"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

YUGOSLAVIA / Human and Animal Physiology. Liver. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22383.

Author : Persic, N., Kallai, L. Cerlek, S.
Inst : Not given.
Title : Histological Liver Changes in Schizophrenia.

Orig Pub: Acta med. Jugosl., 1956, 10, No 3, 387-398.

Abstract: No abstract.

Card 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, N.

Eosinophil reaction in the blood and cerebrospinal fluid of schiziphrenics after lumbar puncture and reinstallation of the fluid. Neuropsihiatrija 3 no.1:52-62 1955.

1. Iz Neurolosko-psihijatrijske klinike Medicinskog fakulteta u Zagrebu (Preistojnik: Prof. Dr. R.Lopasic)

(EOSINOPHIL COUNT, in var.dis.
schizophrenia, count in blood & CSF before and after lumbar puncture (Ser))
(SCHIZOPHRENIA, physiol.
Thorn test & blood & CSF eosinophil count (Ser.))
(ADRENAL CORTEX, func.test.
Thorn test & eosinophil count in blood & CSF in schizophrenics (Ser))
(CEREBROSPINAL FLUID,
eosinophil count in schizophrenics before and after lumbar puncture)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

DOGAN, S.; KELER, M.; PERSIC, N.

Copper in blood in schizophrenia; a problem of pathophysiology of schizophrenia. Acta med.iugosl. 9 no.1:60-70 1955.

1. Neurolosko-psihijatrijska klinika i Interna klinika Medicinskog fakulteta u Zagrebu.

(COPPER, in blood
in schizophrenia, determ.results(Ser))
(BLOOD,
copper in schizophrenia, determ. & results(Ser))
(SCHIZOPHRENIA, blood in
copper determ. & results (Ser))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, N.

Relations between epilepsy and schizophrenia. Neuropsihijatrija 4 no.3-4:263-288 1956.

1. Neurolosko-psihijatrijska klinika Medicinskog fakulteta u Zagrebu (Predstojnik: Prof. dr. R. Lopasic).
(EPILEPSY,
relation to schizophrenia (Ser))
(SCHIZOPHRENIA,
relation to epilepsy (Ser))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, Nikola

Headaches in therapeutic and diagnostic procedures in neurology and psychiatry. Med. glasn. 8 no.6:202-205 June 54.

1. Neuropsihijatrijska klinika u Zagrebu (predstojnik prof. dr. R.Lopasic.)

(HEADACHE, etiol. & pathogen.
spinal puncture & anesth., electroshock ther. & narcosynthesis)
(SPINAL PUNCTURE, compl. headache, ther.)
(ANESTHESIA, SPINAL, compl. headache, ther.)
(SHOCK THERAPY, ELECTRIC, compl. headache)
(NARCOSYNTHESIS, compl. headache, ther.)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, Nikola

Various aspects of pathophysiology of schizophrenia. Lijec. vjes. 78 no.3-4:104-116 Mar-Apr 56.

1. Iz Neurolosko-psihijatrijske klinike Medicinskog fakulteta u Zagrebu.
(SCHIZOPHRENIA, pathol.
physiopathol. (Ser))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, Z.

Band-aid, bandage, diaper and wrapping. Acta chir.iugosl. 2 no. 2-3 '259-261 1955.

Kirurski odjel Opce bolnice dr. M. Stojanovica u Zagrebu (Predstojnik: dr. Danko Riessener)

(NOMENCLATURE,
med.classif. of bandages (Ser))

(BANDAGING AND DRESSING
nomenclature (Ser))

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, Z.

An interesting case of faulty development of mesocolon.
Acta chir. iugosl. 2 no.4:361-364 1955.

