RADALYAN, G.S.

Genesis of interstellar neutral hydrogen and galactic Cepheids.
Dokl. AN Arm. SSR 27 no.1:13-22 '58. (MIRA 11:9)

1.Byurakanskaya astrofizicheskaya observatoriya. Predstavleno V.A. Ambartsumyanom.
(Gases, Interstellar) (Hydrogen)
(Stars, Variable)

BADALYAN, G.S.

Relationship between distributions of galactic Cepheids and neutral hydrogen. Dokl. AN Arm. SSR. 27 no.3:145-147 '58.
(MIRA 11:12)

1.Byurakanskaya astrofizicheskaya observatoriya AN Armyanskoy SSR. Predstavleno V.A. Ambartsumyanom.
(Interstellar matter) (Stars, Variable)

BADALYAN, G.S.

Comment on the color indexes of the classic Cepheids.
Dokl.AN Arm.SSR 30 no.2:93-95 '60. (MIRA 13:6)

1. Byurakanskaya astrofizicheskaya observatoriya Akademii nauk Armyanskoy SSR. Predstavleno akad. V.A.Ambartsumyanom.
(Cepheids)

BADALYAN, G.S.

Changes in the brightness of DO Tauri. Astron.tsir. no.211:29-30 My '60. (MIRA 13:10)

1. Byurakanskaya astrofizicheskaya observatoriya.
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BADALYAN, G.S.

Two new variable stars. Astron.tsir. no.217:9-11 D '60. (MIRA 14:3)

1. Byurakanskaya astrofizicheskaya observatoriya AN Armyanskoy SSR.
(Stars, Variable)

BADALYAN, G.S.

New variable stars in Taurus. Astron.tsir. no.224:22-25 Ag '61.
(MIRA 16:1)

1. Byurakanskaya astrofizicheskaya observatoriya AN Armyanskoy SSR.

(Stars, Variable)

BADALYAN, G.S.

Distribution of classical cepheids and neutral hydrogen in the arms of the Galaxy. Dokl. AN Arm. SSR 33 no.4:165-167 '61.
(MIRA 15:1)

1. Byurakanskaya astrofizicheskaya observatoriya AN Armyanskoy SSR. Predstavleno akademikom V.A.Ambartsumyanom.
(Milky Way)

BADALYAN, G.S.

Investigation of variable stars in the dark cloud in Tauri.
Soob. Biur. obser. no.31:57-109 '62. (MIRA 16:9)

BADALYAN, G.S.

Three new variable stars. Astron. tsir. no.228:21-23 Ap '62.
(MIRA 16:6)

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(Stars, Variable)

BADALYAN, G.S.

New variable star in Taurus. Astron. tsir. no. 261:3-4 O '64.
(MIRA 17:5)

1. Byurakanskya astofizicheskaya observatoriya AN Armyanskoy SSR.

BADALYAN, G. V. Cand. Physicomath. Sci.

Dissertation: "Generalized Factorial Series." Moscow Order of Lenin State U. imeni M. V. Lomonsov. 1 Oct. 1947

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SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, No. 18, 1949).

1. BADALYAN, G. V.

2. USSR 600

4. Series, Infinite

7. Generalized factorial series, Soob. Inst. mat. i mekh. AN Arm. SSB, No. 5, 1950.

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1. Sektor matematiki i mekhaniki Akademii nauk Armyanskoy SSR.
(Series, Taylor's)

RADALYAN, G.V.

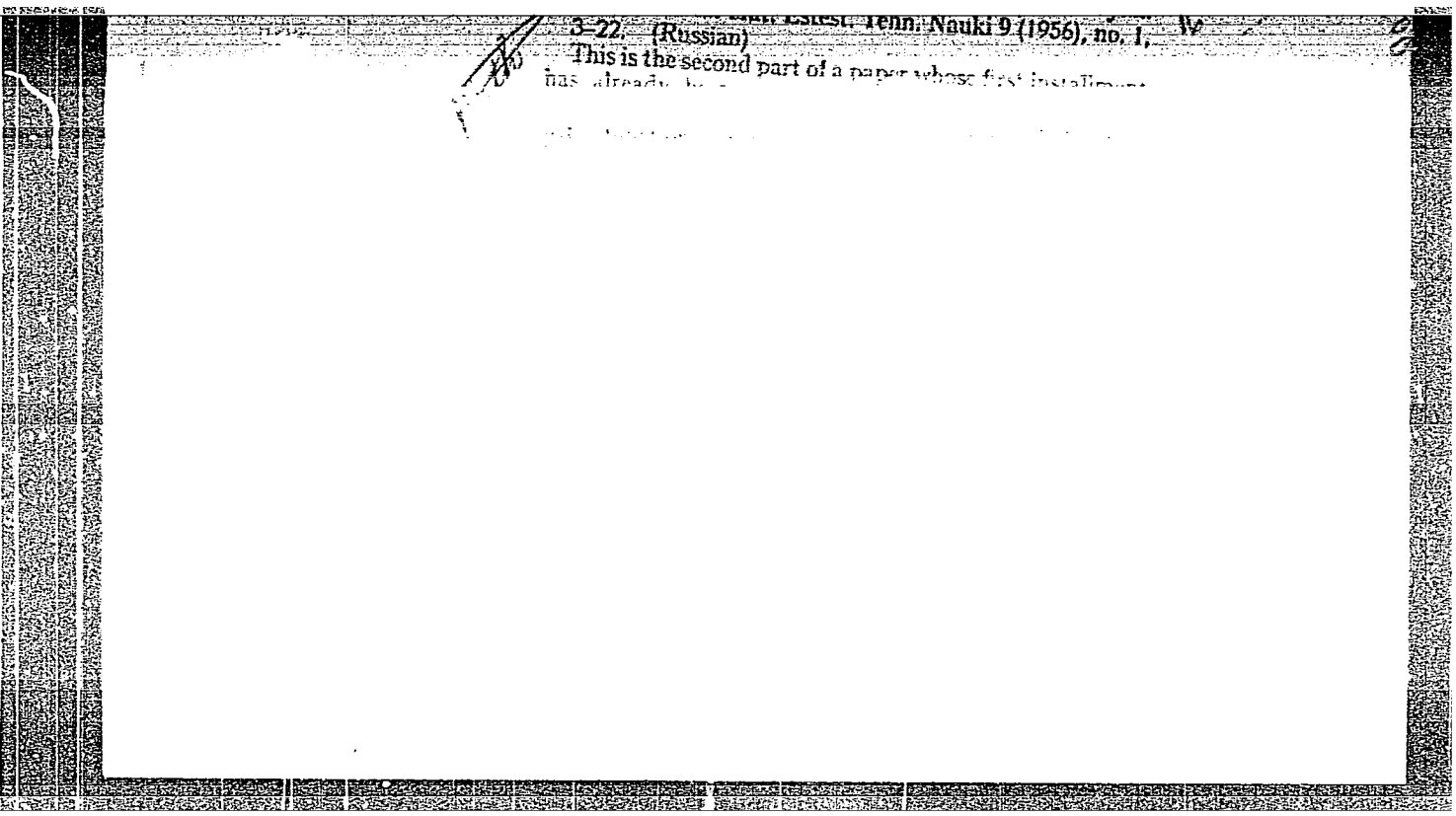
Generalization of Taylor's series and some problems in the theory of analytic and quasi-analytic functions. Izv.AN Arm. SSR. Ser. FMET nauk 7 no.1:3-33 Ja-F '54. (MLRA 8:2)

1. Sektor matematiki i mekhaniki Akademii nauk Armyanskoy SSR.
(Series, Taylor's)

BADALYAN, G.V.

