uparrow +\infty$. Let $\Delta(\alpha)$ be the angle $|\arg z| < \frac{\pi}{2\alpha}$, $\frac{1}{2} \leqslant \alpha < \infty$, in the z-plane cut along $(-\infty, 0)$. To the class $B_2^{(\alpha)}[P(r)]$ there belong all functions being holomorphic in $\Delta(\alpha)$ for which

$$\iint_{\Delta(\alpha)} e^{-P(r)} |f(z)|^2 \, dx\, dy < +\infty \qquad (r = |z|).$$

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

Doklady Akad.Nauk 110, 914-917 (1956) CARD 2/3 PG - 672

Considering in the cut plane that branch of $\{z^{\lambda_n}\}$ which on $(0,+\infty)$ assumes positive real values, then $z^{\lambda_n} \in B_2^{(\alpha)}[P(r)]$. Let

$$K(r,\alpha) = \lambda(r) - \frac{1}{\alpha}\log r, \qquad K_*(r,\alpha) = \inf_{r' \geq r} K(r',\alpha) \quad K(r,\alpha).$$

If for every b $(0 < b \leq 1)$ the condition

$$\int^{\infty} \frac{P(be^{K_*(r,\alpha)})}{r^2}\, dr = +\infty,$$

is satisfied, then the system of functions $\{z^{\lambda_n}\}$ is complete in the class $B_2^{(\alpha)}[P(r)]$, i.e. for an arbitrary function $f(z) \in B_2^{(\alpha)}[P(r)]$ there vanishes the $\inf_{\{Q_\lambda(z)\}} \iint_{\Delta(\alpha)} e^{-P(r)} |f(z) - Q(z)|^2\, dx\, dy$, where $Q_\lambda(z)$ are all possible polynomials $\sum_{k=1}^{n} a_k z^{\lambda_k}$. If the conditions $\int_1^{\infty} \frac{P(r)}{r^{1+\alpha}}\, dr = +\infty$ and $\int_1^{\infty} \frac{P(be^{K_*(r,\alpha)})}{r^2}\, dr = +\infty$ $(0 < b \leq 1)$ are satisfied, then $\{z^{\lambda_n}\}$ is complete in the class $C_2^{(\alpha)}[P(r)]$. $C_2^{(\alpha)}[P(r)]$ is the class of functions $\varphi(z)$ which are defined on the lines $\mathcal{L}(\alpha)$:

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Doklady Akad.Nauk 110, 914-917 (1956) CARD 3/3 PG - 672

$\arg z = \pm \frac{\pi}{2\alpha}$ $\left(\frac{1}{2} < \alpha < \infty\right)$ and for which $\int\limits_{\mathcal{L}(\alpha)} e^{-P(r)} \left|\varphi(z)\right|^2 dr < +\infty$.

INSTITUTION: Institute for Mathematics and Mechanics, Acad.Sci.Arm. SSR.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

~~DZHRBASHYAN, M.M.~~ DZHRBASHYAN, M.M.

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/2 PG - 639
AUTHOR DŽRBAŠJAN M.M.
TITLE On the asymptotic approximation by entire functions in the half plane.
PERIODICAL Doklady Akad.Nauk 111, 749-752 (1956)
reviewed 3/1957

Joining an investigation of Keldyš (Doklady Akad.Nauk 47, 4,(1945)) the author proves the following theorem: Let the function $f(z)$ be holomorphic in the half plane $\operatorname{Im} z > 0$ and continuous on the real axis (a discontinuity in infinity is admitted). a) If the function $P(r)$ is continuous, non-decreasing on $[0,+\infty]$ and satisfies the conditions

$$\frac{P(r)}{r} \downarrow 0 \quad \text{for} \quad r \uparrow +\infty, \tag{1}$$

$$\int_0^\infty \frac{P(r)}{r^2}\, dr < +\infty, \tag{2}$$

then for every $\varepsilon > 0$ there exists an entire function $G_\varepsilon(z)$ such that

