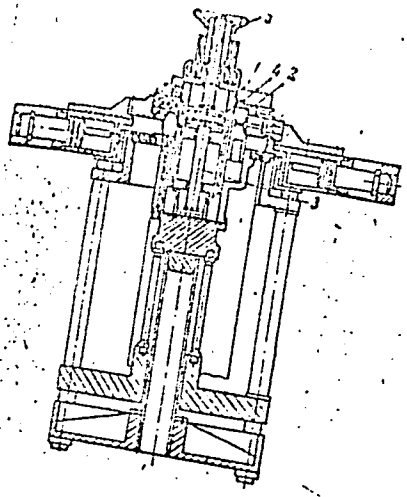
NOCHEVA, M.; SIRAKOV, L.

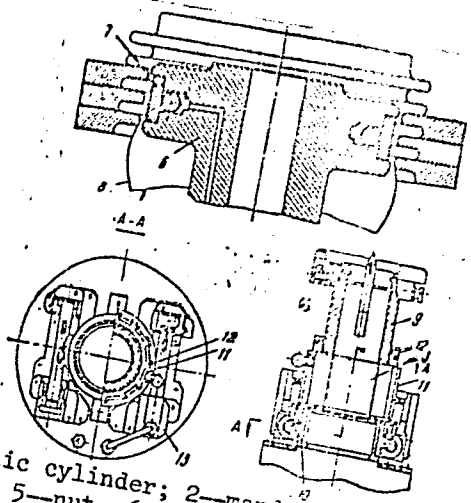
A precise, convenient and simple micromethod for determination of urea. Suvrem med., Sofia no.2:100-104 '61.

1. Katedra po endokrinologiia i bolesti na obmianata, Institut za spetsializatsiia i usuvurshenstvuvane na lekarite. (Rukov. na katedrata prof. Iv. Penchev.)

(UREA chemistry)

AP7000314





1--hydraulic cylinder; 2--mandrel; 3--rod; 4--piston; 5--nut; 6--stationary clamping disc; 7--sealing rings; 8--tube to be deformed; 9--piston rod; 10--nut; 11--fluted socket; 12--fluted sleeve; 13--hydraulic cylinders

SUB CODE: 13/ SUBM DATE: 01Oct64

Card 3/3

BULGARIA

Docent Col Atanas MALEEV and Lt Col Petr SIRAKOV, Medical Corps (Meditsinskata sluzhba.)

"Proctosigmoidoscopic Changes in Bacterial Dysentery."

Sofia, Voenno Meditsinsko Delo, Vol 7, No 4, Dec 1962; pp 42-48.

Abstract [Russian summary modified]: Sigmoidoscopic study of 44 patients who had had dysentery: 11 normal, 10 catarrhal changes, 23 catarrhal - erosive and 3 ulcerative - polypoid changes. Four scope views, 4 case reports: 7 Soviet, 1 Bulgarian and 1 German reference.

1/1

BULGARIA

Lt Col MC P. SIRAKOV

"Microwave (Radar) Therapy in Deforming Arthroses."

Sofia, Voenno Meditsinsko Delo, Vol 18, No 3, Jun 63; pp 35-40.

Abstract : Microwave treatment of 50 men and 74 women; 89 of the 124 had spinal arthroses; 5 to 15 minutes' treatment, 40 to 80 watts at 8 to 10 cm. distance, daily treatments for 7 to 20 days: very good results in 43, good in 68, mediocre in 4, none in 9. No side effects but of 19 patients with insomnia latter symptom decreased in 6, disappeared in the other 13. Nurse who applied treatment as well as most patients did complain of lassitude and somnolence. Results similar to those with ultrasound. Six tables; 4 Soviet, 3 Bulgarian and 3 Western references.

1/1

SIRAKOV, V.

BURKOV, T., dots.; SIRAKOV, V.; PEEVA, D.; TUZLUKOVA, L.; VELICHKOVA, P.; POPOV, Pl.

Certain problems associated with the etiology of amphodontosis. Stomatologiia no.1:14-18 '54. (MLAL 3:7)
(PERIODONTIUM, diseases, *etiol. & pathogen.)

SIRAKOV, V.

BURKOV, T., dots.; SIRAKOV, V.; VELICHKOVA, P.; TUZLUKOVA, L.; PEEVA, D.; POPOV, P.

Studies on distribution of dental caries in students in certain regions as the initial stage of presentation of the picture of dental caries in the country. Stomatologiia, Sofia no.3:153-167 1954.

1. Iz Republikanskiia nauchno-izsledovatelski stomatologichen institut (direktor: dots. T.Burkov)
(DENTAL CARIES, epidemiology,
Bulgaria)

SIMEONOVA, N.;TODOROV, V.

"United in the Fight for Peace." p. 1,
(ZDRAVEN FRONT, No. 51, Dec. 1954, Sofiya, Bulgaria)

SO: Monthly List of European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

SIRAKOVA, Mariia

An enterprise moves ahead. Tekstilna prom 13 no. 4:32-35 '64.

1. Chairman, Treade-union Committee of the "Bulgaria" State Industrial Enterprise, Plovdiv.

GORGENYI-GOTTCHE, O.; SIRALY, F.; SZATMARY, M.

On isonicotinic acid hydrazide therapy of tuberculosis in puberty.
Orv. hetil. 94 no.15:405-410 12 Apr 1953. (CIML 24:4)

1. Doctor, Candidate Medical Sciences for Gorgenyi-Gottche; Doctor for Siraly and Szatmary. 2. Szabadsaghegyi State Children's Sanatorium (Director -- Dr. Istvan Flesch).

SIRALY Ferencne

GORGENYI-GOTTCHE, Oszkar, dr.; SIRALY, Ferencne, dr.; ORBAN, Sandor, dr. kandidatus

Additional experiences in isoniazid therapy of pulmonary tuberculosis in adolescence. Orv. hetil. 95 no.40:1081-1086 3 Oct 54.

1. A Szabadsaghegyi Allami Gyermekszanatorium (igazgato: Flesch Istvan dr.) kozlemenye

(TUBERCULOSIS, PULMONARY, ther.
isoniazid, results in adolescents)
(NICOTINIC ACID ISOMERS, ther. use
isoniazid in pulm. tuberc., results in adolescents)

GORGENYI-GOTTCHE, Oszkar, dr., kandidatus; SIRALY, Ferencne, dr., TELEDGI, Istvan, dr.

The importance of pulmonary resection in the healing of infantile tuberculosis. Tuberk.kerdesei 8 no.1:16-21 Feb 55.

1. A Szabadsaghegyi Allami Gyermekszanatorium) igazgato: Flesch Istvan dr.) kozlemenye.
(TUBERCULOSIS, PULMONARY, surgery
lung resection in inf. & child., results (Hun)

SIRALY, Ferenc, dr., foorvos

Problems in promoting the combat against tuberculosis.
Tuberk. kerdesei 9 no.5:200-203 Oct 56.

1. A Szabadsaghegyi Allami Tbc. Szanatorium (igazgato: Vas, Imre, dr.) kozlemenye.
(TUBERCULOSIS, prev. & control
in Hungary, efficiency & organiz. problems (Hun))

SIRALY, Ferenc, Dr., foorvos.

X-ray morphology of cavern healing. Tuberkulozis 11 no.3-5:97-103 Mar-May 58.

1. A Szabadsaghegyi Allami Tbc. Szanatorium (Igazgato: Vas Imre dr. az orvostudomanyok kandidatusa) kozlemenye.
(TUBERCULOSIS, PULMONARY, pathol.
cavitation, x-ray manifest. of healing process (Hun))

SIRALY, Ferenc, dr. igazgatohelyettes, foorvos

Results of pulmonary resections. Tuberkulozis 13 no.8:225-229 Ag '60.

1. A Szabadsaghegyi Allami Tbc Szanatorium (igazgato foorvos: Vas Imre dr. az orvostudomanyok kandidatusa) kozlemenye
(PNEUMONECTOMY statist.)

SIRALY, Ferenc, dr., kandidatus, igazgatohelyettes, foorvos

Fate of 197 patients with cavitary tuberculosis and Koch-positive sputum 5 and half years after their release. Tuberkulozis 13 no.11: 340-344 N '60.

1. A Szabadsaghegyi Allami Tbc Szanatorium (igazgato-foorvos: Vas Imre dr. kandidatus) kozlemenye.

(TUBERCULOSIS PULMONARY statist)

SIRALY, Ferenc, dr.; SEBES, Terez, dr.; SZASZ, Veronika, dr.

Postoperative roentgen shadows in the lung following pulmonary resection. Tuberkulozis 17 no.7:193-197 Jl '64.

1. A Szabadsaghegyi Allami Tbc Szanatorium (igazgato-foorvos: Vas Imre dr. kandidatur), II osztaly (foorvos: Siraly Ferenc dr. kandidatus) kozlemenye.

GORGENYI-GOTTCHE, O., SIRALYNE, S.T., SZATMARY, M.