Generalization of Legendre polynomials and some of their applications. Izv.AN Arm.SSR.Ser.FMET nauk 8 no.5:1-28 S-O '55.(MLRA 9:3)

1. Sektor matematiki i mekhaniki AN Armyanskoy SSR.
(Legendre's functions)



3-22, (Russian)

This is the second part of a paper whose first installment

Name: BADALYAN, Gayk Vagarshakovich

Dissertation: Certain problems of the theory of analytical and quasi-analytical functions

Degree: Doc Phys-Math Sci

Affiliation: Yerevan State Russian Ped Inst imeni Zhdanov

Defense Date, Place: 11 Mar 57, Council of Moscow Order of Lenin and Order of Labor Red Banner State U imeni Lomonosov

Certification Date: 5 Oct 57

Source: BMVO 23/57

AUTHOR: Badalyan, G.V. SOV/22-11-3-1/5

TITLE: Some Limit Properties of the Generalized Taylor Series (Nekotoryye granichnyye svoystva obobshchennogo ryada Teylora)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Seriya fiziko-matematicheskikh nauk, 1958, Vol 11, Nr 3, pp 3-22 (USSR)

ABSTRACT: The present paper contains the § 3, Tauberian theorems, of the publication begun in the preceding number of this periodical. Two theorems are proved:

1. From the summability of the series $\sum_{o}^{\infty} a_n$ with respect to the method $(C_\gamma, 1)$ there follows the convergence of the series in the usual sense if $a_n > -\frac{C}{\alpha_n}$, $n \geqslant n_o(C)$, $C > 0$ and $\{\alpha_n\}$ satisfies the (α, γ) condition.
2. If $a_n = \frac{1}{\gamma_n} \exp\left(-\delta \sum_{1}^{n} \frac{1}{\gamma_\nu^2}\right)$, $\delta > 0$ arbitrarily small, $0 < \gamma_1 \leqslant \gamma_2 \leqslant \ldots$, $\sum_{1}^{\infty} \frac{1}{\gamma_\nu} = \infty$ and if the series $\sum_{o}^{\infty} a_n$ is summable with respect to the method (A_γ), then it is convergent

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in the usual sense too.

In the special case $\alpha_\nu = \gamma_\nu$, $\nu = 1,2,\ldots$ the theorem 1 is a direct generalization of the well-known Tauberian theorem for the (C,1)-method.

The used notations are descended from the first part of the paper; only the notion of the (α, γ)-condition is new:

Let $\{\alpha_\nu\}$ satisfy the (α, γ)-condition if from

$$\lim_{n\to\infty} \sum_{\nu=n}^{m(n)} \frac{1}{\gamma_\nu} = 0, \quad 0 = \gamma_0 < \gamma_1 < \gamma_2 \leq \ldots \to \infty, \quad \sum_{1}^{\infty} \frac{1}{\gamma_\nu} = \infty$$

there follows

$$\lim_{n\to\infty} \sum_{\nu=n}^{m(n)} \frac{1}{\alpha_\nu} = 0, \qquad \nu = 1,2,\ldots$$

There are 4 references, 2 of which are Soviet, and 2 English.

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

SUBMITTED: January 14, 1958

Card 2/2 1. Mathematics

BADALYAN, G.V.

16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soderzhaniye sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow. vol. 4: Summary of Sectional Reports. Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.N. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P. L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

16(1) 05688

AUTHOR: Badalyan, G.V. SOV/22-12-4-1/9

TITLE: On Some Boundary Properties of Functions Representable by a Generalized Taylor Series

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko- matematicheskikh nauk, 1959, Vol 12, Nr 4, pp 3 - 26 (USSR)

ABSTRACT: The author transfers theorems of M.P. Shcheglov [Ref 1] to the generalized Taylor series

$$(1) \quad \varphi(t) = \sum_{n=0}^{\infty} a_n \omega_n(t)$$

where

$$(2) \quad t \in (0,1] \ , \ \omega_n(t) = \frac{\prod_{\nu=1}^{n} \gamma_\nu}{2\pi i} \int_C \frac{t^{-\zeta} d\zeta}{\prod_{\nu=0}^{n} (\zeta + \gamma_\nu)} \ , \quad \omega_0(t) = 1$$

$$(3) \quad \gamma_0 = 0 < \gamma_1 \leq \gamma_2 \leq \ldots \leq \gamma_n \ \ldots \to \infty \ , \ \sum_{\nu=1}^{\infty} \frac{1}{\gamma_\nu} = \infty$$

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and C denotes a simple curve enveloping the zeros of the denominator of the integrand.

The sequence $\{t_m\}$ is assumed to have the property

$$(\alpha) \quad \begin{cases} t_m \downarrow 0, \ m \to \infty \\ \dfrac{t_m}{t_{m+1}} < d \ , \text{ where } d > 1 \text{ is arbitrary finite.} \end{cases}$$

Theorem A : Let

$a_n = O\left(\frac{1}{\gamma_n}\right)$, $\lim_{m \to \infty} \varphi(t_m) = S$, where S is a finite number.

Then it is $\lim_{t \to 0^+} \varphi(t) = S$.

Theorem $\overline{A}$: The sequence $\{t_m\} \in (0,1]$ is assumed to have the property

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On Some Boundary Properties of Functions Representable by a Generalized Taylor Series SOV/22-12-4-1/9

$$(\bar{\alpha}) \quad \begin{cases} t_m \downarrow 0 , & m \to \infty \\ \lim\limits_{t_m \to 0} \dfrac{t_m}{t_{m+1}} = \infty \end{cases}$$

Then there exists a series $\sum\limits_{n=0}^{\infty} a_n$ so that 1. $a_n = O\left(\frac{1}{\gamma_n}\right)$,

$\sum\limits_{\nu=1}^{\infty} \frac{1}{\gamma_\nu^2} < \infty$, 2. $\varphi(t_m) = \sum\limits_{n=0}^{\infty} a_n \omega_n(t) = O(1)$,

3. $\underline{\lim\limits_{t\to 0}} \varphi(t) \neq \overline{\lim\limits_{t\to 0}} \varphi(t)$.

Four further theorems B, $\overline{B}$, C, $\overline{C}$ contain similar statements for other sequences $\{t_m\}$.

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On Some Boundary Properties of Functions Representable by a Generalized Taylor Series SOV/22-12-4-1/9

There are 4 Soviet references.

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

SUBMITTED: January 17, 1959

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80853

16.4000 S/022/59/012/06/01/009

AUTHOR: Badalyan, G. V.

TITLE: Generalization of the Hausdorff Summation Method for Series

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1959, Vol. 12, No. 6, pp. 3-36

TEXT: Let

$$(1.1)\quad 0=\gamma_0<\gamma_1<\cdots<\gamma_n<\cdots\to\infty\ ,\ \sum_{\nu=1}^{\infty}\frac{1}{\gamma_\nu}=\infty\ ,$$

$$(1.2)\quad \lambda_{m,n}(x)=\frac{\prod_{\nu=n+1}^{m}\gamma_\nu}{2\pi i}\int_C\frac{x^{-s}\,ds}{\prod_{\nu=n}^{m}(s+\gamma_\nu)}\ ,\ n=0,1,\ldots,m,\quad x\in[0,1],$$

where C circulates around the zeros of the denominator. Let furthermore

$$(1.12)\quad \lambda_{m,n}=\prod_{\nu=n+1}^{m}\gamma_\nu\sum_{j=n}^{m}\frac{(\mu_j}{\prod_{\nu\neq j}^{m}(\gamma_\nu-\gamma_j)}\ ,\ n=0,1,\ldots,m$$

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Generalization of the Hausdorff Summation Method for Series

The sequence $\{\mu_n\}$ is said satisfy the condition (A), if

(1.13) $\sum_{k=0}^{m} |\lambda_{m,n}| < L$, m = 0, 1, 2, ..., L = const.