$$\sup_{\operatorname{Im} z \geq 0} \left\{ |f(z) - G_\varepsilon(z)|\, e^{P(|z|)} \right\} < \varepsilon.$$

b) If a certain function $P(r)$ satisfies only the condition

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$$\int_1^{\infty} \frac{P(r)}{r^2}\, dr = +\infty$$

and to an $\varepsilon = \varepsilon_0 > 0$ a function $G_{\varepsilon_0}(z)$ can be found such that

$$\sup_{\operatorname{Im} z \geqslant 0} \left\{ \left| f(z) - G_{\varepsilon_0}(z) \right| e^{P(|z|)} \right\} < \varepsilon_0,$$

then $f(z)$ is an entire function.
The proof bases on the lemma: If $P(r)$ is continuous, non-decreasing on $[0,+\infty)$ and satisfies the conditions (1) and (2), then there exists an entire function of exponential type $g(x)$ which has the property

$$g(z) \neq 0 \text{ for } \operatorname{Im} z \geqslant 0; \quad |g(z)| \leqslant e^{-P(|z|)} \text{ for } \operatorname{Im} z \geqslant 0.$$

A second theorem contains an assertion which in essential is already contained in a paper of Takenaka (Tohoku Math. J. 44, 351 (1938)).

INSTITUTION: Inst. for Math. and Mech., Acad.Sci Arm. SSR.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN M.M.

Expansion of analytic functions into series by using rational functions with given polar sets. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 10 no.1: 21-29 '57. (MLRA 10:6)

1. Yerevanskiy gosudarstvennyy universitet im. V.M. Molotova.
(Functions, Analytic)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

ARUTYUNYAN, N.Kh.; DZHRBASHYAN, M.M.; ALEKSANDRYAN, R.A.

On a method of solving a hyperbolic equation containing a mixed derivative. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 10 no.1:113-121 '57.

1. Institut matematiki i mekhaniki Akademii nauk Armyanskoy SSR.
(Differential equations, Partial) (Mathematical physics)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

An integral transformation. Izv.AN Arm.S.S.R.Ser.fiz.-mat.nauk 10 no.4:3-18 '57. (MIRA 10:9)

1. Institut matematiki i mekhaniki Akademii nauk Armyanskoy SSR.
(Transformations (Mathematics))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

DZHRBASHYAN, M.M.

Uniqueness theorems for Fourier transforms and infinitely differentiable functions. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 10 no.6: 7-24 '57. (MIRA 11:2)

1. Yerevanskiy gosudarstvennyy universitet.
(Mathematical analysis)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

SUBJECT USSR/MATHEMATICS/Theory of functions CARD 1/4 PG - 946

AUTHOR DZHRBASHYAN M.M.

TITLE On the integral representation and development in the generalized Taylor series of entire functions of several complex variables.

PERIODICAL Mat.Sbornik,n.Ser. 41, 257-276 (1957)
reviewed 7/1957

Let $f(z_1,z_2) = \sum_{n,m=0}^{\infty} a_{nm} z_1^n z_2^m$ and $M_f(r) = \max_{|z_1|+|z_2|=r} |f(z_1,z_2)|$. $f(z_1,z_2)$ has a finite order of increase if there exists a $\mu > 0$ such that $M_f(r) < e^{r^\mu}$ for $r \geqslant R(\mu)$. $\rho = \inf \mu > 0$ is called the order of $f(z_1,z_2)$; $\rho = \overline{\lim_{r\to\infty}} \frac{\log_2 M_f(r)}{\log r}$. $f(z_1,z_2)$ has a finite type if there exists a $K > 0$ such that $M_f(r) < e^{Kr^\rho}$ for $r \geqslant R(K)$. The number $\sigma = \inf K \geqslant 0$ is called type of $f(z_1,z_2)$. $\sigma = \overline{\lim_{r\to\infty}} \frac{\log M_f(r)}{r^\rho}$.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