Antibiotic therapy of tuberculous children. Tuberk. kerdesei 5 no.3:35-40 Sept 1953. (CIML 25:5)

1. Doctors. 2. Szabadsaghegyi State Children's Sanatorium (Director -- Dr. Istvan Flesch).

SIRAN, Gustav

Determination of secular changes in the geomagnetic field. Studia geophys 6 no.1:95-98 '62.

1. Natural Science Faculty, Komensky University, Bratislava, Nesporova 3, Bratislava.

ONIASHVILI, O.D.; SHAISHMELASHVILI, V.N.; DZHABUA, A.A.; SIRANGULYAN, V.V.

Experimental testing of the rigidity of a cylindrical envelope [in Georgian with summary in Russian]. Trudy Inst. stroi. dela AN Gruz. SSR 4:69-71 '53. (MLRA 9:10)

(Floors, Concrete) (Elastic plates and shells)

SAPARGALIYEV, G.S., kand. yurid.nauk;PAL'GOV,N.N., akad.; BOGATYREV, A.S.; AFANAS'YEV, A.V., prof.; BYKOV, B.A.; SHAKHMATOV, V.F., kand. istor. nauk; POKROVSKIY, S.N., akad.; SAVOS'KO, V.K., kand. istor. nauk; NUSUPBEKOV, A.N., kand. istor. nauk; BAISHEV, S.B., akad.; GOROKHOVODATSKIY, I.S., kand. istor. nauk; AKHMETOV, A., kand. istor. nauk; RAKHIMOV, A., kand. istor. nauk; PIVEN', N.F.; CHULANOV, G.Ch., doktor ekonom. nauk; BOROVSKIY, V.A., kand. ekonom. nauk; SYDYKOV, A.S., kand. pedagog. nauk; ZHANGEL'DIN, T., kand. filos. nauk; KARASAYEV, L.K.; KANAPIN, A.K., kand. istor. nauk; BELENOV, M.D., kand. ekonom. nauk; KARYNBAYEV, S.R., kand. med. nauk; AKHMETOV, K.A.,; SMIRNOVA, N.S., doktor filolog.nauk; SIL'CHENKO, M.S., doktor filolog. nauk; YERZAKOVICH, B.G., kand. iskusstvovedcheskikh nauk; RYBAKOVA, N.; MUKHTAROV, A.I.; BOGATENKOVA, L.I.; KUNDAKBAYEV, B.; SIRANOV, K.S.; SHVYDKO, Z.A., red.; MAMTSOVA, L.B., red.; ZLOBIN, M.V., tekhn. red.

[The Soviet Kazakh Socialist Republic] Kazakhskaia Sovetskaia Sotsialisticheskaia Respublika. Alma-Ata, Kazakhskoe gos. izd-vo, 1960. 477 p. (MIRA 14:6)

1. Akademiya nauk Kaz.SSR (for Pal'gov, Pokrovskiy, Baishev)
2. Chlen-korrespondent Akademii nauk KazSSR (for Bykov, Smirnova, Sil'chenko)

(Kazakhstan)

L 09310-67 EWT(m)/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6024335 SOURCE CODE: UR/0428/66/000/001/0107/0110

52

AUTHOR: Sirata, M. M.; Smalyarenka, E. M.

ORG: none

TITLE: Thermoelectric properties of Zn_3As_2 - Cd_3As_2 alloys

SOURCE: AN BSSR. Vestsi. Seryya fizika-matematychnykh navuk, no. 1, 1966, 107-110

TOPIC TAGS: cadmium compound, zinc compound, arsenide, binary alloy, thermoelectric property, thermal emf, carrier density, electron mobility, hole mobility

ABSTRACT: The authors investigated the temperature dependence of the electric conductivity, Hall effect, and thermal emf of samples of the quasi-binary system Zn_3As_2 - Cd_3As_2, in the temperature range 100 - 600K, and at a magnetic field intensity 4000 Oe. The measurements showed that the type of conductivity changes with the compositions close to equimolar (40 - 55% Cd_3As_2) reversing their conductivity type with increasing temperature. This is also accompanied by a reversal of the sign of the thermal emf. Under the assumption that the zinc and cadmium provide the acceptor and donor levels, the authors calculate the impurity density and the carrier mobility for several compositions. The calculations show that changes in the component ratios are accompanied by changes in the ratio of the acceptor and donor impurities, and this change is responsible for the reversal of the signs of the conductivity and of the

Card 1/2

L 09310-67
ACC NR: AP6024335

thermal emf. Orig. art. has: 2 figures, 5 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 26Jul65/ ORIG REF: 001/ OTH REF: 001

Card 2/2

SIRATSKIY, A.

AUTHOR: Siratskiy, A., Member of the Academy, President of the Slovak Academy of Science 30-11-16/23

TITLE: Science Serves Socialism (Nauka sluzhit sotsializmu).

PERIODICAL: Vestnik AN SSSR, 1957, Vol. 27, Nr 11, pp. 116-117 (USSR)

ABSTRACT: On the occasion of the jubilee of the USSR the author emphasizes that only the existence of a large state with a socialist order of society with its 40 years experience can serve as an example for the other peoples which have abolished the capitalistic system. Science above all contributed very much toward the fundamental changes that occurred in the people's republics. The scientists of Czechoslovakia fulfill their duty toward the people from which they themselves emerged. The helpfulness of the soviet scientists as good colleagues plays an important part; it is above all owing to them that scientific research work in the people's republics attains ever new achievements. The author then enters into the numerous visits of the soviet colleagues on the one hand and of the Slovak scientists on the other hand. Finally the author mentions the signed agreement between the Slovak and the soviet academies of science.

ASSOCIATION: Slovatskaya Akademiya nauk (Slovak Academy of Sciences)
AVAILABLE: Library of Congress
Card 1/1

DASHKEVICH, L.B.; SIRAYA, V.M.

Carbon suboxide and some of its reactions. Part 12: Interaction of carbon suboxide with primary aliphatic diamines, diamides, and hydrazine derivatives. Zhur.ob.khim. 32 no.7:2330-2333 Jl '62. (MIRA 15:7)

1. Leningradskiy khimiko-farmatsevticheskiy institut.
(Carbon oxides) (Amines) (Amides)

DASHKEVICH, L.B.; BEYLIN, V.G.; SIRAYA, V.M.

Problem of the interaction of carbon suboxide with heavy water. Zhur.ob.khim. 32 no.8:2747-2748 Ag '62. (MIRA 15:9)

1. Leningradskiy khimiko-farmatsevticheskiy institut.
(Carbon oxide) (Deuterium oxide)

ZARIPOV, A.A.; STRAZHEV, V.A.; GRITSAY, A.I.

Industrial test of certain demulsifiers. Neft. khoz. 42 no.12: 42-47 D '64 (MIRA 18:2)

SIRAZETDINOV, KH.

AID P - 555

Subject : USSR/Mining

Card 1/1 Pub. 78 - 21/29

Author : Sirazetdinov, Kh.

Title : Training and re-training of skilled workers in the Tuymazaneft

Periodical : Neft. Khoz., v. 32, #7, 82-85, Jl 1954

Abstract : Critical review of the theoretical and practical education of oil field workers of different categories in the Tuymazy and Bashkir regions.

Institution : NIC (Scientific Research Department of Bashkir Oil Field)

Submitted : No date

SOV/124-58-4-3857

Translation from: Referativnyy zhurnal. Mekhanika, 1958, Nr 4, p 27 (USSR)

AUTHOR: Sirazetdinov, T. K.

TITLE: Design Calculation of Wings With Curvilinear Axes (Raschet kryl'yev s krivolineynoy os'yu)

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1956, Vol 31, pp 51-64

ABSTRACT: The article deals with calculations pertaining to the distribution of the circulation along a wing with a high aspect ratio and with a curved center line. General formulas are also given for aerodynamic coefficients for the subcritical range of angles of attack. Initially the flow is considered to be incompressible; later, the influence of compressibility for subsonic velocities is taken care of by means of the linear theory. The lift coefficient for any section is considered to be a function of the airfoil shape, the true angle of attack, and the local angle of sweepback of center line. This permits one to tie the section characteristics of a finite-span wing to the characteristics of a infinite-span side-slipping wing. A unique feature of the calculations is the method of computation of the induced velocities. For their calculations at a section

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SOV/124-58-4-3857

Design Calculation of Wings With Curvilinear Axes

located at a distance $\zeta = z$ from the plane of symmetry of a wing, where the latter lies on the span segment defined by $z - \Delta_1 < \zeta < z + \Delta_2$, the wing is replaced by a lifting-vortex surface σ having a uniform distribution of vorticity along the chord. The remaining part of the wing span is substituted by a lifting vortex coincident with the center line. The average value of the induced velocity at the section $\zeta = z$ is then calculated on the basis of the lifting-vortex surface and the free vortices shedding therefrom. The induced velocity at the mid-point of the section is calculated on the basis of the lifting and the free vortices of the remaining part of the wing. By this method the author avoids infinitively large values of these velocities for a curved center line. The width of the vortex strip σ, equal to $\Delta_1 + \Delta_2$, is so selected that the kernel of the integral equation for the circulation has a continuous variation along the span. The equation is solved by a method similar to the well-known method of Multhopp. Bibliography: 4 references.