The author proves a number of properties of the $\lambda_{m,n}(x)$, $\lambda_{m,n}$ μ_n. The results serve for generalization of the Hausdorff momentum theory. The sequence $\{\mu_n\}$ is called sequence of moments, if

(2.1) $\mu_n = \int_0^1 t^{\gamma_n} d\alpha(t)$, n = 0, 1, 2, ...

where $\{\gamma_n\}$ satisfies (1.1) and $\alpha(t)$ is of bounded variation.

Theorem 4: In order that $\{\mu_n\}$ be a sequence of moments it is necessary and sufficient that it satisfies (A). Theorem 5: If $\{\mu_n\}$ satisfies the condition A, then $\mu_\infty = \lim_{m\to\infty} \mu_m$ and

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Generalization of the Hausdorff Summation Method for Series

(2.4) $\mu_n - \mu_\infty = \lim \int_0^1 t^{\gamma_n} L_{m,t}\{\mu\}\, dt$

exists, where it is

(2.3) $L_{m,t}\{\mu\} = \dfrac{\lambda_{m,[mt]}}{\int_0^1 \lambda_{m,[mt]}(x)\,dx}$ $\qquad t \in [0, 1]$, $\quad m = 1, 2, \ldots,$

$[m\ t]$ integer part of $m\ t$. The sequence $\{\mu_n\}$ is called absolutely monotonic, if

$$\overset{*}{\Delta}{}^K_{\mu_n} \equiv \sum_{j=0} \frac{\prod_{\nu=1}^{K} \gamma_{n+\nu}}{\prod_{\substack{\nu=0 \\ \nu \neq j}}^{K} (\gamma_{n+\nu} - \gamma_{n+j})}\, \mu_{n+j} \geq 0\,, \qquad K, n = 0, 1, 2, \ldots$$

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Generalization of the Hausdorff Summation Method for Series

Theorem 6: In order that $\{\mu_n\}$ be absolutely monotonic it is necessary and sufficient that there is a nondecreasing function $\alpha(t)$ which on $[0,1]$ is of bounded variation and satisfies the condition

$$\mu_n = \int_0^1 t^{\gamma_n} \, d\alpha(t) \quad , \qquad n = 0, 1, 2, \ldots, \tag{2.14}$$

Theorem 7 is a generalization of the theorem of A. F. Solov'yev (Ref. 8).
Theorem 7': In order that

$$\mu_n = \int_0^1 t^{\gamma_n} \varphi(t) \, dt \quad , \qquad n = 0, 1, 2, \ldots,$$

where $\varphi(t) \in L^p$ ($[0,1]$), $p > 1$, it is necessary and sufficient that

$$\sum^{m} |\lambda_{m,k}|^p \left\{ \int_0^1 \lambda_{m,k}(t) \, dt \right\}^{1-p} < L$$

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Generalization of the Hausdorff Summation Method for Series

where $L > 0$, $L = \text{const}$ is independent of m. The sequence $\{\mu_n\}$ is said to satisfy (C), if

$$(2.26) \quad |\lambda_{m,k}| \left(\int_0^1 \lambda_{m,k}(t)\, dt \right)^{-1} < L$$

Theorem 8: (C) is necessary and sufficient in order that

$$\mu_n = \int_0^1 t^{\gamma_n} \varphi(t)\, dt \,, \qquad n = 0, 1, 2, \ldots,$$

where $\varphi(t)$ is a bounded function on $[0, 1]$. In the last part of the paper the author generalizes the Hausdorff summation method. The transformation

$$(3.1) \quad t_m = \sum_{n=0}^{m} \lambda_{m,n} S_n$$

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Generalization of the Hausdorff Summation Method for Series

is denoted as H-transformation. The corresponding summation method as generalized Hausdorff summation method H or $H(\mu, \gamma)$. Theorem 9 : In order that H be regular it is necessary and sufficient that there is a function $\alpha(t)$ which is of bounded variation on $[0,1]$ and for which it is

$$(3.2) \quad \int_0^1 t^{\gamma_n} \, d\alpha(t) = \mu_n , \quad n = 0,1,2,\ldots, \quad \alpha(0+) = \alpha(0) = 0, \; \alpha(1) = 1 .$$

Theorem 10 states that the successive application of the transformations $H(\mu,\gamma)$ and $H(\mu',\gamma)$ is an $H(\mu\mu',\gamma)$. In theorem 11 the author introduces a transformation $\tilde{H}$ so that $H \cdot \tilde{H}$ is the identical transformation. Theorem 12 states that it is $H(\mu', \gamma) \succ H(\mu,\gamma)$ if and only if $\{\mu'_n/\mu_n\}$ is regular. Theorem 13 is missed. Theorem 14 states that the generalized Cesaro method from (Ref.4) is a special case of $H(\mu, \gamma)$.

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S/022/59/012/06/01/009

Generalization of the Hausdorff Summation Method for Series

The author mentions A. O. Gel'fond and S. N. Bernshteyn.
There are 10 references: 4 Soviet, 1 German, 3 English and 2 American.

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

SUBMITTED: March 16, 1959

Card 7/7

84741

16.4100

S/022/60/013/003/007/008 XX
C111/C222

AUTHOR: Badalyan, G.V.

TITLE: Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, Vol. 13, No. 3, pp. 3 - 19

TEXT: The author considers the Legendre's quasipolynomials

$$(1)\qquad P_n(x) = \frac{\sqrt{2\gamma_n^* + 1}}{2\pi i} \int_{C_n^*} \prod_{\nu=0}^{n-1} \frac{\zeta + \gamma_\nu^* + 1}{\zeta - \gamma_\nu^*} \frac{x^\zeta \, d\zeta}{\zeta - \gamma_n^*} ,$$

introduced by the author in (Ref. 1,2), where $0 = \gamma_0^* < \gamma_1^* \leq \ldots \to \infty$ and the C_n^* run around the zeros of the denominator. He seeks the principal part of $P_n(x)$ for large n and $\delta_0 < x < 1 - \delta_0$.

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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Let

(2) $\gamma_y^* + \frac{1}{2} = \gamma_y$, $t = \ln \frac{1}{x}$, $k_n = \sqrt{2\gamma_n} = \sqrt{2\gamma_n^* + 1}$,

(3) $\varphi(t) = ty - 2\sum_{y=0}^{n-1} \int_0^y \frac{\gamma_y \, du}{u^2 + \gamma_y^2} = ty - 2\sum_{y=0}^{n-1} \operatorname{arctg} \frac{y}{\gamma_y}$.

Let $R_o = R_o(t)$ be the single root of

(4) $\varphi'(t) = t - 2\sum_{o}^{n-1} \frac{\gamma_y}{R_o^2 + \gamma_y^2} = 0$.

For a sufficiently small $\delta (0 < \delta < 1)$ it holds

(5) $\frac{R_1}{R_o} = 1 + \delta$, $\frac{R_2}{R_o} = 1 - \delta$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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where R_1, $R_2 > 0$. Let

$$(6) \qquad \psi(y) = t(y - 1) - 2 \int_1^y \sum_{\nu=0}^{n-1} \frac{\gamma_\nu \, du}{R_0^2 u^2 + \gamma_\nu^2}$$

$$(7) \qquad I(\alpha, \beta) = \frac{k_n}{2\pi} \int_\alpha^\beta \prod_{\nu=0}^{n-1} \frac{iy + \gamma'_\nu}{iy - \gamma_\nu} \, \frac{e^{-ity} dy}{iy - \gamma_n} \quad ,$$

where α, β are arbitrary numbers.