Mat.Sbornik,n.Ser. 41, 257-276 (1957) CARD 2/4 PG - 946

The author's considerations base on two theorems of Temlyakov (unpublished dissertation, Moscow 1949):

1) In order that $f(z_1,z_2)$ has the order $\varrho$ it is necessary and sufficient that

$$\overline{\lim_{n+m\to\infty}} \frac{(n+m)\log(n+m)}{\log \frac{(n+m)^{n+m}}{n^n\, m^m |a_{nm}|}} = \varrho .$$

2) In order that $f(z_1,z_2)$ with the order $\varrho > 0$ has the type $\sigma \geq 0$ it is necessary and sufficient that

$$\overline{\lim_{n+m\to\infty}} \left[(n+m)^{\frac{1}{\varrho}-1} \sqrt[n+m]{n^n\, m^m |a_{mn}|}\right] = (\sigma\varrho e)^{\frac{1}{\varrho}} .$$

Let the entire function $f(z_1,z_2)$ of the order $\varrho > 0$ and type $\sigma > 0$ be represented by the Taylor series:

$$f(z_1,z_2) = \sum_{n,m=0}^{\infty} \frac{(n+m)!\, b_{nm}}{n!\,m!\,\Gamma(\mu+(n+m)\varrho^{-1})} z_1^n z_2^n \qquad (\mu > 0).$$

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

Mat.Sbornik,n.Ser. 41, 257-276 (1957) CARD 3/4 PG - 946

The function $g(w_1,w_2) = \sum_{n,m=0}^{\infty} \frac{b_{nm}}{w_1^{n+1} \cdot w_2^{m+1}}$ is holomorphic for $|w_1| > \sigma^{\frac{1}{\rho}}$, $|w_2| > \sigma^{\frac{1}{\rho}}$ and is denoted as the function $B_\rho(\mu)$ being associated with the entire function $f(z_1,z_2)$.

The author proves the following theorems:

1. Every $f(z_1,z_2)$ with the order $\rho > 0$ and type $\sigma > 0$ can be represented in the form

$$f(z_1,z_2) = -\frac{1}{4\pi^2} \int_{l_1}\int_{l_2} g(w_1,w_2) \cdot E_\rho(z_1w_1+z_2w_2;\mu)\,dw_1\,dw_2 \qquad (\mu>0),$$

where $g(w_1,w_2)$ is the function being associated with $f(z_1,z_2)$, $E_\rho(z;\mu) = \sum_{n=0}^{\infty} \frac{z^n}{\Gamma(\mu+n\rho^{-1})}$, $(\mu>0)$, and $l_1$ and $l_2$ are two closed curves in the domain $|w_1| > \sigma^{\frac{1}{\rho}}$, $|w_2| > \sigma^{\frac{1}{\rho}}$.

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2. A reversion of theorem 1: For $\frac{1}{2} \leq \rho < 1$ and for $\rho \geq 1$ the function $g(w_1, w_2)$ is represented by the function $f$.

3. Let $f(z_1, z_2)$ be of order $\rho$ and type $\sigma$, let $z_1 = t_1 e^{i\theta_1}$, $z_2 = t_2 e^{i\theta_2}$,

$$h_f(\theta_1, \theta_2) = \overline{\lim_{r \to \infty}} \frac{\log\left\{\max\limits_{t_1+t_2=r} |f(t_1 e^{i\theta_1}, t_2 e^{i\theta_2})|\right\}}{r^{\rho}}.$$ Then $h_f(\theta_1, \theta_2) \leq \sigma$,

$0 \leq \theta_1, \theta_2 \leq 2\pi$.

If for given values $\theta_k$ $(k=1,2)$ there holds the inequation $h_f(-\theta_1, -\theta_2) \leq 0$, then the function $g(w_1, w_2)$ being associated with $f(z_1, z_2)$ is holomorphic in the domain $\mathrm{Re}(e^{-i\theta_k} w_k)^{\rho} > 0$, $k=1,2$.