1. Wings--Design 2. Wings--Lift 2. Mathematics

G. F. Burago

Card 2/2

SOV/124-58-7-7478

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 22 (USSR)

AUTHOR: Sirazetdinov, T.K.

TITLE: A Finite-span Wing at High Angles of Attack (Krylo konechnogo razmakha na bolshikh uglakh ataki)

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1956, Vol 31, pp 65-83

ABSTRACT: A method is given for calculating the circulation and certain other characteristics of straight and swept-back wings at and beyond the stalling angle of attack. In this connection the results of a previous paper of the author's are utilized (Tr. Kazansk. aviats. in-ta, 1956, Vol 31, pp 51-64; RzhMekh, 1958, Nr 4, abstract 3857) in which he had presented the vortex pattern of a wing, a means for calculating the downwash and the true angles of attack at points on the median line, and an equation for the relationship which reduces the section characteristics of a finite-span wing to those of infinitely long wings operating at an angle of sideslip. In the present case these results are applied to large angles of attack, and a nonlinear integral differential equation is obtained for the circulation. This equation is solved by the method of successive approximations.

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A Finite-span Wing at High Angles of Attack

It is recommended that the zero-th approximation for the circulation be obtained by regarding the downwash angles as equal to zero. This value for the circulation is then used to obtain the downwash angles in the zero-th approximation. However, the author does not mention and does not allow at all for the fact that at the tips of a finite-chord wing the downwash angles will be infinitely large. To obtain all the successive approximations the basic equation is linearized. Thus, to yield the (n + 1)-th approximation, the effective angles of downwash $\Delta\alpha$ must appear in the form of the summation $\Delta\alpha = \Delta\alpha^{(n)} + \delta\alpha$, wherein $\Delta\alpha^{(n)}$ is the n-th approximation and $\delta\alpha$ is a small increment in the downwash angle. Next, the basic equation is linearized with respect to the angle $\delta\alpha$ and reduces to a form resembling that of the Prandtl equation for a straight lifting line. The convergence of the process of successive approximations is not investigated, but the author maintains that in practice the first approximation alone usually suffices. The entire sequence of the calculation of the circulation at high angles of attack is illustrated on the example of straight wings only. For a single-profile swept-back wing an approximate relationship is evolved which enables one with relative ease to plot the curve of its lift coefficient at all angles of attack if the analogous relationship is known for a straight wing having the

SOV/124-58-7-7478

A Finite-span Wing at High Angles of Attack

same aspect ratio, taper ratio, and Reynolds number. In addition, the problem is considered of calculating the angle of attack at which the phenomenon of autorotation of a wing commences. For this purpose the basic equation for the circulation of a wing rotating uniformly around its own longitudinal axis is linearized, as in the previous case. This makes it possible to isolate the linear equation for the circulation increment produced by the rotation. The effect of this rotation is allowed for, as is customary, by an equivalent spanwise twist in the wing. The angle of attack at the inception of a wing's autorotation is determined by equating to zero the rotating wing's rolling-moment coefficient. Some calculation results are given and are compared with experimental data. Bibliography: 4 references.

G.F. Burago

1. Wings--Aerodynamic characteristics 2. Wings--Mathematical analysis

Card 3/3

SOV/147-58-1-6/22

AUTHOR: Sirazetdinov, T.K.

TITLE: On the Oscillations of a Wing of Large Aspect Ratio in a Subsonic Airstream (K kolebaniyam kryla bol'shogo udlineniya v dozvukovom potoke)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, 1958, Nr 1, pp 43 - 52 (USSR).

ABSTRACT: The induced downwash can be represented as the sum of three terms. The first gives the quasi-steady downwash of a wing of finite dimensions, the second takes account of the vortex sheet and the third allows for the effect of the wing profile. The integro-differential equation for an oscillating wing of large aspect ratio and low frequency of oscillation is introduced and is approximately solved. The wing is in a subsonic compressible ideal fluid and is moving at constant speed. The wing has small oscillations and deformations whose velocities are small compared with the velocity of motion. In such a motion there is formed behind the wing a plane vortex sheet. In a compressible fluid, the disturbances caused by the vortices are retarded. Hence the velocity potential in the vortex sheet can be obtained from a distribution of dipoles with retarded potentials on some surface. The

Card1/2

SOV/147-58-1-6/22

On the Oscillations of a Wing of Large Aspect Ratio in a Subsonic Airstream

integro-differential equation for the approximate circulation is deduced and it is shown how, by satisfying this at m points, a system of linear algebraic equations can be obtained for the circulation. There are 3 Soviet references.

ASSOCIATION: Kafedra vysshey matematiki, Kazanskiy aviatsionnyy institut (Chair of Higher Mathematics, Kazan' Aviation Institute)

SUBMITTED: October 3, 1957

Card 2/2

1. Wings--Oscillation 2. Integral equations--Application
3. Differential equations--Application

SOV/124-59-10-11495

Translation from: Referativnyy zhurnal, Mekhanika, 1959, No. 10, p. 64 (USSR)

AUTHOR: Sirazetdinov, T. K.

TITLE: A Finite-Span Wing in an Unsteady Flow

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol. 33-34, pp. 43-58

TEXT: The work treats unsteady motion of a wing of finite span with a curved axis in an incompressible liquid. Small oscillations and deformations are superimposed on the fundamental motion with constant velocity. The determination of the circulation distribution along the wing span is considered. The total circulation Γ around the wing cross section is represented as the sum of three components: a) Circulation due to the variation in the angle of incidence in consequence of oscillations and deformations; b) circulation caused by downwash; c) circulation due to the effect of the wake, i. e., of the part of the eddy system caused by unsteady motion. Two latter components are represented as integrals of functions containing Γ and eddy intensity γ. The quantities Γ and γ are interconnected by a differential equation. Therefore, for determining the

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SOV/124-59-10-11495

A Finite-Span Wing in an Unsteady Flow

circulation distribution along the wing span, a system of an integral-differential and a differential equation is obtained. The equations for determining the circulation are reduced to a system of linear algebraic equations in case of harmonic oscillations.

M. M. Vasil'yev

Card 2/2

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SOV/124-59-9-9880

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Translation from: Referativnyy zhurnal, Mekhanika, 1959, Nr 9, p 45 (USSR)

AUTHOR: Sirazetdinov, T.K.

TITLE: The Effect of the Nearness of the Earth Surface on the Circulation Distribution Over the Span of a Wing With Curvilinear Axis

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol 33 - 34, pp 59 - 67

ABSTRACT: The problem of determining the distribution of circulation over a wing with a curvilinear axis is solved under the consideration of the effect of the earth surface. The votex system consists of a bound vortex having the form of the mean chord line, and shed vortices. Whirls situated symmetrically in relation to the earth surface, are introduced for considering the effect of the boundary of the stream. The equation of connection is expressed by:

$$\Gamma = \frac{1}{2} b v_n \cos\chi \, c_y (\alpha_t). \qquad (1.1)$$

Herein χ is the sweepback angle, v_n is the projection of the velocity onto a plane perpendicular to the axis of the carrier whirl, α_t is the true angle of incidence. The quantities v_n

Card 1/2

The Effect of the Nearness of the Earth Surface on the Circulation Distribution Over the Span of a Wing With Curvilinear Axis

and α_t, expressed by Γ are inserted into Equation (1.1); an integral-differential equation is obtained, for the solution of which the author proposes the method of successive approximations. The expression

$$\Gamma^0 = \frac{b\, v_\infty}{2} \cos^2 \chi\, c_y \left(\frac{\alpha}{\cos \chi} \right)$$

is assumed as the zero approximation. Then the angle of downwash of the stream will be equal to $\Delta\alpha^0 = \Delta\alpha - \delta\alpha$, where $\Delta\alpha$ is the true angle of downwash. The equation for determining the circulation to a first approximation Γ^1 is obtained with an accuracy up to terms of the order $\delta\alpha$ the expansion of c_y into series. The solution is reduced to the solution of a system of algebraic equations. In the equations obtained Γ^0 must be replaced by Γ^1 for obtaining the next approximation. The case of linear dependence of c_y on α is discussed specially. The formulae for forces and moments are derived.

G.G. Tumashev

Card 2/2

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A005/A001

Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 4, p. 52, # 4547

10.2000

AUTHOR: Sirazetdinov, T.K.