1. Kirurski odjel Opce bolnice dr. M.Stojanovic, Zagreb
(Predstojnik dr. Danko Riessner)
(MESENTERIES, abnorm.
mesocolon fixation of transverse colon to posterior wall of bursa omentalis in gastrectomy for ulcer (Ser))
(ABNORMALITIES,
same)
(STOMACH, surg.
gastrectomy for ulcer, mesocolon fixation of transverse colon to posterior wall of bursa omentalis (Ser)
(PERITONEUM.
omental bursa, mesocolon fixation of transverse colon to posterior wall of bursa omentalis (Ser))

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, Zvonko, d-r

Injuries in youth during the construction of the Zagreb-Ljubljana highway in 1958. Voj. san. pregl., Beogr. 17 no.2:153-156 '60.
(ACCIDENTS INDUSTRIAL statist.)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIC, Zvonko, dr.

Organizational problems in emergency medicine. Voj.san.pregl. 18 no 3: 657-664 Ag '61.

(EMERGENCIES)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ALEKSEYEVA, Ye.I., kand. sel'khoz. nauk; BUZINOV, P.A., kand. sel'khoz. nauk; VODOLAGIN, V.D.; VOLKHOVSKAYA, U.V.; GLUSHCHENKO, N.N., kand. biol. nauk; GURVICH, N.L., doktor biol. nauk; ZHELEZNOV, P.A., kand. sel'khoz. nauk; KSENDZ, A.T.; LESHCHUK, T.Ya.; LUK'YANOV, I.A., kand. sel'khoz. nauk; MAYCHENKO, Z.G., kand. sel'khoz. nauk; TANASIYENKO, F.S., kand. khim. nauk; ZNAMENSKIY, M.P.; PERSIDSKAYA, K.G.; PODLESNOVA, A.F.; ROGOCHIY, I.Ya.; REZNIKOV, A.R.; SHUL'GIN, G.T.; KHOTIN, A.A., doktor sel'khoz. nauk; LAPSHINA, O.V., red.; MINENKOVA, V.R., red.; MAKHOVA, N.N., tekhn. red.; BALLOD, A.I., tekhn. red.

[Aromatic plants] Efiromaslichnye kul'tury. Moskva, Sel'-khozizdat, 1963. 358 p. (MIRA 16:12)
(Ukraine--Aromatic plants)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

KOTLYAROVA, M.V.; KABOSHINA, Ye.S.; PERSIDSKAYA, K.G.

Producing extraction oil from azalea flowers. Trudy VNIISEDV no.4:175-177 '58. (MIRA 12:5)
(Essences and essential oils)
(Azalea)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, A.A. (g Vinnitsa)

Experiments with a self-made chronograph. Fiz.v shkole 16 no.4: 69-70 Jl-Ag '56. (MLRA 9:9)

1.4-ya srednyaya shkola.
(Chronograph)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, A.A.

Category : USSR/General Problems - Problems of Teaching A-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 2788

Author : Persidskiy, A.A.
Title : Home-Made Chronograph and Experiments with it.

Orig Pub : Fizika v shkole, 1956, No 4, 69-70

Abstract : No abstract

Card : 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, A. K.

"Problem on uniform asymptotic stability,"

Report presented at the Conference on Applied Stability-of-Motion Theory and Analytical Mechanics, Kazan Aviation Institute, 6-8 December 1962

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

KULIKOV, F.F. (Moskva); PEREVERZEV, A.S. (Moskva)

Automatic welding of thermal expansion [illegible]
[illegible] Ag '64.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

L 11513-66 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b) MJW/JD/HM

ACC NR: AP6006182 SOURCE CODE: UR/0135/66/000/002/0021/0024

AUTHOR: Kulikov, F. R. (Engineer); Persidskiy, A. S. (Engineer); Frolov, N. G. (Engineer) 47

ORG: none B

TITLE: Strength and ductility of VT14 and VT6S titanium-alloy joints obtained by automatic argon-shielded arc welding

SOURCE: Svarochnoye proizvodstvo, no. 2, 1966, 21-24

TOPIC TAGS: welding, arc welding, argon shielded arc, titanium, titanium alloy, alloy welding, alloy weld, weld property/VT14 alloy, VT6S alloy