4. Let $f(z_1, z_2)$ have the order $\rho > 0$ and type $\sigma > 0$. If the conditions

$$\overline{\lim_{p+q \to \infty}} (p+q)^{1-\frac{1}{\rho}} |\alpha_{pq}| + \overline{\lim_{p+q \to \infty}} (p+q)^{1-\frac{1}{\rho}} |\beta_{pq}| < \frac{\log^2}{(\sigma\rho)^{\frac{1}{\rho}}}$$

for $p, q = 0, 1, 2, \ldots$ are satisfied, then there holds the generalized Taylor expansion

$$f(z_1, z_2) = \sum_{p,q=0}^{\infty} f^{(p,q)}(\alpha_{pq}, \beta_{pq}) A_{pq}(z_1, z_2), \quad A_{pq}(z_1, z_2) = \frac{z_1^p z_2^q}{p!\, q!}.$$

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M. M.

AUTHOR: DZHRBASHYAN, M.M., TAVADYAN, A.B. (Yerevan) 39-2-5/7

TITLE: On Weighted Uniform Approximation of Functions of Several Variables by Polynomials (O vzveshenno-ravnomernom priblizhenii polinomami funktsiy mnogikh peremennykh)

PERIODICAL: Matematicheskiy Sbornik, 1957, Vol.43, Nr.2, pp.227-256 (USSR)

ABSTRACT: At first earlier results of Dzhrbashyan [Ref.4,5,6] on the completeness of a polynomial system on a curve are transferred with the aid of complete induction to the n-dimensional space and certain n-dimensional domains. Then the authors consider some properties of the weighted-best approximations by polynomials of n variables in the n-dimensional space. Only direct theorems are given.
Ten Soviet and 2 foreign references are quoted.

SUBMITTED: December 19, 1955
AVAILABLE: Library of Congress

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16,4400

AUTHOR: Dzhrbashyan, M. M.

TITLE: Investigations on the theory of generalized integral transforms and on the theory of entire functions

PERIODICAL: Referativnyy zhurnal, Matematika, no. 8, 1961, 14, abstract 8B58. ("Tr. 3-go Vses. matem. s"yezda" 1956, t. 3, M., AN SSSR, 1958, 182-189

TEXT: The results of the author on the theory of generalized integral transforms in the complex domain and their application to entire functions are given. At first a short survey of the main results of other authors in the considered domain is given. It is characteristic for the investigations of the author that he systematically uses the function of Mittag-Leffler type

$$E_p(z;\mu) = \sum_{k=0}^{\infty} \frac{z^k}{\Gamma(\mu + kp^{-1})}$$

as a kernel of the transforms. This function has good asymptotic properties (RZh Mat, 1956, 1274). With the aid of these properties he

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Investigations on the theory of . . .

succeeds 1.) in constructing the theory of integral transforms on a system of rays of the complex plane, 2.) in obtaining a parameter representation for entire square integrable functions of finite order on a system of rays, 3.) in obtaining theorems on the approximation of functions on a system of rays by entire functions of finite order (R Zh Mat, 1956, 6534). The results obtained contain as special cases the well-known theorems of Plancherel and Wiener and Paley. From these it follows a series of uniqueness theorems for entire functions (R Zh Mat, 1955, 1178). Finally, the author gives a theorem on the integral representation of an entire function of two variables, where the function has different orders and types of growth in the single variables and is square integrable on a system of rays.

[Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

Weighted optimum approximation of the function /x/ for the real axis. Izv. AN Arm. SSR, Ser. fiz.-mat. nauk 11 no.1:77-84 '58. (MIRA 11:6)

1. Institut matematiki i mekhaniki AN Armyanskoy SSR.
(Functions)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

DZHRBASHYAN, M.M.