TITLE: On the Flow Around Vibrating Cascades

PERIODICAL: Tr. Kazansk. aviats. in-ta, 1958, Vol. 38, pp. 57-72

TEXT: The author considers the flow around a thin-profile cascade with an axis perpendicular to the chord, taking into account oscillations, profile deformations, and the effect of the eddy wake running away from the cascade profiles. The average steady angle of incidence is assumed to be equal to zero. The problem is solved in linear formulation: profile oscillations and deformations are considered to be small, profiles to be weakly buckled; the boundary conditions, which must be satisfied on the profile contours, are transferred to the chords of the corresponding profiles, the eddy wake is assumed to be rectilinear. An integral equation for determining the wake intensity for a prescribed arbitrary law of oscillations and profile deformations is obtained on the basis of the impermeability conditions (boundary conditions) and the constancy of both the circulation around the profile and the wake at an arbitrary instant; in this

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Card 2/2

SIRAZETDINOV, T.K.

Vibrations of a stubby wing in a subsonic flow. Izv.vys.ucheb. zav.; av.tekh. 2 no.3:16-23 '59. (MIRA 12:12)

1. Kazanskiy aviatsionnyy institut. Kafedra aerodinamiki.
(Aerodynamics) (Airfoils)

31576
S/124/61/000/011/013/046
D237/D305

10.1210

AUTHOR: Sirazetdinov, T. K.

TITLE: Streamlining a vibrating wing in a sub-sonic flow

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 11, 1961, 24, abstract 11B144 (Tr. Kazansk. aviats. in-ta, 1959, 44, 71 - 93)

TEXT: Streamlining a vibrating, thin and slightly bent wing in a subsonic ideal gas flow is considered. The potential of perturbed flow is determined by a lagging potential of a double layer distributed over the wing and its vortex wake. An integro-differential equation is derived for determining the intensity of moments of the dipoles distributed over the wing of arbitrary shape in the plane. An approximate method of solving this equation is given for wings of a small and infinitely small aspect ratio. For a wing of a small aspect ratio, distribution of intensity of the moments of the dipoles q along the chord, is given as a quadratic polynomial i for the wings of a very small aspect ratio, the function of q is assumed constant along the chord. According to the author, the distri-

Card 1/2

Streamlining a vibrating in a ...

bution of circulation over the span y of such wings, can be assumed to be elliptical. For the wings of any aspect-ratio, the case when Mach number M = 1 is considered. Formulae are derived for determining lift and the moment of vibrating wing. Results of calculations for a vibrating rectangular wing with aspect-ratio 1 and 2 for M = = 0, agree with the experiment. [Abstractor's note: Complete translation].

Card 2/2

L 12948-63 EPA(b)/BDS AEDC/AFFTC/ASD Pd-4 JXT(EX) 56
ACCESSION NR: AP3004716 S/0147/63/000/002/0011/0021

AUTHOR: Sirazetdinov, T. K.

TITLE: Optimal problems of gasdynamics

SOURCE: IVUZ. Aviats. tekhnika, no. 2, 1963, 11-21

TOPIC TAGS: optimum body shape, boundary layer, hypersonic flow, minimum drag, heat dissipation, variational method, viscous flow

ABSTRACT: Study of problems of optimum body shape in supersonic and hypersonic viscous gas flow has led to the derivation of a system of differential equations for determining the optimum shape for minimum drag and for maximum heat-dissipating capability by the variational method. The gas flow considered satisfies the Navier-Stokes equations of continuity, energy, and state. The amount of heat absorbed by the body surface in a unit of time is given in the form of the surface integral

$$Q = \int_{\sigma}\int [X_0 \cos(\hat{n,x}) + Y_0 \cos(\hat{n,y}) + Z_0 \cos(\hat{n,z})]\,d\sigma.$$

Card 1/2

L 12948-63
ACCESSION NR: AP3004716

0

As an example, a detailed analysis of the equation of an airfoil of minimum drag is presented. Orig. art. has: 3 figures and 26 formulas.

ASSOCIATION: none

SUBMITTED: 03Jul62 DATE ACQ: 06Sep63 ENCL: 00

SUB CODE: AI NO REF SOV: 001 OTHER: 002

Card 2/2

ACCESSION NR: AP4035071 S/0103/64/025/004/0463/0472

AUTHOR: Sirazetdinov, T. K. (Kasan')

TITLE: Theory of optimum processes with distributed parameters

SOURCE: Avtomatika i telemekhanika, v. 25, no. 4, 1964, 463-472

TOPIC TAGS: optimum process, distributed parameter optimum process, optimum process theory, sheet material heating, furnace temperature control

ABSTRACT: The principle of maximum is established as a necessary condition of optimality of controlled processes which can be described by quasi-linear partial differential equations with many independent variables. In the case of a process describable by a linear differential equation with variable coefficients, such as this: $\frac{\partial v}{\partial t} = a_0(t, x_i)v + \sum_{k=1}^{n} a_k(t, x_i)v_{x_k} + \varphi(t, x_i, u_j)$, the principle of maximum is also a sufficient condition. Control of the heating of a thin sheet material

Card 1/2

ACCESSION NR: AP4035071

conveyed through a furnace is considered as an example. Orig. art. has: 2 figures and 70 formulas.

ASSOCIATION: none

SUBMITTED: 13Apr63 DATE ACQ: 26May64 ENCL: 00

SUB CODE: IE NO REF SOV: 007 OTHER: 001

Card 2/2

L 16682-65 EWT(d) Pg-4 ESD(t)/IJP(c)/ESD(dp)/AFWL/ASD(f)-2
ACCESSION NR: AP5000268 S/0040/64/028/006/0977/0986

AUTHOR: Sirazetdinov, T. K. (Kazan) B

TITLE: Stability of random processes with distributed parameters

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 6, 1964, 977-986

TOPIC TAGS: random process, stability, partial differential equation, probability

ABSTRACT: The author studies probabilistic stability of random processes described by partial differential equations. He proves theorems on probabilistic stability analogous to those of Lyapunov's second method; in particular: Theorem 1. For probabilistic stability in the metrics ρ and ρ_0 of the process $\varphi \equiv 0$ it is sufficient that there exist a function $v = v[\varphi, u, t]$ which is positive definite in the metric ρ and continuous in the metric ρ_0 for $t = t_0$ and that the mathematical expectation $M_t[v]$ of this functional v in view of the system

$$\frac{\partial \varphi_i}{\partial t} = f_i\left(t, x, y, z, \varphi_s, \frac{\partial \varphi_s}{\partial x}, \frac{\partial \varphi_s}{\partial y}, \frac{\partial \varphi_s}{\partial z}, \frac{\partial^2 \varphi_s}{\partial x^2}, \ldots, \frac{\partial^2 \varphi_s}{\partial z^2}, u_1, \ldots, u_\alpha\right) \quad (i, s = 1, \ldots, n) \quad (1)$$

Card 1/3

be nonincreasing in time t. Theorem 2 gives conditions for probabilistic asymptotic stability in the metrics ρ and ρ_0 of the process $\varphi \equiv 0$. The author then considers random processes which are homogeneous Markov processes. Theorem 3, giving sufficient conditions for probabilistic stability, is a corollary of Theorem 1 when u is a Markov process. Several examples are treated: a probability process described by

$$\frac{\partial \varphi}{\partial t} = a(x, u)\frac{\partial \varphi}{\partial x} + b(x, u)\varphi \quad ; \qquad (2)$$

and

$$\frac{\partial \varphi}{\partial t} = a(x, u)\frac{\partial^2 \varphi}{\partial x^2} + b(x, u)\frac{\partial \varphi}{\partial x} + c(x, u)\varphi \quad ; \qquad (3)$$

the equation

$$\frac{\partial \omega}{\partial t} = \nu\left(\frac{\partial^2 \omega}{\partial x^2} + \frac{\partial^2 \omega}{\partial y^2}\right) - v_0\frac{\partial \omega}{\partial x}, \quad \left(\omega = \frac{1}{2}\left(\frac{\partial v_2}{\partial x} - \frac{\partial v_1}{\partial y}\right) = -\frac{1}{2}\left(\frac{\partial^2 \Phi}{\partial x^2} + \frac{\partial^2 \Phi}{\partial y^2}\right)\right) \quad (4)$$

describing plane perturbed motion of a fluid, where the velocity profile of the basic motion is rectilinear; and, finally, the differential equations of perturbations of plane-parallel isothermal motion of a gas with basic velocity v_0 independent of the x and y coordinates. Orig. art. has: 24 formulas.

ASSOCIATION: none

L 6427-66 EWT(d) IJP(c)

ACC NR: AP5020634 SOURCE CODE: UR/0147/65/000/003/0038/0045

AUTHOR: Sirazetdinov, T. K.