Lemma 1 : There hold the inequations

$$(8) \qquad 0 < \frac{\delta}{4} \psi''(1) < \psi'(R_1) < \delta \psi''(1) \quad ,$$

$$(8') \qquad \frac{\delta}{4} \psi''(1) < -\psi'(R_2) < \delta \psi''(1) \quad .$$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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Lemma 2 : For $1 - \delta < \xi < 1 + \delta$, $0 < \delta < 1$ it holds

(9) $$|\psi'''(\xi)| < \frac{3}{(1-\delta)^4}\psi''(1) \quad .$$

Lemma 3 : Let $0 < t < \delta$ and $I(\alpha,\beta)$ be defined by (7). Then it holds

(11) $$|I(0,R_2)| < \frac{2k_n}{\gamma_n|\varphi'(R_2)|} < \frac{8k_n}{\gamma_n \delta \psi''(1)}$$

(11') $$|I(-R_2,0)| < \frac{2k_n}{\gamma_n|\varphi'(R_2)|} < \frac{8k_n}{\gamma_n \delta \psi''(1)} \quad .$$

Lemma 4 : Let $0 < t < \infty$ and $I(\alpha,\beta)$ be defined by (7). Then it holds

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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$$(13) \qquad |I(R_1, T)| < \frac{k_n}{\gamma_n \varphi'(R_1)} < \frac{4k_n}{\gamma_n \delta \psi''(1)} \quad ,$$

$$(13') \qquad |I(-R_1, -T)| < \frac{k_n}{\gamma_n \varphi'(R_1)} < \frac{4k_n}{\gamma_n \delta \psi''(1)}$$

where $T > R_1$ is an arbitrary number.

Lemma 5 : Let $1 - \delta < \xi < 1 + \delta$, $\delta (0 < \delta < 1)$ be sufficiently small

$$I_1(\delta) = \int_{-\delta}^{\delta} \frac{\exp\left\{-iR_0\left[\frac{\psi''(1)}{2!} y^2 + \frac{\psi'''(\xi)}{3!} y^3\right]\right\}}{i(y+1) R_0 - \gamma_n} dy$$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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$$I_2(\delta) = \frac{1}{iR_o - \gamma_n} \int_{-\delta}^{\delta} \exp\left\{ - iR_o \left[\frac{\psi''(1)}{2!} y^2 + \frac{\psi'''(\xi)}{3!} y^3 \right] \right\} dy \ ,$$

where $\psi(y)$ is given by (6). Then it holds

$$(14) \qquad I_1(\delta) = I_2(\delta) + 0\left(\frac{R_o \delta^2}{R_o^2 + \gamma_n^2} \right).$$

Lemma 6 : Let $1 - \delta < \xi < 1 + \delta$, $0 < \delta < 1$,

$$Y_1(\delta) = \int_{-\delta}^{\delta} \exp\left\{ - iR_o \left[\frac{\psi''(1)}{2!} y^2 + \frac{\psi'''(\xi)}{3!} y^3 \right] \right\} dy$$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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$$Y_2(\delta) = \int_{-\delta}^{\delta} \exp\left[- iR_o \frac{\psi''(1)}{2!} y^2 \right] dy \, .$$

Then it holds

(15) $$Y_1(\delta) = Y_2(\delta) + 0\left[R_o \delta^4 \psi''(1) \right] .$$

Lemma 7 : Let $0 < t < \infty$, $I(\alpha, \beta)$ be defined by (7). Then it holds

(16) $$I(R_2, R_1) = \frac{1}{2\pi} \frac{k_n R_o \delta e^{-i\varphi(R_o)}}{n(R_o i - \gamma_n)} \int_{-\alpha_n}^{\alpha_n} e^{-iy^2} dy + O(\Delta_n) ,$$

(16') $$I(-R_1, -R_2) = -\frac{1}{2\pi} \frac{k_n R_o \delta e^{i\varphi(R_o)}}{\alpha_n(R_o i + \gamma_n)} \int_{-\alpha_n}^{\alpha_n} e^{iy^2} dy + O(\Delta_n) ,$$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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where

$$\alpha_n = \sqrt{\frac{R_o \psi''(1)}{2}}\,\delta \quad , \quad \Delta_n = \max\left(\frac{R_o \delta^2 k_n}{R_o^2 + \gamma_n^2} \quad , \quad R_o \delta^4 k_n \psi''(1)\right) .$$

Theorem 1: For every $0 < x < 1$, $t = \ln \frac{1}{x}$ and a sufficiently large n there holds the relation

$$(22)\quad x^{\frac{1}{2}} P_n(x) = \frac{\sqrt{2\gamma_n R_o}\,\delta}{\pi \alpha_n (R_o^2 + \gamma_n^2)} \left\{ (A_n R_o - B_n \gamma_n)\sin\varphi(R_o) + (B_n R_o + A_n \gamma_n)\cos\varphi(R_o) \right\} + + \mathcal{O}(\Delta_n^*) ,$$

where

$$A_n = 2\int_0^{\alpha_n} \cos x^2 dx \ , \ B_n = 2\int_0^{\alpha_n} \sin x^2 dx \ , \ \Delta_n^* = \max\left(\Delta_n, \frac{\sqrt{\gamma_n}}{\gamma_n \delta \psi''(1)}\right)$$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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while R_o, $\varphi(y)$, $\Psi(y)$ are defined by (3), (4), (6).

Conclusion 1: Under the assumptions of the theorem and for $\alpha_n = \frac{R_o \Psi''(1)}{2} \delta \to \infty$ it holds

$$\alpha_n = \frac{R_o \Psi''(1)}{2} \delta \to \infty \,, \tag{25}$$

$$x^{\frac{1}{2}} P_n(x) = \frac{\sqrt{\gamma_n R_o}}{(\gamma_n^2 + R_o^2 \sqrt{\frac{\tilde{\kappa} R_o \Psi''(1)}{2}}} \left\{ (\gamma_n + R_o) \cos \varphi(R_o) + (R_o - \gamma_n) \sin \varphi(R_o) \right\} + \theta(\Delta_n^k) \,.$$

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Asymptotic Representation of Legendre's Quasipolynomials for Large Indices

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Conclusion 2: For $0<x<1$, $\gamma_\nu = \nu + \frac{1}{2}$, $\nu = 0,1,2,\ldots$ and a sufficiently large n it holds

$$(27)\quad P_n(x) = \sqrt{\frac{2}{\pi}} \frac{1}{[x(1-x)]^{1/4}} \sin\left[\left(n+\frac{1}{2}\right) 2\arcsin\sqrt{x} + \frac{\pi}{4}\right] + O(1) =$$

$$= \sqrt{\frac{2}{\pi}} \frac{1}{[x(1-x)]^{1/4}} \sin\left[\left(n+\frac{1}{2}\right) \arccos(2x-1) + \frac{\pi}{4}\right] + O(1) \ .$$

ASSOCIATION: Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: January 20, 1960

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S/022/60/013/004/006/007XX
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16.4000

AUTHOR: Badalyan, G.V.

TITLE: Some Tauberian Theorems for the Generalized Taylor Series 16

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, Vol.13, No.4, pp.79-84

TEXT: The paper contains an improvement of the lemma 3 used in (Ref.1) for the proof of theorem 11 as well as a corresponding improvement of theorem 11 of (Ref.1).

Lemma 3: If the series $\sum_{n=0}^{\infty} a_n$ is (A_γ)-summable (cf. (Ref.1)) and

(2) $$a_n = 0\left(\frac{1}{\gamma_n}\cdot\frac{1}{\sum_{\nu=1}^{n}\frac{1}{\gamma_\nu^2}}\right),$$

then it holds

(3) $$|S_n| = \left|\sum_{k=0}^{n} a_k\right| < A,$$

where $A>0$ is a constant not depending on n.