Inverse problem of best approximation in a space of $L_2(-\infty, +\infty)$ functions. Iav. AN Arm. SSR. fiz.-mat. nauk 11 no.2:79-82 '58. (MIRA 11:6)

1.Institut matematiki i mekhaniki AN ArmSSR.
(Functions of real variables)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

16(1)

AUTHORS: Dzhrbashyan, M.M. and Nersesyan, A.B. SOV/22-11-5-7/9

TITLE: Criteria for the Possibility of Expanding Functions into Dirichlet Series (Kriterii razlozhimosti funktsiy v ryady Dirikhle)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Seriya fiziko-matematicheskikh nauk, 1958, Vol 11, Nr 5, pp 85 - 106 (USSR)

ABSTRACT: Let $F(\sigma)$ be defined and continuous on $(\sigma_0, +\infty)$, $\alpha > 0$. Then let

$$\frac{d_e^{-\alpha} F(\sigma)}{d_e \sigma^{-\alpha}} = \frac{1}{\Gamma(\alpha)} \int_{\sigma}^{\infty} (e^{-\sigma} - e^{-u})^{\alpha-1} e^{-u} F(u)\, du$$

Let the sequence $\{\mu_n\}$ satisfy the condition: $\mu_0 = 0$, $0 < \mu_{k+1} - \mu_k \leq 1$, $\lim_{k\to\infty} \mu_k = \infty$. Let be

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Criteria for the Possibility of Expanding Functions Into Dirichlet Series SOV/22-11-5-7/9

$$L^{(\mu_k)}F(\sigma) = -\frac{d_e^{-\alpha_k}}{d_e\sigma^{-\alpha_k}}\left\{e^{\sigma}\frac{d}{d\sigma}L^{(\mu_{k-1})}F(\sigma)\right\}, \quad \alpha_k = 1-(\mu_k-\mu_{k-1}) .$$

Let be $F(\sigma) \in L(\mu_n, \sigma_0)$ , if all $L^{(\mu_k)}F(\sigma)$ are continuous on $(\sigma_0, +\infty]$ and if the $e^{\sigma}\frac{d}{d\sigma}L^{(\mu_k)}F(\sigma)$ are continuous and absolutely integrable on $(\sigma_0, \infty)$ . Then it is

$$F(\sigma) = \sum_{k=0}^{n} \frac{L^{(\mu_k)}F(+\infty)}{\Gamma(1+\mu_k)} e^{-\mu_k\sigma} + R_n(F,\sigma)$$

Let be $F(\sigma) \in L^*(\mu_n, \sigma_0) \in L(\mu_n, \sigma_0)$ , if on $[\sigma_0, +\infty]$ it is uniformly $\lim_{n\to\infty} R_n = 0$ .

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Criteria for the Possibility of Expanding Functions Into Dirichlet Series SOV/22-11-5-7/9

Theorem : From $F(\sigma) \in L(\mu_n^*, \sigma_0)$ and

$$\sup_{(\sigma_0, +\infty]} |L^{(\mu_k)} F(\sigma)| \leqslant M e^{-\sigma_0 \mu_k} \Gamma(1 + \mu_k)$$

it follows $F(\sigma) \in L^*(\mu_n, \sigma_0)$ , i.e.

$$F(\sigma) = \sum_{k=0}^{\infty} \frac{L^{(\mu_k)} F(+\infty)}{\Gamma(1 + \mu_k)} e^{-\mu_k \sigma}$$

Several similar results are given. Altogether there are 7 longer theorems and several lemmata.

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Criteria for the Possibility of Expanding Functions Into Dirichlet Series SOV/22-11-5-7/9

There are 4 references, 1 of which is Soviet, 1 English, 1 French, and 1 American.