ORG: None

TITLE: Optimal control of stochastic processes with distributed parameters

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 3, 1965, 38-45

TOPIC TAGS: stochastic process, partial differential equation, differential equation system, optimal control

ABSTRACT: The author presents a solution to the problem of the synthesis of optimal control and stability of stochastic processes which are defined by a system of differential equations with partial derivatives. A generalization of the Bellman-Krasovskiy equation (N.N. Krasovskiy, E. M. Lidskiy. Analiticheskoye konstruirovaniye regulyatorov v sistemakh so sluchaynymi svoystvami I, II, III. "Avtomatika i telemekhanika," Nos. 9-11, 1961) is presented. The following equation system is investigated:

$$\frac{\partial \varphi^i}{\partial t} = f^i(t, x, \varphi, \varphi_x, \varphi_{xx}, \eta, u) \quad (i = 1, 2, \ldots, n), \qquad (1.1)$$

where $x \equiv (x_1, x_2, \ldots, x_m)$, $\varphi \equiv (\varphi^1, \varphi^2, \ldots, \varphi^n)$, $u \equiv (u^1, u^2, \ldots, u^M)$,

$$\varphi_x \equiv \left(\frac{\partial \varphi^1}{\partial x_1}, \frac{\partial \varphi^1}{\partial x_2}, \ldots, \frac{\partial \varphi^n}{\partial x_m}\right),$$

Card 1/2

UDC: 519.217.31

L 6427-66

ACC NR: AP5020634

$$\varphi_{xx} \equiv \left(\frac{\partial^2 \varphi^1}{\partial x_1^2}, \frac{\partial^2 \varphi^1}{\partial x_1 \partial x_2}, \ldots, \frac{\partial^2 \varphi^n}{\partial x_m^2} \right),$$

$x_1, x_2, \ldots, x_m$ are coordinates of points in the region τ, where the process occurs; $\varphi^i = \varphi^i(x, t)$ are functions characterizing the state of the process (t is time); $u^r = u^r(x, t)$ are the control functions. The calculations are presented in detail. Orig. art. has: 33 formulas.

SUB CODE: MA, IE / SUBM DATE: 18Sep64 / ORIG REF: 003

nw

Card 2/2

L 2611-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

ACCESSION NR: AP5023109 UR/0103/65/026/009/1481/1489
62-505.5

33
B

AUTHOR: Sirazetdinov, T. K. (Kazan)

TITLE: Analytical designing of controllers for distributed-parameter processes

SOURCE: Avtomatika i telemekhanika, v. 26, no. 9, 1965, 1481-1489

TOPIC TAGS: automatic control theory, automatic control design

ABSTRACT: Based on the R. Bellman method of dynamic programing, a problem of optimal control and stability of processes describable by this set of partial differential equations:

$$\frac{\partial \varphi^i}{\partial t} = f^i(x, \varphi, \varphi_x, \varphi_{xx}, u) \quad (i = 1, 2, \ldots, n), \tag{1.1}$$

is considered; here: $x \equiv (x_1, x_2, \ldots, x_m)$, $\varphi \equiv (\varphi^1, \varphi^2, \ldots, \varphi^n)$, $u \equiv (u^1, u^2, \ldots, u^l)$,

$$\varphi_x \equiv \left(\frac{\partial \varphi^1}{\partial x_1}, \ldots, \frac{\partial \varphi^n}{\partial x_m}\right), \quad \varphi_{xx} \equiv \left(\frac{\partial^2 \varphi^1}{\partial x_1^2}, \frac{\partial^2 \varphi^1}{\partial x_1 \partial x_2}, \ldots, \frac{\partial^2 \varphi^n}{\partial x_m^2}\right),$$

x_p $(p = 1, 2, \ldots, m)$ are the coordinates of the region τ where

Card 1/2

L 2641-66

ACCESSION NR: AP5023109

the process transpires; $\varphi^i = \varphi^i(x, t)$ $(i = 1, \ldots, n)$ are the functions describing the state of the process; $u^r = u^r(x, t)$ $(r = 1, \ldots, l)$ are the control functions. The solutions of (1.1) are found in the class of $\in \tau$ functions continuously differentiable with respect to time $t \geq 0$ and double continuously differentiable with respect to $x_1, x_2, \ldots x_n$ coordinates. Orig. art. has: 60 formulas.

ASSOCIATION: none

SUBMITTED: 18May64

NO REF SOV: 007

ENCL: 00

OTHER: 002

SUB CODE: IE

Card 2/2

SIRAZETDINOV, T.K.

Theory of the stability of a fluid flow under steady disturbances. Iz. vys. ucheb. zav.; av. tekh. 8 no.4:62-74 '65 (MIRA 19:1)

L 25450-66 EWT(d) IJP(c)

ACC NR: AT6007334 SOURCE CODE: UR/2529/63/000/080/0051/0063

42

B+1

AUTHOR: Sirazetdinov, T. K.

ORG: Kazan Aviation Institute (Kazanskiy aviatsionnyy institut)

16

TITLE: L. S. Pontryagin's maximum principle in the theory of linear optimal processes with distributed parameters

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 80, 1963. Matematika i mekhanika (Mathematics and mechanics), 51-63

TOPIC TAGS: optimal control, parameter, integral equation, ordinary differential equation, functional operator, linear differential equation, variational problem, partial derivative, heat conductivity

ABSTRACT: This paper examines processes which can be described by a system of linear differential equations with partial derivatives. L. S. Pontryagin's maximum principle is established as a necessary and sufficient condition of optimalness. A process which occurs in time and space and is described by a system of the form

$$\frac{\partial V^i}{\partial t} = f^i \quad (i = 1, \ldots, n),$$

where

$$f^i = f_0^i(t, x_1, \ldots x_q) + \sum_{k,s} f_{ks}^i(t, x_1, \ldots, x_n) V_{x_s}^k +$$

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Card 1/3

$$+\sum_{k,s,r} f^{i}_{ksr}(t, x_1, \ldots, x_n)\, V^{k}_{x_s x_r} + \varphi^{i}(t, x_1, \ldots x_q, U^{r}, \ldots, U^{m})$$

is examined. A variational problem is used to obtain

$$\Delta I_1 = \int_{t_0}^{t_1}\int_{\tau}(-\Delta H + \varepsilon)\,dt\,d\tau + \int_{\tau}\Big[\Big(\sum_{\kappa} P^{\kappa}\Delta V^{\kappa}\Big)_{t=t_1} -$$

$$-\Big(\sum_{\kappa} P^{\kappa}\Delta V^{\kappa}\Big)_{t=t_0}\Big]\,d\tau + \int_{t_0}^{t_1}\int_{S}\sum_{k,s,r}\Big[\frac{d}{dx_s}\Big(\frac{\partial H}{\partial V^{\kappa}_{x_s x_r}}\Big) -$$

$$-\frac{\partial H}{\partial V^{\kappa}_{x_r}}\Big]\cos(\hat{n, x_r})\,\Delta V^{\kappa}\,dS +$$

$$\int_{t_0}^{t_1}\int_{S}\sum_{k,s,r}\frac{\partial^2 H}{\partial V_{x_s}\partial V_{x_r}}\Delta V^{k}_{t_r}\cos(\hat{n x_s})\,dS,$$

which is also applicable in the case of nonlinear equations describing the process and the functional I_1. Four examples of determining optimal control are given, e.g., optimal heating of a thin sheet in a furnace. The thermal conductivity equation has the form

$$\frac{\partial V}{\partial t} = a^2\Big(\frac{\partial^2 V}{\partial x^2} + \frac{\partial^2 V}{\partial y^2}\Big) + \alpha_0(U - V),$$

L 25450-66

ACC NR: AT6007334

and the formula for determining the optimal control is

$$U=\frac{a_0 t_1}{2a_0}.$$

Orig. art. has: 57 formulas.

SUB CODE: 12/ SUBM DATE: 03Jul63/ ORIG REF: 006

Card 3/3 cc

L 45108-66 EWT(1)/EWP(m) WW/DJ

ACC NR: AP6003184 SOURCE CODE: UR/0147/65/000/004/0062/0074

AUTHOR: Sirazetdinov, T. K.

ORG: none

TITLE: Theory of the stability of the motion of a fluid with constantly acting perturbations

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 4, 1965, 62-74

TOPIC TAGS: fluid hydrodynamics, perturbation theory

ABSTRACT: The plane linearized perturbed motion of a liquid is described by the system of differential equations:

$$\frac{\partial v_i}{\partial t} = -\frac{\partial p}{\partial x_i} + L_{xi}(v_1, v_2) \quad (i = 1, 2),$$

$$\frac{\partial v_1}{\partial x_1} + \frac{\partial v_2}{\partial x_2} = 0.$$

Here:

$$L_{xi}(v_1, v_2) \equiv \sum_{j=1}^{2}\left[a_{ij}(x)\, v_j + \sum_{p=1}^{2} b_{ij}^{p}(x)\frac{\partial v_j}{\partial x_p}\right] + \nu \sum_{p=1}^{2}\frac{\partial^2 v_i}{\partial x_p^2}, \tag{1.1}$$

$$a_{ij}(x) = -\frac{\partial n_i}{\partial x_j}, \quad b_{ij}^{p}(x) = -u_p \delta_{ij}, \quad x \equiv (x_1, x_2), \tag{1.2}$$

UDC: 532.516

Card 1/2

L 45108-66

ACC NR: AP6003184

x_1 and x_2 are the coordinates of a point τ, where the process takes place; t is the time; v_1 and v_2 are the velocity of the perturbed motion; u_1 and u_2 are the components of the unperturbed motion, which are assumed independent of the time t; p is the pressure of the perturbed motion; ν is the coefficient of the kinematic viscosity; δ_{ij} is a Kronecker symbol. The density of the liquid is assumed to be unity. The system of differential equations derived on the above basis is solved by separation of variables and partial integration. Orig. art. has: 56 formulas.