ABSTRACT: Automatic argon-shielded arc welding of VT14 and VT6S titanium-alloy sections 2—18 mm thick has been studied in an attempt to obtain welds with a tensile strength of 115—120 kg/mm^2 at satisfactory ductility (bend angle of at least 35° and a notch toughness of at least 3.5—4.0 mkg/cm^2). It was found that in sections up to 6 mm thick the required mechanical properties can be obtained by using a filler wire of the Ti-4.5Al-4.5Nb-0.1Fe system or a wire containing up to 3.0% Al. In sections over 6 mm thick, commercial low-alloy wires containing α-stabilizing elements yielded welds with a satisfactory ductility but a low strength, varying from 63.6 to 102.3 kg/mm^2. Wires with composition similar to that of the base metal or with a high content of β-stabilizing elements yielded welds with a considerably higher

Card 1/2 UDC: 621.791.754:546.293:669.295.5

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ACC NR: AP6006182

strength but a low ductility. It is suggested that Ti-Al-V or Ti-Al-Mo-V alloy weldments over 6 mm thick be welded with fillers of the Ti-2.7Al-3.2 V system and used in the annealed condition, which would ensure a tensile strength of 80—85 kg/mm at a satisfactory ductility and toughness. With an electrode wire containing 4.5—5% aluminum and 4% vanadium, the strength of alloy welds in the annealed and aged condition can be increased to 100—110 kg/mm^2. This, however, requires the use of special electrode wires, which are now being developed. Orig. art. has: 4 figures and 3 tables. [ND]

SUB CODE: 11, 13/ SUBM DATE: none/ ATD PRESS: 4198

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ACCESSION NR: AP4043207 S/0125/64/000/008/0069/0072

AUTHORS: Kulikov, F. R.; Persidskiy, A. S.

TITLE: Automatic welding of heat compensators

SOURCE: Avtomaticheskaya svarka, no. 8, 1964, 69-72

TOPIC TAGS: automatic welding, heat compensator, steel bellow , seam quality, seam width, seam height, compensator lining, non melting electrode welding, argon arc, compensator lining, seam rolling, seam testing, seam welding optimal condition

ABSTRACT: Automatic welding was investigated as a substitute for the earlier, complicated process of manufacturing the steel bellows used as heat compensators in gas and air ducts. The seams have to be flat, since these bellows consist of 2 layers; hermetic sealing is also required. Welding was done under argon by a non-melting electrode, with subsequent rolling of the seams. A low current was used, since high voltage leads to wide seams. For best results the length of the arc should be $\leq$ 3 mm. The following empirical formula was found for securing optimal conditions:

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ACCESSION NR: AP4043207

$$H = (2 \text{ to } 2.5)\delta \; ; \; B = (10 \text{ to } 12)\delta,$$

where H is the seam height in mm; is the thickness of the strips to be welded in mm; and B is the seam width in mm. In the tests δ was 0.2 - 0.3 mm. The lining under the seams was preheated; steel lining was found preferable to copper for hermetic sealing. The seams were subsequently rolled; the machine used to this purpose is briefly described. The best results were obtained with a force of 250 to about 300 kg. Throughout the experiments, the specimens were X-rayed for microfissures and tested for mechanical strength. The editors remark in a footnote that such thin sheets may also successfully be welded by pulse-arc. Orig. art. has: 4 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 18Jan64

ENCL: 00

SUB CODE: MM

NR REF SOV: 000

OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ACC NR: AP7001459 (A) SOURCE CODE: UR/0413/66/000/021/0203/0203

INVENTOR: Gurevich, S. M.; Blashchuk, V. Ye.; Kulikov, F. R.; Persidskiy, A. S.; Kushnirenko, N. A.; Anoshkin, N. F.; Moroznikova, S. V.