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Some Tauberian Theorems for the Generalized Taylor Series

Theorem 1 (improvement of theorem 11 of (Ref.1)): From the (A_γ)-summability of the series $\sum_{n=0}^{\infty} a_n$, where a_n satisfies (2), where $0<\gamma_1\leqslant\gamma_2\leqslant\ldots\to\infty$, $\sum_{\nu=1}^{\infty}\frac{1}{\gamma_\nu}=\infty$, there follows its convergence (to the same sum) in the usual sense.

Combining this theorem with the theorems $A,\bar{A},B,\bar{B}$ of (Ref.2) it follows theorem 2: Given

1. the series $\varphi(t)=\sum_{n=0}^{\infty} a_n\omega_n(t)$, $0<t\leqslant 1$,

2. $a_n=0\left(\frac{1}{\gamma_n}\cdot\frac{1}{\sum_{1}^{n}\frac{1}{\gamma_\nu^2}}\right)$,

3. $\lim_{m\to\infty}\varphi(t_m)=S$, where S is a certain number and $\{t_m\}$ has the properties

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Some Tauberian Theorems for the Generalized Taylor Series

$$(\alpha)\quad \begin{cases} t_m \downarrow 0, \ m=1,2,\ldots \\ \dfrac{t_m}{t_{m+1}} \leqslant d, \quad d>1 \text{ finite.} \end{cases}$$

Then $\sum_{n=0}^{\infty} a_n$ converges to S in the usual sense.

Theorem 2': 1) Let $\{t_m\} \in (0,1)$ have the property $(\bar{\alpha})$: $t_m \downarrow 0$, $m \to \infty$ and $\lim_{m\to\infty} \dfrac{t_m}{t_{m+1}} = \infty$. 2) Let $\sum_{1}^{\infty} \dfrac{1}{\gamma_\nu^2} < \infty$. Then there exists a divergent series $\sum_{n=0}^{\infty} a_n$ so that 1) $a_n = O\left(\dfrac{1}{\gamma_n}\right)$, 2) $\varphi(t_m) = \sum_{n=0}^{\infty} a_n \omega_n(t_n) = O(1)$ for $m \to \infty$.

Theorem 3 asserts the same as theorem 2 but (α) is replaced by

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Some Tauberian Theorems for the Generalized Taylor Series

$$(\alpha') \begin{cases} t_m \downarrow 0 \\ \lim\limits_{m\to\infty} \dfrac{t_m}{t_{m+1}} = 1 . \end{cases}$$

Theorem 3': Let $\{t_m\} \in (0,1)$ have the property $\begin{cases} t_m \downarrow 0, \ m\to\infty \\ \lim\limits_{m\to\infty} \dfrac{t_m}{t_{m+1}} = d, \ d>1 \text{ arbitrary.} \end{cases}$

Let $\sum\limits_1^\infty \dfrac{1}{\gamma_\nu^2} < \infty$. Then there exists a divergent series $\sum\limits_{n=0}^\infty a_n$, so that

1) $a_n = O\left(\dfrac{1}{\gamma_n}\right)$, 2) $\lim\limits_{m\to\infty} \varphi(t_m) = S$.

There are 3 references: 2 Soviet and 1 American.

ASSOCIATION: Institut matematiki i mekhaniki AN Armyanskoy SSR (Institute of Mathematics and Mechanics of the Academy of Sciences Armyanskaya SSR)

SUBMITTED: April 5, 1960

Card 4/4

BADALYAN, G.V.

Zeros of Legendre's polynomials. Dokl.AN Arm.SSR 30 no.5:251-255 '60.
(MIRA 13:8)

1. Yerevanskiy gosudarstvennyy universitet. Predstavleno akad. AN Armyanskoy SSR M.M. Dzhrbashyanom.
(Legendre's functions)

BADALYAN, G.V.

Methods of summation of integrals (series) equivalent to Riesz's method. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 14 no.3: 3-16 '61. (MIRA 14:8)

1. Yerevanskiy gosudarstvennyy universitet.
(Integrals) (Sequences (Mathematics))

BADALYAN, G.V.

Absolutely monotonic functions of class A_γ. Izv. AN Arm. SSR. Ser. fiz.-mat.nauk 14 no.4:21-35 '61. (MIRA 14:11)

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

BADALYAN, G.V.

Functions of the class $C\left\{\prod_{1}^{n} V_\nu\right\}$. Izv. AN Arm. SSR. Ser. fiz.-mat.nauk 14 no.5:141-147 '61. (MIRA 14:10)

1. Institut matematiki i mekhaniki AN Armyanskoy SSR.
(Functional analysis)

BADALYAN, G.V.

Derivative of S.N. Bernstein's quasi-polynomial. Izv. AN Arm. SSR. Ser.fiz.-mat. nauk 14 no.6:5-16 '61. (MIRA 15:1)

1. Yerevanskiy gosudarstvennyy universitet.
(Bernstein polynomials)

BADALYAN, G.V.

Letter to the Editor. Izv. AN Arm. SSR. Ser.fiz.-mat. nauk 14 no.6:135 '61. (MIRA 15:1)

(Bernstein polynomials)

BADALYAN, G.V.

Expandability of functions and a generalized power series in the main interval. Izv. AN SSSR. Ser. mat. 25 no.6:887-898 N-D '61. (MIRA 14:11)

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

BADALYAN, G.V.

Conditions for the expansion of functions into a quasipower series outside of the fundamental interval. Dokl. AN SSSR 136 no.2:269-271 '61. (MIRA 14:1)

1. Institut matematiki Akademii nauk Armyanskoy SSR. Predstavleno akademikom M.V. Keldyshem.
(Series)

BADALYAN, G.V.

Criterion of the expandability of any function into a quasi-power series, and quasi-analytic class of functions. Dokl. AN SSSR 141 no.5:1009-1010 D '61. (MIRA 14:12)

1. Yerevanskiy gosudarstvennyy universitet. Predstavleno akademikom I.N. Vekua.
(Series) (Functions, Analytic)

BADALYAN, G.V.

Condition of expansibility of functions into quasi-exponential series with slow ascension of the sequence $\{\lambda_n\}$. Izv.AN Arm. SSR.Ser.fiz.-mat.nauk. 15 no.2:3-14 '62. (MIRA 15:4)

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

BADALYAN, G.V.

Generalized regular monotone functions. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 15 no.3:3-16 '62. (MIRA 15:9)

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

BADALYAN, G.V.

Criterion of the absolute convergence of a quasi-power series. Izv.AN Arm.SSR.Ser.fiz.-mat.nauk 15 no.4:3-11 '62. (MIRA 15:8)

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

BADALYAN, G.V.

Representation of functions of nonquasi-analytic classes. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 15 no.5:3-9 '62. (MIRA 15:11)

1. Yerevanskiy gosudarstvennyy universitet.
(Functions) (Series)

S/038/62/026/003/001/003
B125/B112

AUTHOR: Badalyan, G. V.

TITLE: Condition of the expansibility of functions in a generalized power series outside the main interval

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya matematicheskaya, v. 26, no. 3, 1962, 313 - 328

TEXT: The author lays down a condition for a function to be expansible in a generalized Taylor series $\varphi(t) = \sum_{n=0}^{\infty} a_n \omega_n(t/n)$ where

$$\omega_n\left(\frac{t}{u}\right) = \frac{(-1)^n \prod_{\nu=1}^{n} \gamma_\nu}{2\pi i} \int_C \frac{\left(\frac{t}{u}\right)^{-\zeta} d\zeta}{\prod_{\nu=0}^{n} (\zeta + \gamma_\nu)}, \quad n = 1, 2, \ldots, \qquad (2)$$

$$0 = \gamma_0 < \gamma_1 < \gamma_2 \leqslant \ldots \leqslant \gamma_n \leqslant \ldots, \quad \sum_{\nu=1}^{\infty} \frac{1}{\gamma_\nu} = \infty.$$

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Condition of the expansibility ...