SUB CODE: 20/ SUBM DATE: 14Mar64/ ORIG REF: 007/ OTH REF: 002

Card 2/2 mjs

L 38216-66 EWT(d)/FBD/FSS-2/EEC(k)-2/EWP(v)/EWP(k)/EWP(h)/EWP(l) IJP(c)
ACC NR: AP6025406 AST/BC SOURCE CODE: UR/0103/66/000/007/0005/0019

AUTHOR: Sirazetdinov, T. K. (Kazan')

ORG: none

TITLE: On optimum control of elastic flight vehicles

SOURCE: Avtomatika i telemekhanika, no. 7, 1966, 5-19

TOPIC TAGS: optimum control, flight vehicle control, elastic flight vehicle

ABSTRACT: The problem of controlling the motion of a thin, elongated, elastic, flight vehicle in such a way that the deviation from the given trajectory is minimum is analyzed under the assumptions that the flight velocity is constant and that the controlling force is concentrated. The behavior of the axis of a flight vehicle (considered as a beam of a variable cross section) under the action of elasticity, weight, and aerodynamic forces is described by a partial differential equation. To solve the formulated problem the theory of the optimum control problem of systems with distributed parameters is applied. The mean-square deviation of the form and of the velocities of the flight-vehicle axis from the programmed values is taken as the performance criteria (the functional which the control function minimizes). The

Card 1/2 UDC: 62-505:629.13

L 38216-66

ACC NR: AP6025406 O

optimal-control function is derived in the form

$$u_0 = \frac{1}{2\omega m(1)} \int_0^1 \{[f_{12}(x,t) + f_{21}(1,x)]\varphi_1(x,t) + [f_{22}(x,1) + f_{22}(1,x)]\varphi_2(x,t)\}\, dx. \qquad (1)$$

where ω, $m(1)$ are known numbers, $\varphi_1(x, t)$ is the elastic deflection function, and $\varphi_2(x, t)$ is its derivative with respect to time, and f_{12}, f_{21}, and f_{22} are functions to be determined from the equation previously derived by the author (Avtomatika i telemekhanika, v. 26, no. 9, 1965). To determine the unknown functions, a nonlinear system of equations is derived and the method for its approximate solution is described. More detailed application of the method is presented using particular cases. Orig. art. has: 57 formulas. [LK]

SUB CODE: 01/ SUBM DATE: 10Jul65/ ORIG REF: 003/ OTH REF: 002
ATD PRESS: 5044

Card 2/2

ACC NR: AP6036851 SOURCE CODE: UR/0147/66/000/004/0023/0028

AUTHOR: Sirazetdinov, T. K.

ORG: none

TITLE: Optimal stabilization of the Couette flow

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 4, 1966, 23-28

TOPIC TAGS: plasma dynamics, plasma flow, plasma stability, magnetohydrodynamics, Couette flow

ABSTRACT: The viscous flow of a fluid without excess charge between two parallel walls is considered. One wall moves with the velocity v_c relative to the other wall which is at rest; the distance between the walls is h, the flow velocity is v_x, $v_y = 0$. The magnetic field B is along the y axis. The magnetic induction of the current induced by B in the fluid is negligibly small. The equation of flow is

$$\frac{\partial v_x}{\partial t_0} = \nu \frac{\partial^2 v_x}{\partial y_0^2} - \frac{\sigma}{\rho} v_x B^2, \qquad (1)$$

$$(v_x)_{y_0=0} = 0, \ (v_x)_{y_0=h} = v_c,$$

where ν is the kinematic viscosity coefficient, ρ - density, t_0 - time. The stationary solution of Eq. (1) is

$$v_0 = v_0(y_0) = v_c \frac{\operatorname{sh} R_h \frac{y_0}{h}}{\operatorname{sh} R_h},$$

 UDC: 532.517.2

ACC NR: AP6036851

where R_h is the Hartmann number. The problem is to maintain this distribution of flow. This must be done by regulating B. The problem is solved by extremizing a certain functional into which B enters. The solution indicates that the magnetic field must be concentrated in the region where the flow velocity is greatest. Orig. art. has: 2 tables and 21 equations.

SUB CODE: 20/ SUBM DATE: 30Jun65/ ORIG REF: 001/ OTH REF: 002

Card 2/2

SIRAZETDINOV, V.G.

Traumatism in lumbermen; based on materials of the Kananikol'skoye logging camp for five years. Ortop., travm. i protez. 26 no.1:71-73 Ja '65. (MIRA 18:5)

1. Iz Kananikol'skoy uchastkovoy bol'nitsy Zilairskogo rayona Bashkirskoy ASSR. Adres avtora: Bashkirskaya ASSR, Zilairskiy rayon, Kananikol'skaya uchastkovaya bol'nitsa.

SIRAZETDINOV, V.G.

Intracutaneous skin tests in the determination of sensitization to penicillin. Antibiotiki 9 no.4:372-374 Ap '64.
(MIRA 19:1)

1. Kananikol'skaya uchastkovaya bol'nitsa Khaybullinskogo rayona Bashkirskoy ASSR i kafedra mikrobiologii Bashkirskogo meditsinskogo instituta, Ufa.

TOROPOV, N.A.; SIRAZHIDDINOV, N.A.

System $MgAl_2O_4$ - $LaAlO_3$. Zhur. neorg. khim. 9 no.5:1300-1302 My '64. (MIRA 17:9)

SIRAZHDINOV, S.Kh., dotsent, kandidat fiziko-matematicheskikh nauk.

Moments of a multidimensional normal correlation. Biul.SAGU no.30: 81-83 '48. (MLRA 9:5)

(Correlation (Statistics))

SIRAZHDINOV, S.Kh., kandidat fiziko-matematicheskikh nauk.

Theory of multi-valued Hermitian polynomials. Trudy Inst.mat.i mekh. AN Uz.SSR no.5:70-95 '49. (MLRA 6:12)
(Hermitian polynomials)

SIRAZHDINOV, S. Kh.; MOROZOVA, M.I.; SARYMSAKOV, T.A., deystvitel'nyy chlen.

Results of statistical analysis of the rotation of weather types over Central Asia. Dokl.AN Uz.SSR no.12:12-14 '49. (MLRA 6:5)

1. Institut matematiki i mekhaniki AN Uz.SSR (for Sirazhdinov, Morozova).

2. Akademiya Nauk Uzbekskoy SSR (for Sarymsakov).
(Soviet central Asia--Climate) (Mathematical statistics)

SIRAZHDINOV, S.Kh.

Siraždinov, S. H. The ergodic principle for nonstationary Markov chains. Doklady Akad. Nauk SSSR (N.S.) 71, 829-830 (1950). (Russian)

Let $M_1, M_2, \cdots$ be the successive matrices of one-step transition probabilities of a Markov chain with n states. Then 1 is a characteristic value of M_k. Let $c_k \leqq 1$ be the maximum of the moduli of the remaining characteristic values (excluding the value 1 only if it is simple). The author shows that if $n=2$ the condition (1) $\sum(1-c_k)=\infty$ is necessary and sufficient for

(2) $$\lim_{n\to\infty} [M_k \cdots M_n]_{ij} - [M_k \cdots M_n]_{i'j} = 0$$

(all i, i', j, k). On the other hand the author gives an example of Sarymsakov which shows that (1) is not sufficient for (2) if $n>2$. It is shown that if d_k is the determinant of M_k, the condition $\sum(1-|d_k|)<\infty$ is (rather trivially) necessary for (2). Condition (2) is usually described as the condition of ergodicity, and Kolmogorov had conjectured that (1) was necessary and sufficient for (2).

J. L. Doob (Urbana, Ill.).

Source: Mathematical Reviews, 1950 Vol 11 No. 8

USSR/Mathematics - Markov Chains 21 Jun 52

"Refining the Limit Theorems for Homogeneous Markov Chains," S. Kh. Sirazhdinov, Math Inst imeni Steklov, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXXIV, No 6, pp 1143-1146

Considers a homogeneous Markov chain discrete in time with a finite number of possible states e_1, e_2, ... ϵ_s also considers the probabilities P of transition after one step from state e_a to state e_b and the initial probabilites corresponding, which are considered as given. Designates the number of incidences into state e_a after the first n steps by m_s^a (a = 1, ..,s).

223T84

The problem of investigating the limit distributions of sums of chance quantities "connected in a chain" is equiv to studying the limit distributions of a certain homogeneous chance quantity $Z_n = m_n h$. Submitted by Acad A. N. Kolmogorov 22 Apr 52.