ORG: none

TITLE: Electrode wire for welding titanium alloys. Class 49, No. 188278

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 203

TOPIC TAGS: titanium alloy, ~~titanium alloy~~ metal welding, ~~titanium alloy~~ electrode ~~wire~~

ABSTRACT: This Author Certificate introduces a titanium alloy electrode wire which contains aluminum, iron, chromium, silicon, and boron. To increase the strength and ductility of welds in alloy sections up to 25 mm thick, the wire contains 1.4—1.6% zirconium while the content of other components is set as follows: 1.8—2.0% aluminum, 2.5—2.7% iron, 0.2—0.4% chromium, 0.1—0.15% silicon, and 0.05% boron.

[ND]

SUB CODE: 13/ 11/ SUBM DATE: 28Jul65/ ATD PRESS: 5110

Card 1/1 UDC: 621.791.042.2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ACC NR: AP7001399 SOURCE CODE: UR/0413/66/000/021/0075/0075

INVENTOR: Kulikov, F. R.; Persidskiy, A. S.; Alekseyev, A. K.

ORG: none

TITLE: Chamber for local gas shielding. Class 21, No. 187902

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 75

TOPIC TAGS: arc welding, gas shielded arc welding, titanium welding, titanium alloy welding, alloy welding

ABSTRACT:

This Author Certificate introduces a chamber for local gas shielding in arc welding of circumferential joints in spherical or cylindrical parts (see Fig. 1). The chamber consists of two hollow semicylinders, the side walls of which have openings for the part to be welded and carry a gas pipeline with nozzles for creating a laminar gas flow and a gas outlet. To ensure airtight sealing in welding parts made of chemically active materials such as titanium and its alloys and to make it possible to rotate the parts without breaking the seal, the joint of the semicylinders is built in the form

Card 1/2

UDC: 621.791.753.9.037

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ACC NR: AP7001458 (A) SOURCE CODE: UR/0413/66/000/021/0202/0202

INVENTOR: Kulikov, F. R.; Gurevich, S. M.; Anoshkin, N. F.; Moroznikova, S. V.; Blashchuk, V. Ye.; Kushnirenko, N. A.; Persidskiy, A. S.

ORG: none

TITLE: Electrode wire for titanium-alloy welding. Class 49, No. 188277

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 202

TOPIC TAGS: electrode wire, titanium alloy, titanium alloy welding

ABSTRACT: This Author Certificate introduces a titanium-base electrode wire which contains 3.5—4.5% aluminum and 2.0—3.0% vanadium, with 1.4—1.6% zirconium added to improve the weld ductility. [ND]

SUB CODE: 13, 11/ SUBM DATE: 28Jul65/ ATD PRESS: 5110

Card 1/1 UDC: 621.791.042.2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

Some Functional Equations in Linear Normed Spaces p. 26

TRANSACTIONS OF THE 2nd REPUBLICAN [illegible] (TRUDY VTOROY RESPUBLIKANSKOY KONFERENTSII [illegible] MATHEMATIKE I MEKHANIKE), pages, published by the [illegible] ALMA-ATA, SSR 1962

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P. Continued

Ob ustoychivosti dvizheniya po pervomu priblizheniyu. Matem. SB., 40 (1933), 284-293.

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

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

K ustoychivosti dvizheniya. Matem. SB., 42 (1935), 37-42.

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

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P. Continued

K teorii ustoychivosti integralov sistemy differentsial'nykh uravneniy. Kazan, Izv. fiz.-matem. o-va, 13 (193), 29-45.

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

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

Ob ustoichivosti reshenii beskonechnoi sistemy uravnenii. (Prikladnaia matematika i mekhanika, 1948, v. 12, no. 5, p. 597-612, bibliography.)

Title tr.: On the stability of the solution of an infinite system of equations.