The domain of definition is the interval $0<u\leq t<\infty$. It is shown that as the rate of growth of the sequence of numbers $\gamma_0, \gamma_1, \gamma_2, \ldots$ increases, the class of the expansible functions becomes narrower by contrast with the range of definition $0<t\leq u<\infty$.

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

SUBMITTED: March 16, 1960

BADALYAN, G.V.

Criterion of the expandability of functions in a quasi-exponential series and quasi-analytic classes of functions. Izv.AN SSR.Ser.mat. 26 no.6:839-864 N-D '62. (MIRA 15:12)
(Series) (Functions, Analytic)

BADALYAN, G.V.

Generalized regularly monotonic functions and criterion of the abosolute convergence of a quasi-power series. Dokl. AN SSSR 142 no.1:12-13 Ja '62. (MIRA 14:12)

1. Institut matematiki i mekhaniki AN Armyanskoy SSR. Predstavleno akademikom I.N. Vekua.
(Functional analysis)
(Series)

BADALYAN, G.V.

Letter to the editor. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 16 no.1:129 '63. (MIRA 16:3)
(Bernstein polynomials)

BADALYAN, G.V.

Generation of constant axially symmetric magnetic fields in a ferromagnetic system. Izv.AN Arm.SSR. Ser. fiz.-mat. nauk 17 no.5:121-126 '64. (MIRA 17:12)

1. Fizicheskiy institut Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR, Yerevan.

BADALYAN, G.V.

Certain general properties of a quasi-power series. Izv. AN SSSR. Ser. mat. 28 no. 1:147-178 Ja-F '64. (MIRA 17:6)

BADALYAN, G.V.

Generation of axially symmetrical magnetic fields of a prescribed shape. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 17 no.6:141-148 '64. (MIRA 18:3)

1. Fizicheskiy institut Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR.

BADALYAN, G.V.

Registration probability of charged particles in the system of a mass spectrometer with two Wilson chambers. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk .0 no.6:75-88 '57. (MIRA 11:2)

1. Institut fiziki AN ArmSSR.
(Mass spectrometry)

21(1)

AUTHOR: Badalyan, G.V.

SOV/22-11-6-8/10

TITLE: The Generation of Quick Deitrons in Lead and Copper by the Nucleon Component of the Cosmic Radiation (Generatsiya bystrykh deytronov v svintse i medi nuklonnoy komponentoy kosmicheskogo izlucheniya)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh Nauk, 1958, Vol, Nr 6, pp 3-14 (USSR)

ABSTRACT: The paper is a continuation of [Ref 1]. A magnetic spectrometer with two Wilson-cameras is used for the separation of the air deitrons from the deitrons locally generated in the upper chamber by the nuclear-active component of cosmic radiation. 68 of the 104 registered deitrons are generated in the lead and 36 in the copper of the chamber walls. The author discusses in detail the effectiveness of the generation of deitrons by neutral and charged components of the cosmic radiation, the impulse spectrum of the deitron generation, the estimation of the differential cross section of the deitron generation in the medium of the upper chamber and the possible theoretical proof of the observed results. The author thanks

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The Generation of Quick Deitrons in Lead and Copper by the Nucleon Component of the Cosmic Radiation SOV/22-11-6-8/10

Professor A.I. Alikhanyan, Professor N.M. Kocharyan, M.L. Ter-Mikaelyan, G.M. Garibyan, and I.I. Gol'dman for discussions, and A.T. Dadayan, V.M. Fedorov, B.N. Deryagin, V.G. Kirillov-Ugryumov, G.I. Merzon, and A.P. Shmeleva for measurements.

There are 6 figures, 2 tables, and 22 references, 13 of which are Soviet, 6 American, 2 English, and 1 Italian.

ASSOCIATION: Fizicheskiy institut AN Armyanskoy SSR (Physical Institute, AS Armenian SSR)

SUBMITTED: June 13, 1958

AUTHOR: Badalyan, G.V. SOV/22-11-4-5/11

TITLE: The Observation of Fast Deuterons in the System Which Consists of a Magnetic Spectrometer and two Wilson Cameras (Nablyudeniye bystrykh deytronov v sisteme magnitnogo spektrometra s dvumya kamerami Vil'sona)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Seriya fiziko-matematicheskikh nauk, 1958, Vol 11, Nr 4, pp 29 - 38 (USSR)

ABSTRACT: An instrument consisting of two large Wilson cameras and of a magnetic spectrometer was installed in 1954 in the Laboratory for cosmic radiation on the Aragats Mountain (3200 m). The present paper contains several experimental data obtained with this instrument concerning the deuterons of the cosmic radiation. It was not only possible to detect separately the deuterons from the air, but also the deuterons locally generated in the material of the cameras. The observation of a great number of air deuterons makes probable that under nuclear effects of the air nucleons besides others also an important quantity of deuterons is generated. The obtained results are compared with former data [Ref 15 - 18] and show good coincidence with them. The author thanks A.I. Alikhanov for the

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interest in his work and A.T. Dadayan and N.M. Kocharyan for advices.

There are 3 figures, and 18 references, 15 of which are Soviet, 2 American, and 1 is English.

ASSOCIATION: Fizicheskiy institut A N Armyanskoy SSR (Physical Institute, A S Armenian SSR)

SUBMITTED: June 13, 1958

AUTHOR: Badalyan, G. V.

SOV/56-35-1-55/59

TITLE: The Investigation of Fast Deuterons at an Altitude of 3200 m Above Sea Level (Issledovaniye bystrykh deytronov na vysote 3200 m nad urovnem morya)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 35, Nr 1, pp. 303 - 305 (USSR)

ABSTRACT: The author investigated the deuterons of cosmic radiation at an altitude of 3200 m above sea level (Mount Ararat) by means of a new improved magnetic spectrometer which was connected with two large cloud chambers. About 242 deuterons with ranges of 1,2 - 5,4 cm Pb were recorded. 81 of these 242 deuterons came from the air, 104 of them were produced by nuclear processes in the matter of the upper chamber, and the tracks of the remaining 57 deuterons could not be followed in the upper chamber because of various reasons. About 3200 protons were recorded simultaneously with the deuterons. The number of the deuterons generated by primary neutrons is 2,64 ± 0, 62 times higher than the number of the deuterons generated by protons. This may be explained by the fact

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that the deuterons are generated mainly in stars of comparatively low energies. At such energies the number of the primary neutrons exceeds the proton number. The number of the generated deuterons decreases rapidly when the number of the rays in the maternal star or the total range of the deuteron increases. A diagram demonstrates the momentum spectrum for the production of deuterons in $1 g/cm^2$ matter. This spectrum was plotted in consideration of all the necessary correctures, and for $p \gtrsim 1$BeV/c it may be approximated by the expression

$$n(p)dp = (7,85 \pm 1,48).10^{-7}.p^{-3,14 \pm 0,44}dp \text{ particles/g.sec.sterad.}$$

According to the results given in this paper, the cross section of the production of deuterons with momenta of 0,785 - 1,38 BeV/c by cosmic nucleons in lead amounts to $\sigma = 38 \pm 4,3$ millibarn. These results will be explained more accurately in Izvestiya AN Armyanskoy SSR.