ASSOCIATION: Institut matematiki i mekhaniki AN Armyanskoy SSR, Yerevanskiy gosudarstvennyy universitet (Institute of Mathematics and Mechanics, AS Armenian SSR, Yerevan State University)

SUBMITTED: March 29, 1958



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16(1)

AUTHORS: Dzhrbashyan, M.M. and Nersesyan, A.B. SOV/22-11-5-8/9

TITLE: Some Integro-Differential Operators and the Classes of Quasi-Analytic of Functions Connected With Them (Nekotoryye integro-differentsial'nyye operatory i svyazannyye s nimi kvazi-analiticheskiye klassy funktsiy)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1958, Vol 11, Nr 5, pp 107 - 120 (USSR)

ABSTRACT: By means of fractional integration operations in the sense of Riemann - Liouville and Hermann Weyl the author defines classes of functions which on $(0, +\infty)$ or on $(-\infty, +\infty)$ are infinitely often differentiable in the generalized sense. For the introduced classes of functions the author gives conditions for quasi-analyticity, i.e. conditions defining uniquely the functions of these classes.

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Some Integro-Differential Operators and the Classes of Quasi-Analytic of Functions Connected With Them SOV/22-11-5-8/9

There are 4 references, 3 of which are Soviet, and 1 is American.

ASSOCIATION: Institut matematiki i mekhaniki Akademii nauk Armyanskoy SSR (Institute of Mathematics and Mechanics, AS Armenian SSR)

SUBMITTED: April 17, 1958

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

AUTHOR: Dzhrbashyan, M.M., Member of the Academy of Sciences of the Armenian SSR, and Avetisyan, A.Ye.

SOV/20-120-3-4/67

TITLE: The Integral Representation of Some Functional Classes Analytic in an Angular Domain (Integral'noye predstavleniye nekotorykh klassov funktsiy, analiticheskikh v oblasti ugla)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 120, Nr 3, pp 457-460 (USSR)

ABSTRACT: In five theorems the authors give very long integral representations of some functional classes analytic in an angular domain. As special cases some older results of Paley, Wiener as well as of Macintyre [Ref 4] are obtained. The obtained representations are directly connected with the approximation by integral functions. The paper is based upon former investigations of Dzhrbashyan [Ref 1,2] with respect to its subject and method.
There are 4 references, 2 of which are Soviet, 1 American, and 1 English.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000411910018-6

AUTHOR: ~~Dzhrbashyan, M.M. (M~~ember of the Academy of Sciences of the Armenian SSR), Nersesyan, A.B. SOV/20-121-2-4/53

TITLE: On the Application of Some Integro-Differential Operators (O primenenii nekotorykh integro-differentsial'nykh operatorov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 2, pp 210-213 (USSR)

ABSTRACT: In five partially very long theorems the author formulate some new results of the theory of Dirichlet series and on quasianalytic function classes. The results are obtained by the introduction of special integro-differential operators which are combined with the broken integration in the sense of Riemann-Liouville or H.Weyl. Let e.g. $F(\sigma)$ be defined on $(\sigma_0, +\infty)$ and continuous; for every $\alpha > 0$ let the operator

$$\frac{d_e^{-\alpha} F(\sigma)}{d_e \sigma^{-\alpha}} \equiv \frac{1}{\Gamma(\alpha)} \int_{\sigma}^{\infty} (e^{-\sigma} - e^{-u})^{\alpha-1} e^{-u} F(u)\, du$$

be introduced; let the sequence $\{\mu_n\}$ satisfy the condition

$$\mu_0 = 0, \quad 0 < \mu_{k+1} - \mu_k \leq 1 \quad (k \geq 0), \quad \lim_{k \to \infty} \mu_k = +\infty;$$

let $\alpha_k = 1 - (\mu_k - \mu_{k-1})$ $(k = 1, 2, \ldots)$; let the following operators

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be introduced:

$$L^{(\mu_0)}F(\sigma) \equiv F(\sigma), \quad L^{(\mu_k)}F(\sigma) \equiv -\frac{d_e^{-\alpha_k}}{d_e\sigma^{-\alpha_k}}\left\{e^{\sigma}\frac{d}{d\sigma}L^{(\mu_{k-1})}F(\sigma)\right\}, \; k \geq 1.$$