223T84

S[illegible]AZH[illegible], S. KH.

SIRAZHDINOV, S. Kh.

USSR/Mathematics - Markov's series

Card 1/1 : Pub. 22 - 6/44

Authors : Sirazhdinov, S. Kh.

Title : Limiting theorems for Markov's homogeneous series (chains) with continuous time

Periodical : Dok. AN SSSR 98/6, 905-908, October 21, 1954

Abstract : Lemmas and limiting theorems dealing with Markov's homogeneous series are presented for the purpose of finding a more refined expression for mathematical expectation of probability of some incidental events at conformance of certain conditions [(A) & (H)] provided the time is continuous. The symbols are explained. Six references (1938-1953).

Institution : Mathematical Institute im. V. A. Steklov of the Acad. of Scs. of the USSR

Presented by: Academician A. N. Kolmogorov, June 2, 1954

Sirazhdinov, S. Kh.

3

1-F\W

Сираждинов, С. Х. [Siraždinov, S. H.] Предельные теоремы для однородных цепей Маркова. [Limit theorems for stationary Markov chains.] Izdat. Akad. Nauk Uzbekskoĭ SSR, Taškent, 1955. 84 pp. 3.50 rubles.

The author considers Markov chains with stationary transition probabilities and states $e_1, e_2, \cdots, e_s$, the time being either discrete or continuous. Introduction: Summary of previous work on the asymptotic behaviour of Markov chains; enunciation of the author's principal results, mostly local limit theorems giving asymptotic expansions for the distribution of the vector whose αth component is the total time spent in state e_α during an interval $(0, t)$. Chapter I: The characteristic matrix. Lemmas on the latent roots of this matrix. (For discrete time the matrix is simply $(p_{\alpha\beta} \exp i\theta_\alpha)$, $\alpha, \beta = 1, 2, \cdots, s$, where $(p_{\alpha\beta})$ is the usual matrix of transition probabilities.) Chapter II [III]: Limit theorems for the discrete [continuous] case. Theorem 1 generalizes a local limit theorem due to Kolmogorov [Izv. Akad. Nauk SSSR. Ser. Mat. 13 (1949), 281–300; MR 11, 119]. Most of the theorems

1/2

Sirazdinov, S. H

B
I-F\W

proved here had been announced previously by the author [Dokl. Akad. Nauk SSSR (N.S.) 84 (1952), 1143-1146, 98 (1954), 905-908; MR 14, 187; 16, 494]. One of them generalizes a result found by Sarymsakov [Akad. Nauk Uzbek. SSR. Trudy Inst. Mat. Meh. 5 (1949), 61-69; MR 16, 495]. Many of the author's proofs make use of limit theorems given by Esseen [Acta Math. 77 (1945), 1-125; MR 7, 312]. His exposition is straightforward and not hard to read, but there are many misprints, in particular, 0 for *O* or *o*.

H. P. Mulholland (Birmingham).

2/2

SW

SIRAZHDINOV, S. Kh.

Math

Sirazhdinov, S. H. A simple statistical acceptance control. Akad. Nauk Uzbek. SSR. Trudy Inst. Mat. Meh. 15 (1955), 41–56. (Russian)

The author derives an acceptance sampling plan and gives formulae (without derivations) and tables for obtaining unbiassed estimates for the number of defective articles accepted. The case of destructive as well as non-destructive test (with replacement of items found defective) is considered. The work is based on a paper by A Kolmogorov [Izv. Akad. Nauk SSSR. Ser. Mat. 14 (1950), 303–326; MR 12, 116; 15, 452]. *E. Lukacs.*

SEVAST'YANOV, B.A.; SIRAZHDINOV, S.Kh.

Mathematical statistics and industrial production control. Priroda 44 no.8:28-34 Ag '55. (MLRA 8:10)
(Production control)

SIRAZHDINOV, S.Kh.

Statistical methods for industrial quality control. Standartizatsiia no.1:8-14 Ja-Fe '56 (MLRA 9:2)

1.Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Industries--Quality control)

SIRAZHDINOV, S.Kh.

Estimations with minimum bias for a binomial distribution [with summary in English]. Teor.veroiat.i ee prim. no.1: 168-174 '56. (MLRA 9:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Distribution (Probability theory))

88891 27

13.9441
16.6200

AUTHOR: Siradzhinov, S.Kh.

S/044/60/000/007/047/058
C111/C222

TITLE: Unbiased estimates of the amount of the transmitted refuse for the method of the single sample

PERIODICAL: Referativnyy zhurnal. Matematika, no.7, 1960, 188. Abstract no.8077. Tr.In-ta matem. i mekhan.AN Uz SSR, 1957, vyp.20, 89-100

TEXT: The author considers the statistic acceptance inspection according to the qualitative mark with the application of a single sample with the volume n. If the number of the defect products in the sample is not greater than c then the remaining products are accepted without any control, in the other case they either are controlled completely (scheme A) or refused finally (scheme B). The article is a development of an idea of A.N.Kolmogorov on the utilization of the results of control for the estimation of the amount of the transmitted refuse (Izv.AN SSSR.Ser.matem., 1950, 14, 303-326) and a generalization of the results of the author. Let q^* be the amount of defect products in the accepted consignment. Basing on the asymptotic formula for the operative characteristic proposed by A.N.Kolmogorov (Uspekhi matem.nauk,

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Unbiased estimates of the amount.....

1951, 6, no.3, 133-134) the author obtains the unbiased estimates of the magnitude q^* for the schemes A and B if $N \to \infty$. In the case of the scheme A the unbiased estimate $\varphi(Y)$ for q for the statement of Y defect products is given by the expression:

$$\varphi^*(Y) = \begin{cases} \frac{x}{n}(1-\lambda) & \text{if } Y \leqslant c \\ \frac{1}{n} R_c(\lambda, b) & \text{if } Y > c. \end{cases}$$

Here x and X are the sets of defect products in the sample of volume n and in the whole consignment of volume N,

$\lambda = \lim_{N\to\infty} \frac{n}{N}$; $b = \frac{nX}{N}$; $R_c(\lambda,b) = \frac{K_{c+1}(\lambda,b)}{1-L_c(\lambda,b)}(1-\lambda)$, where

$K_m(\lambda,b) = C_M^m \lambda^m (1-\lambda)^{M-m}$, $M = \frac{b}{\lambda}$; $L_c(\lambda,b) = \sum_{m=0}^{c} K_m(\lambda,b)$.

In the case of the scheme B the unbiased estimate $\varphi^*(x)$ of the magnitude q^* with respect to x is given by the formula

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C111/C222

Unbiased estimates of the amount...

$$\varphi^*(x) = \begin{cases} \frac{x}{n} & \text{if } x \leq c+1 \\ 0 & \text{if } x > c+1. \end{cases}$$

For a sufficiently large number of controlled consignments one may assume:
for the scheme A: $q^*_{mean} \sim \varphi^*_{mean}$; $q_{mean} \sim \varphi_{mean}$

for the scheme B: $q^{**}_{mean} = \frac{\Sigma(N-n)q^*}{\Sigma(N-n)} \sim \varphi^*_{mean}$;

the author gives a probable estimation of the exactness of these approximate relations. The author points out that it would be necessary to tabulate the function $R_c(\lambda, b)$.

[Abstracter's note: The above text is a full translation of the original Soviet abstract.]

Card 3/3

SIRAZHDINOV, S.Kh.

Local limit theorem for Markov vhains with continuous time. Izv. AN Uz. SSR. Ser.fiz.-mat.nauk no.6:83-86 '58. (MIRA 12:2)

1. Institut matematiki i mekhaniki AN UzSSR.
(Chains (Mathematics))

SIRAZHDINOV, S.

International Congress of Mathematicians in Edinburgh. Izv. AN Uz. SSR. Ser.fiz.-mat.nauk no.6:88-89 '58. (MIRA 12:2)
(Edinburgh--Mathematics--Congresses)

SIRAZHDINOV, S.Kh.; KAGAN, A.M.

H. Cramer's condition. Dokl.AN Uz.SSR no.12:5-7 '58.
(MIRA 12:1)

1. Chlen-korrespondent AN UzSSR (for Sirazhdinov). 2. Institut matematiki i mekhaniki im. V.I.Romanovskogo AN UzSSR i Sredneaziatskiy gosudarstvennyy universitet im. V.I.Lenina.
(Mathematical statistics)

ROMANOVSKIY, V.I.; SIRAZHDINOV, S.Kh., otv.red. Prinimal uchastiye: GEHDLER, M.G., red.. GAYSINSKAYA, I.G., red.izd-va; BARTSEVA, V.P., tekhn.red.

[Selected works] Izbrannye trudy. Izd.2. Tashkent, Izd-vo Akad.nauk Uzbekskoi SSR. Vol.1. [Instroduction to analysis] Vvedenie v analiz. 1959. 501 p. (MIRA 12:10)

1. Chlen-korrespondent AN UzSSR (for Sirazhdinov). (Mathematics)

SIRAZHDINOV, S.Kh.