The author thanks A.I.Alikhanyan,Professor, for his constant interest in this paper and Professor, N.M.Kocharyan for discussing results. There are 3 figures and 7 references,

The Investigation of Fast Deuterons at an Altitude of 3200 m Above Sea Level SOV/56-35-1-55/59

4 of which are Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Armyanskoy SSR (Physics Institute of the AS Armyanskaya SSR)

SUBMITTED: April 15, 1958

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BADALYAN, G. V., Candidate Phys-Math Sci (diss) -- "Investigation of the generation of deuterons and protons by the nucleon component of cosmic radiation on the magnetic spectrometer in combination with two Wilson chambers". Yerevan, 1959. (9 pp (Yerevan State U), 180 copies (KL, No 24, 1959, 124)

21(3) 05693

AUTHORS: Dadayan, A.T., Badalyan, G.V. SOV/22-12-4-6/9

TITLE: Magnetic Spectrometer of Alikhanyan-Alikhanov With Two Great Wilson Cameras

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1959, Vol 12, Nr 4, pp 109 - 120 (USSR)

ABSTRACT: The authors describe an instrument which for the first time has already been used in 1948 by Alikhanyan and Alikhanov [Ref 1] in order to investigate the cosmic radiation, and which has been gradually improved. The instrument upon which it was already reported in [Ref 10] consists of 1.) the magnetic spectrometer itself 2.) a lower Wilson camera 3.) an upper Wilson camera and 4.) of electronic control systems. The authors give a short description of the instrument and discuss the question of the optimum magnetic field. The instrument is installed at the high-mountain station Aragats of the Physical Institute of the Academy of Sciences of the Armenian SSR. Kharitonov, Marikyan, M.I. Dayon, Fedorov, N.V. Shostakovich and Bagdasaryan are mentioned in the paper.

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05693
Magnetic Spectrometer of Alikhanyan-Alikhanov With two Great Wilson Cameras SOV/22-12-4-6/9

The authors thank Professor A.I. Alikhanyan.
There are 6 figures, 1 table, and 19 Soviet references.

ASSOCIATION: Fizicheskiy institut Akademii nauk Armyanskoy SSR (Physical Institute AS Armenian SSR)

SUBMITTED: March 25, 1959

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BADALYAN, G.V.

Deuteron production cross section as a function of the energy of primary nucleons. Dokl. AN Arm. SSR 29 no.1:29-32 '59. (MIRA 12:11)

1. Fizicheskiy institut Akademii nauk Armyanskoy SSR. Predstavleno akademikom AN Armyanskoy SSR A.I. Alikhanyanom.
(Deuterons)

L 13380-63 - EWT(1)/BDS/ES(w)-2 AFFTC/ASD/SSD Pab-4
ACCESSION NR: AP3002739 S/0120/63/000/003/0142/0145

AUTHOR: Azatyan, A. A.; Badalyan, G. V.; Yeritsyan, G. N. 63

TITLE: Producing constant magnetic fields of a specified pattern [Report at the Fourth Vuz Scientific Conference on Electron Accelerators, Tomsk, 1962]

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1963, 142-145

TOPIC TAGS: constant magnetic field

ABSTRACT: A 2-winding nonsalient-pole motor stator was used as an electromagnet for producing predetermined patterns of constant-in-time magnetic field. By varying the winding types and surveying the resulting fields with harmonic-exploring coils, a number of patterns were determined and plotted. Technical details of the stators, windings, and measuring equipment are reported. "The authors are thankful to Ye. N. Danil'tsev for his kind permission to use his formula before its publication." "In conclusion, the authors wish to thank F. Ts. Kechyan for his assistance." Orig. art. has: 5 figures and 3 formulas.

ASSOCIATION: Fizicheskiy institute AN ArmSSR (Institute of Physics, AN ArmSSR)
SUBMITTED: 30May62 DATE ACQ: 12Jul63 ENCL: 00
SUB CODE: PH NO REV SOV: 003 OTHER: 000

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BADALYAN, G. V.

AID Nr. 975-3 23 May

OBTAINING CONSTANT MAGNETIC FIELDS OF GIVEN FORM BY MAGNETIC SYSTEMS WITH INEXPLICIT POLARITY (USSR)

Badalyan, G. V. Zhurnal tekhnicheskoy fiziki, v. 33, no. 3, Mar 1963, 345-349. S/057/63/033/003/013/021

A theoretical study considers production of magnetic fields of various configurations by a system with inexplicit polarity. The system constitutes a long, hollow, ferromagnetic cylinder of finite wall thickness containing conductors positioned parallel to the cylinder axis on its inner surface. Various ampere-turn density configurations can be used to produce fields of various configurations inside the cylinder: homogeneous fields, quadrupole and octupole lenses, etc. The method can be used to obtain not only simple harmonic field components, but complex fields as well, which are the resultants of simple harmonic components, gradient fields for simultaneous rotation and focusing of charged particle beams, etc. Electromagnets of inexplicit polarity would be compact, symmetrical, and easy to produce. Experimental tests of such magnets, results of which are as yet unpublished, are being conducted at the Physics Institute of the Armenian Academy of Sciences. [BB]

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L 16346-65 EWT(1)/EPA(s)-2 Pt-10 IJP(c)/PAEM(c)/ESD(t)/ESD(gs)/
ESD(dp)/SSD/BSD/AFWL/AFT(a)-5/...

ACCESSION NR: AP4049207 S/0022/64/017/005/0121/0126

AUTHOR: Badalyan, G. V.

TITLE: Production of constant axially-symmetrical magnetic field in a ferromagnetic system

SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 17, no. 5, 1964, 121-126

TOPIC TAGS: magnetic lens, electron optics, magnetic field, axial symmetry

ABSTRACT: The author calculates the magnetic field produced inside a closed cylindrical ferromagnetic shell by a coil having a specified distribution of ampere turns and wound coaxial with the shell. The inverse problem is also solved, that of producing a specified axially symmetrical magnetic field with the aid of a suitable distribution of the ampere turns. The purpose of the investigation was

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ACCESSION NR: AP4049207

to obtain improved magnetic lenses for electron-optical devices. The calculations are conventional and involve the solution of the Laplace equation with proper boundary conditions. The solution of the problem for a magnetic lens with open (not iron) ends calls for a separate analysis. "The author thanks A. T. Samatuni, V. A. Dzhrbashyan, M. A. Zadoyan, Yu. F. Orlov, and V. A. Shakhbazyan for interest in the work and help." Orig. art. has: 2 figures and 23 formulas.

ASSOCIATION: Fizicheskiy institut GKAE, Yerevan(Physics Institute GKAE)

SUBMITTED: 21Feb64 ENCL: 00

SUB CODE: EM NR REF SOV: 006 OTHER: 001

Cord 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000102930002-4"

L 34173-65 EWT(d)/EWT(l)/EEC(k)-2/EEC-4/EEC(t) Pq-4/Po-4/Pe-4/Pg-4/Pl-4

ACCESSION NR: AP5005169 S/0022/64/017/006/0141/0148

AUTHOR: Badalyan, G. V.