The function $L^{(\mu_k)}F(\sigma)$ is called continuous on $(\sigma_0, +\infty)$ if 1) it is continuous on $(\sigma_0, +\infty)$ and 2) there exists the limit value $L^{(\mu_k)}F(+\infty) = \lim_{\sigma\to\infty} L^{(\mu_k)}F(\sigma)$. Let $F(\sigma) \in L(\mu_n; \sigma_0)$ if on $(\sigma_0, +\infty]$ there exist all functions $L^{(\mu_k)}F(\sigma)$ and are continuous and if on $(\sigma_1, +\infty)$ the functions $e^{\sigma}\frac{d}{d\sigma}L^{(\mu_k)}F(\sigma)$ are continuous and absolutely integrable, where $\sigma_1 > \sigma_0$ is arbitrary.

Theorem: If $F(\sigma) \in L(\mu_n; \sigma_0)$, then for every $n \geq 0$ and $\sigma \in (\sigma_0, +\infty]$ there holds the formula



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On the Application of Some Integro-Differential Operators SOV/20-121-2-4/53

$$F(\sigma) = \sum_{k=0}^{n} \frac{L^{(\mu_k)} F(+\infty)}{\Gamma(1+\mu_k)} e^{-\lambda_k \sigma} + \frac{1}{\Gamma(\mu_{n+1})} \int_{\sigma}^{+\infty} (e^{-\sigma} - e^{-u})^{\mu_{n+1}-1} e^{-u} L^{(\mu_{n+1})} F(u)\,du.$$

Two further theorems contain conditions for the developability in the Dirichlet series if the function belongs to certain subclasses of $L(\mu_n; \sigma_0)$. Further results are combined with the introduction of certain generalized differential operators and with the use of Weyl's integral of the order $\alpha$.
There is 1 Soviet reference.

ASSOCIATION: Institut matematiki i mekhaniki Akademii nauk Arm.SSR (Institute for Mathematics and Mechanics of the Academy of Sciences of the Armenian SSR)

SUBMITTED: April 21, 1958

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AUTHORS: Dzhrbashyan, M.M., Nersesyan, A.B.

16

TITLE: On the Construction of Some Special Biorthogonal Systems

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko- matematicheskikh nauk, 1959, Vol.12, No. 5, pp. 17-42

TEXT: Let $y(x, \lambda)$ and $z(x, \lambda)$ be entire functions in $\lambda$ which belong to the class $L_1(0,1)$ together with their derivatives with respect to $\lambda$ for every fixed $\lambda$ with respect to x. Furthermore let all functions

$$(1.1) \quad \frac{\partial^r y(x,\lambda)}{\partial \lambda^r} \cdot \frac{\partial^s z(x,\lambda^*)}{\partial \lambda^{*s}} \qquad (r,s = 0,1,2,\ldots)$$

belong to $L_1(0,1)$, where $\lambda$, $\lambda^*$ are arbitrarily fixed. Furthermore let $\Omega(\lambda)$ be an entire function and

$$(1.2) \quad \int_0^1 y(x,\lambda) z(x,\lambda^*) dx = \frac{\Omega(\lambda) - \Omega(\lambda^*)}{\lambda - \lambda^*}$$

for all $\lambda$, $\lambda^*$. Let the function $\Omega(\lambda) - A_0$ possess denumerably many zeros

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$\lambda_i$ , $0 \leq |\lambda_1| \leq |\lambda_2| \leq \dots \leq |\lambda_n| \leq \dots$ , where $A_0$ is in general a complex number. Let $p_n$ be the multiplicity of the zero $\lambda_n$ . The systems of functions

$$(1.8) \qquad \frac{\partial^j y(x, \lambda_n)}{\partial \lambda_n^j} \quad (j = 0,1,\dots,p_n - 1) \quad \text{and}$$

$$(1.9) \qquad \sum_{k=0}^{p_n-j-1} \frac{b_{p_n-j-k-1}}{k!\,j!} \frac{\partial^k z(x,\lambda_n)}{\partial \lambda_n^k} \quad (j = 0,1,\dots,p_n - 1)$$

are to correspond to the zero $\lambda_n$ . $\{Y_\alpha(x)\}$ and $\{Z_\alpha(x)\}$ , $\alpha = 1,2,\dots$ denote the sets of all functions of the type (1.8) or (1.9) which are indexed in the sequence of the increasing moduli of the numbers $\lambda_n$ .