Additive problem with an increasing number of added numbers. Dokl.AN Uz.SSR no.1:5-7 '59. (MIRA 12:4)

1. Chlen-korrespondent AN UzSSR. Institut matematiki i mekhaniki imeni V.I.Romanovskogo AN UzSSR.
(Probabilities) (Numbers, Theory of)

SIRADZHINOV, S.Kh.

On the local limit theorem. Dokl. AN UzSSR no.2:5-6 '59. (MIRA 12:4)

1. Institut matematiki i mekhaniki im. V.I. Romanovskogo AN UzSSR. Chlen-korrespondent AN UzSSR.
(Limit theorems (Probability theory))

16(1),16(2)

AUTHOR: Sirazhdinov,S.Kh.

SOV/52-4-2-11/13

TITLE: On Exact Estimation in a Local Limit Theorem

PERIODICAL: Teoriya veroyatnostey i yeye primeneniya, 1959, Vol 4, Nr 2, pp 229-233 (USSR)

ABSTRACT: Let $\xi_1, \xi_2, \xi_3, \ldots$ be a sequence of independent random variables which are distributed equally and have the density of probability $p(x)$. Let $p_n(x)$ denote the density of probability of $\left[\xi_1 + \xi_2 + \ldots + \xi_n\right]/\sqrt{n}$ and let $\varphi(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}$. Let there exist $\alpha_3 = \int_{-\infty}^{\infty} x^3 p(x)dx$. For an $n_o \geq 1$ let $p_{n_o}(x) \in L_\alpha(-\infty, \infty)$, where $1 < \alpha \leq 2$. Then for every $p \geq 1$ it holds:

$$c_n^{(p)} \equiv \int_{-\infty}^{\infty} \left| p_n(x) - \varphi(x) \right|^p dx = \lambda_p \left(\frac{|\alpha_3|}{\sqrt{n}} \right)^p + o\left(\frac{1}{n^{p/2}} \right) ,$$

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On Exact Estimation in a Local Limit Theorem SOV/52-4-2-11/13

where

$$\lambda_p = \frac{1}{6^p(\sqrt{2\pi})^p}\int_{-\infty}^{\infty}|3x - x^3|^p e^{-p\frac{x^2}{2}}dx .$$

The proof bases on four lemmas. The author mentions Yu.V. Prokhorov.
There are 5 references, 3 of which are Soviet, 1 English, and 1 Swedish.

ASSOCIATION: IMM AN Uz.SSR imeni V.I.Romanovskogo, Tashkent (Institute of Mathematics and Mechanics AS Uz.SSR imeni V.I.Romanovskiy, Tashkent)

SUBMITTED: December 20, 1959

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SIRAZHDINOV, S.Kh. (Tashkent)

General local limit theorem for the sum of random quantities.
Teor. veroiat. i ee prim. 5 no.2:254-255 '60. (MIRA 13:9)
(Probabilities)

S/044/62/000/010/017/042
B166/B102

AUTHORS: Sirazhdinov, S. Kh., Eydel'nant, M. I.

TITLE: Contribution to the problem of estimates of product quality from the results of sampling

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1962, 17, abstract 10V85 (Tr. In-ta matem. AN UzSSR, no. 22, 1961, 135 - 145)

TEXT: There are S batches of articles with known sizes N_i and with an unknown number D_i of defective articles among them. From each batch random samples of size n_i including a number d_i of defective articles are taken. A decisive rule is applied: (1) if $d_i \geq c'$, then all articles which did not fall into the sample are rejected without checking; (2) if $c < d_i < c'$ a 100% check is made; (3) if $d_i \leq c$ all articles which did not fall into the sample are accepted without checking. Let N'(D') be the number of articles (defective articles) rejected without checking, N"(D") the number of

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Contribution to the problem...

checked articles (defective articles), N"'(D"') the number of articles (defective articles) accepted without checking. $N = N' + N'' + N'''$, $D = D' + D'' + D'''$. Unbiased estimates are given in the article for quantities D, D' and D"'. Estimates are considerably simplified if a check is made on one more (n + 1)-th randomly selected article. Unlike in other papers (RZhMat, 1956, 3999; 1958, 2245; 1960, 8077) the formulas obtained in this paper are valid with any $q = \frac{D}{N}$ and $\lambda = \frac{n}{N}$. [Abstracter's note: Complete translation.]

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39402

S/044/62/000/006/072/127
B168/B112

16.6200

AUTHOR: Sirazhdinov, S. Kh.

TITLE: Selection of the most economical scheme for statistical intake control

PERIODICAL: Referativnyy zhurnal. Matematika, no. 6, 1962, 17, abstract 6V89 (Tr. Tashkentsk. un-ta, no. 189, 1961, 79-88)

TEXT: The author formulates the problem of selecting the most economical scheme from all possible multiple schemes for statistical intake control (i.e. schemes of consecutive type with varying selection volume at each stage), assuming the distribution of the number x of defective units in the batch of volume N to be a mixed binomial

$$Q(M) = P(x = M) = \sum_{i=1}^{s} \alpha_i C_N^M p_i^M (1 - p_i)^{N - M},$$

$$\sum_{1}^{s} \alpha_i = 1, \ \alpha_i > 0 \text{ and } 0 \leq p_i \leq 1.$$

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B168/B112

Selection of the most economical...

For the particular case where $Q(0) = \alpha + (1 - \alpha)(1 - p)^N$,

$Q(M) = (1 - \alpha)C_N^M p^M (1 - p)^{N - M}$, $M = 1,\ldots,N$,

a complete solution of the formulated problem is given. In this case the single scheme of statistical intake control with a selection volume increasing as the log of N was found to be the most economical. A table for calculating the optimum selection volume is given by way of example. [Abstracter's note: Complete translation.]

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SIRAZHDINOV, S. Kh.

"On strong convergence of the distributions of sums of independent terms"

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

SIRAZHDINOV, S.Kh.; MAMATOV, M.

Convergence in the mean for densities. Teor. veroiat. i ee prim. 7 no.4:433-437 '62. (MIRA 15:11)

1. Tashkentskiy gosudarstvennyy universitet imeni Lenina.
(Convergence) (Probabilities)

SIRAZHDINOV, S. Kh.

General Local Limit Theorem for the Sums of Random Magnitudes p. 73

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

ANTONOVSKIY, M.Ya.; BOLTYANSKIY, V.G.; SARYMSOKOV, T.A.;
SIRAZHDINOV, S.Kh., otv. red.; SOKOLOVA, A.A., red.;
GOR'KOVAYA, Z.P., tekhn. red.

[Topological Boolean algebras] Topologicheskie algebry
Bulia. Tashkent, Izd-vo AN UzbSSR, 1963. 132 p. (Topo-
logicheskie polupolia, no.1) (MIRA 17:4)

1. Chlen-korrespondent AN Uzb.SSR (for Sirazhdinov).

SIRAZHDINOV, S.Kh., otv. red.; SOKOLOVA, A.A., red.; KARABAYEVA, Kh.U., tekhn. red.

[Limit theorems in the theory of probability] Predel'nye teoremy teorii veroiatnostei. Tashkent, Izd-vo AN UzbSSR, 1963. 163 p. (MIRA 17:3)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut matematiki. 2. Chlen-korrespondent AN UzSSR (for Sirazhdinov)

MATVIYEVSKAYA, G.P.; SIRAZHDINOV, S.Kh.

"Treatises" [translated from the Arabic] by Omar Khayyam. Reviewed by G.P.Matvievskaia, S.Kh.Sirazhdinov. Usp. mat. nauk 18 no.6: 245-248 '63. (MIRA 17:3)

ACCESSION NR: AT4039219 S/0000/63/000/000/0091/0107

AUTHOR: Sirazhdinov, S. Kh.; Mamatov, M.

TITLE: Global limit theorems for probability densities and probability distributions

SOURCE: AN UzSSR. Institut matematiki. Predel'ny*ye teoremy* teorii veroyatnostey (Limit theorems for the theory of prabability). Tashkent, Izd-vo AN UzSSR, 1963, 91-107

TOPIC TAGS: probability theory, probability, probability distribution, asymptotic property, limit theorem

ABSTRACT: Let $\xi_1,\ldots,\xi_n,\ldots$ be a sequence of independent, uniformly-distributed random variables with finite dispersions. Without loss of generality it is assumed that the mathematical expectation of ξ_1 is zero and that its dispersion is unity. Let $F_n(x)$ denote the distribution function of the random variable $\zeta_n = (\xi_1 + \ldots + \xi_n)/\sqrt{n}$. It is well-known that $F_n(x)$ can be uniquely given by:

$$F_n(x) = \int_{-\infty}^{x} p_n(x)\,dx + \psi_n(x), \qquad \text{(A)}$$

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