TITLE: Investigation of the production of axially-symmetrical magnetic fields of specified shape

SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 17, no. 6, 1964, 141-148

TOPIC TAGS: magnetic field measurement, magnetic field configuration, magnetic longitudinal field

ABSTRACT: This is a continuation of earlier work by the author dealing with the feasibility of obtaining constant axially-symmetrical magnetic fields in the internal cavity of a ferromagnet (Izv. AN ArmSSR, ser. fiz.-mat. nauk, v. 17, no. 5, 121, 1964). The present paper is devoted to a check on the practical effectiveness and suitability of the method. Magnet samples were made for the production and investigation of three types of fields: homogeneous, bell-shaped with crest upward or downward, and cosinusoidal field. The magnet comprised a steel tube (brand 40kh) with inside diameter 112 mm and wall thickness 10 mm. The length was

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L 65

ACCESSION NR: AP5005169

23 cm for the homogeneous and bell-shaped fields, and 40 cm for the cosinusoidal field. The tube was covered on the base side by steel discs (brand ST-3) 14 mm thick, with a central hole 20 mm in diameter for the admission of measuring devices or of an electron beam. A distributed solenoidal coil was wound separately on an insulated form in such a way that when placed inside the magnetic tube the winding was in contact with the iron. The windings for the three types of fields are described. The coils were fed from a standard VS-111 rectifier, with current up to 1.5 A maintained stable to within .1%. The magnetic measurements were made with a flat pickup coil inserted inside the tube and feeding a ballistic galvanometer. The measurements consisted of plotting the axial distribution of the [illegible] component of the magnetic field and the [illegible] distribution of the axial component in both the central section of each magnet and in the sections near the ends, and of checking on the influence of holes in the end discs, of the finite thickness of the distributed winding, and of other factors on the field distributions in the magnets. The results are in good agreement with the theoretical predictions, and it is concluded that in view of the ease with which such magnets can be prepared, they are of practical interest. The author thanks A. Z. Azatyan, F. Ts. Kechyan, and G. S. Ayrapetyan for help in preparing the magnets and in the measurements.

Card 2/3

L 34171-65
ACCESSION NR: AP5005169

Orig. art. has: 5 figures and 7 formulas.

ASSOCIATION: Fizicheskiy institut GKAE (Physics Institute GKAE)

SUBMITTED: 31Mar64 ENCL: 00 SUB CODE: EM

NR REF SOV: 001 OTHER: 000

Card 3/3

BADALYAN, G.V.

A problem in Watson's theory of transformations. Dokl. AN SSSR 164 no.6:1215-1217 O '65. (MIRA 18:10)

1. Yerevanskiy gosudarstvennyy universitet. Submitted March 16, 1965.

MKHEYAN, E.Ye.; BADALYAN, G.Ye.

Effect of chloroprene on the animal organism. Izv.AN Arm. SSR.Biol.nauki 12 no.2:17-26 F '59. (MIRA 12:9)

1. Kafedra biokhimii Yerevanskogo meditsinskogo instituta.
(CHLORPRENE--TOXICOLOGY)

L 39917-66

ACC NR: AP6029375 SOURCE CODE: UR/0427/66/019/002/0054/0059

AUTHOR: Mkhitaryan, V. G.; Badalyan, G. Ye.

ORG: Department of Biochemistry, Yerevan Medical Institute (Kafedra biokhimii yerevanskogo meditsinskogo instituta)

TITLE: Shifts in content of gangliosides in the brain of white rats in connection with x-ray irradiation

SOURCE: Biologicheskiy zhurnal Armenii, v. 19, no. 2, 1966, 54-59

TOPIC TAGS: rat, nervous system, radiation biologic effect, radiology, enzyme

ABSTRACT: The amount of free gangliosides in the brain of white rats ranged within the limits of 1.17-1.51 and constituted on an average 1.26 ± 0.05 (expressed with respect to galactose in mg per g of dry tissue weight). The amount of fixed gangliosides was almost five times greater (an an average 6.31 mg per g of dry protein weight). Within two days a single total x-ray treatment (800 r) caused a reduction in the amount of free gangliosides to 0.92 mg, 28.1% below the norm. Free ganglioside content continued to drop in succeeding days, reaching 0.81 mg on the 7th day (36.8% below the norm) and 0.77 mg on the 14th day (39.9% below the norm). The content of fixed gangliosides did not change. Chronic x-ray treatment (30 r per day for 30 days) reduced free gangliosides by 26.6%.
Orig. art. has: 3 tables. [JPRS: 36,932]

SUB CODE: 06 / SUBM DATE: 25Jun65 / ORIG REF: 005 / OTH REF: 007

Card 1/1 ns

BADALYAN, Kh.A., kand.med.nauk

Modification of a wire splint for the treatment of jaw fractures.
Stomatologiia 38 no.4:71 Jl-Ag '59. (MIRA 12:12)

1. Iz kafedry gospital'noy khirurgii (zav. - dotsent K.Ch. Chubakov) Semipalatinskogo meditsinskogo instituta.
(JAWS--FRACTURE) (SPLINTS (SURGERY))

BADALYAN, Kh.A.

Automatic line for the production of long macaroni products. Khleb. i kond. prom. 1 no.5:13-14 My '57. (MLRA 10:6)

1. TSentral'naya nauchno-issledovatel'skaya laboratoriya makaronnoy promyshlennosti.

(Macaroni)

BADALYAN, Kh.A.

Mechanized packaging of short macaroni products. Khleb.i kond.prom. 1 no.8:17-19 Ag '57. (MLRA 10:8)

1.TSentral'naya nauchno-issledovatel'skaya laboratoriya makaronnoy promyshlennosti.
(Macaroni) (Packaging machinery)

BADALYAN, Kh.A.

POLYAKOV, Ye.S.; MINYAYEV, I.N.; BADALYAN, Kh.A.; LUK'YANOV, V.V., doktor tekhnicheskikh nauk, professor, retsenzent; NAZAROV, N.I., kandidat tekhnicheskikh nauk, dotsent; spetsredaktor; KUDAYEVA, V.K., redaktor; DUBOVKINA, N.A., tekhnicheskiy redaktor

[Macaroni plant equipment] Oborudovanie makaronnogo proizvodstva. Moskva, Pishchepromizdat, 1954. 105 p. (MLRA 8:7)
(Macaroni) (Food industry--Equipment and supplies)

BADALYAN, Kh.A., kand.med.nauk

Method for treating first and second degree burns of the face.
Trudy Semipal. med. inst. 2:331-337 '59. (MIRA 15:4)

1. Iz kafedry gospital'noy khirurgii Semipalatinskogo gosudarstvennogo meditsinskogo instituta (zav.kafedroy - dotsent K.Ch.Chuvakov).
(BURNS AND SCALDS) (FACE--WOUNDS AND INJURIES)

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Case history of acquired defects of the soft palate. Trudy Semipal. med. inst. 2:342-343 '59. (MIRA 15:4)

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(PALATE--WOUNDS AND INJURIES)

V

USSR/Human and Animal Physiology. The Nervous System.

Abs Jour: Ref. Zhur-Biol., No 6, 1958, 27323.

Author : V.N. Saygushkina and L.O. Badalyan.
Inst : The Republic Clinical Hospital of the Armenian SSR.
Title : Clinical Variations in the Changes in the Nervous System Associated With Dysentery.

Orig Pub: Sb. nauchn. tr. Resp. klinich. bol'nitsy Arm SSR, 1957, 1, 421-425.

Abstract: No abstract.

Card : 1/1

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BOGOLEPOV, N.K.; BADALYAN, L.O.

Insufficiency of cerebral circulation. Zhur.nevr.i psikh. 60 no.1:3-8 '60. (MIRA 13:6)

1. Kafedra nervnykh bolezney (zav. - prof. N.K. Bogolepov) II Moskovskogo meditsinskogo instituta imeni Pirogova.
(BRAIN blood supply)

BADALYAN, L.O., kand.meditsinskikh nauk

"Neural and psychic disorders in hypertension." Reviewed by L.O. Badalian. Sov. med. 24 no. 7:151-152 Jl '60. (MIRA 13:8)
(HYPERTENSION) (NERVOUS SYSTEM--DISEASES)

TSAREGORODTSEV, G.I., kand.filosofskikh nauk; BADALYAN, L.O., kand.meditsinskikh nauk

Conference at the N.I.Pirogov Second Moscow Medical Institute. Sov. zdrav. 19 no.11:84-86 '60. (MIRA 13:11)
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