Theorem 1 : The systems $\{Y_\alpha(x)\}$ and $\{Z_\alpha(x)\}$ are biorthogonal on $[0,1]$, i.e.



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On the Construction of Some Special Biorthogonal Systems

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$$(1.10) \quad \int_0^1 Y_\alpha(x) Z_\beta(x)\,dx = \begin{cases} 0, & \alpha \neq \beta \\ 1, & \alpha = \beta \end{cases} \qquad (\alpha, \beta = 1, 2, \ldots)$$

Then the described general method is used in order to obtain biorthogonal systems from combinations of Mittag - Leffler functions. 1 theorem and 6 lemmata are given.
There are 5 references : 4 Soviet and 1 Swedish.

ASSOCIATION: Institut matematiki i mekhaniki AN Armyanskoy SSR (Institute of Mathematics and Mechanics AS Armenian SSR)
Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: September 9, 1959

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16(1)

AUTHOR: Dzhrbashyan, M.M., Member, Academy of Sciences, Armenian SSR SOV/20-124-1-4/69

TITLE: On the Theory of the Integral Transformations With Volterra Kernels (K teorii integral'nykh preobrazovaniy s yadrami Vol'terra)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 22-25 (USSR)

ABSTRACT: Let

$$\nu(z;\mu) = \int_0^\infty \frac{z^{\mu+t}}{\Gamma(1+\mu+t)}\, dt \quad .$$

Theorem: For every $g(y) \in L_2(0, +\infty)$ the formula

$$f(x) = \frac{1}{\sqrt{2\pi}} \frac{d}{dx} \int_0^\infty \frac{\nu(ixy; 1/2)}{iy}\, g(y)\, dy$$

determines almost everywhere on $(-\infty, +\infty)$ the function $f(x) \in L_2(-\infty, +\infty)$. The dual formula

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$$g(y) = \frac{1}{\sqrt{2\pi}} \frac{d}{dx} \int_{-\infty}^{\infty} f(x) \frac{e^{-ixy}-1}{-ix} dx$$

holds almost everywhere on $(0,+\infty)$. For $y \in (-\infty,0)$ it holds almost everywhere

$$\frac{1}{\sqrt{2\pi}} \frac{d}{dx} \int_{-\infty}^{\infty} f(x) \frac{e^{-ixy}-1}{-ix} dx = \sqrt{\frac{2}{\pi}} \int_{0}^{\infty} g(\tau) \frac{(-\tau y)^{-1/2} \log\left(-\frac{y}{\tau}\right)}{\pi^2 + \log^2\left(-\frac{y}{\tau}\right)} d\tau$$

It holds

$$\int_{0}^{\infty} |g(y)|^2 dy \leqslant \int_{-\infty}^{\infty} |f(x)|^2 dx \quad , \quad \int_{-\infty}^{\infty} |f(x)|^2 dx \leqslant M_1 \int_{0}^{\infty} |g(x)|^2 dy \ ,$$

where $M_1 = \text{const} > 0$ does not depend on $g(y)$ and $f(x)$. In a second theorem similar statements are made, only the kernels

$$\nu(z,\mu) \quad \text{and} \quad \frac{e^{-ixy}-1}{-ix} \quad \text{are permuted.}$$



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On the Theory of the Integral Transformations With Volterra Kernels SOV/20-124-1-4/69

The proofs are based on 6 lemmata which contain several interesting properties of $\nu(z, \mu)$.
There are 6 references, 1 of which is Soviet, 1 German, 1 English, 1 Italian, and 2 are American.

SUBMITTED: September 27, 1958

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