QA 01.P7 1948

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

Persidskiĭ, K. P. On the theory of stability of solutions of differential equations. Uspehi Matem. Nauk (N.S.) 1, 5-6(15-16), 250-255 (1946). (Russian)

This is a short account of a thesis; the following are typical results. (I) Consider the system (1) $\dot{x}=w(x,t)$, where x, w are n-vectors and w has continuous partial derivatives of the first order with respect to x, and $w(0,t)=0$. The author states that a necessary and sufficient condition for the stability of the solution $x=0$ is that there exists a positive definite function v such that its total derivative dv/dt is either negative or vanishes identically [the necessity of this condition is apparently not true; see Malkin, Sbornik Naučnyh Trudov Kazanskogo Avinciionnogo Instituta, no. 7 (1937), p. 22]. The following theorem on instability is proved. Let us call a region ω a "sector" when for any $\epsilon>0$ there exists an interior point $(a,0)\epsilon\omega$, $0<|a|<\epsilon^1$, such that if $x=u(t)$ is the integral through $(a,0)$, $|u|<\rho^1$ and $u\epsilon\omega$ for $t\geqq 0$. Then, the solution $x=0$ of (1) is unstable if the system is such that a sector ω and a function v exist such that (i) $|v|\leqq L<\infty$ in ω; (ii) $v>0$ if $x\epsilon\omega$, x interior to ω; (iii) $dv/dt\geqq\eta(x,t)$ in the interior of ω, with $\eta\geqq 0$, $\eta(x,t)$ nonincreasing with respect to α, $\int_0^\infty\eta(\alpha,t)dt=\infty$ for any $\alpha>0$.

(II) Suppose $w=P(t)\cdot x+L(x,t)$, where P is a matrix and L denotes terms of order higher than the first. Examples are given that show that conditions of Liapounoff for the stability of (1) based on the stability of the variational equations are not necessary. The author proves, furthermore, that if a positive definite function v exists, which has an infinitely small upper bound and such that dv/dt (calculated by means of the variational equations) is negative definite, then the solutions of (1) are uniformly stable.

(III) Let $f(t)$ be continuous for $t\geqq 0$; we say that f is of weak variation if, given $\epsilon>0$ and T as large as we please, there is an $N(\epsilon,T)$ such that, if $t', t''\geqq N$, $|t'-t''|<T$, then $|f(t')-f(t'')|<\epsilon$. Any function which has a finite limit for $t\to\infty$ or such that $f'(t)\to 0$ is of weak variation. Consider a system (2) $\dot{x}=P(t)\cdot x$, where the elements of P are bounded functions of weak variation; let $u_i(t)$ be the real parts of the characteristic roots of $P(t)$. Theorem: if $-u_i\geqq\alpha>0$, the characteristic numbers of (2) are not less than α and the solution $x=0$ of (1) (whose variational equations are (2)) is uniformly and asymptotically stable; if $u_i\leqq\beta>0$, the characteristic numbers do not exceed $-\beta$ and $x=0$ is unstable.

Source: Mathematical Reviews, Vol 10 No. 7

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

Persidskiy, K.P. "On the stability of the solution of a numerical system of differential equations", Izvestiya Akad. Nauk. Kazakh, SSR, No. 96, Seriya matematiki i mechaniki, Issue 2, 1948, p. 3-3 , (Resume in Kazakh), - Bibliog: items.

SO: u-3042, 11 March 53, (Letopis 'Nykh Statey, No. 9, 1948)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

Persidskiy, K.P. "On a certain estimate of characteristic numbers", Izvestiya Akad. Nauk. Kazakh. SSR, No. 4, Seriya matematiki i mekhaniki, Issue 2, 1943, p. 36-45, (Resume in Kazakh).

SO: U-3042, 11 March, 53, (Letopis 'nykh Stateyy, No. 7, 1949)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

Persidskii, K. P. On the stability of the solution of an infinite system of equations. Akad. Nauk SSSR. Prikl. Mat. Mekh. 12, 597–612 (1948). (Russian)

The author considers infinite systems of differential equations of the type (1) $dx_s/dt = w_s(x_1, x_2, \cdots, t)$, $s = 1, 2, \cdots$, where it is assumed, inter alia, that

$$|w(x_1, x_2, \cdots, t) - w(x_1', x_2', \cdots, t)| \leqq A(t) \left| \sum_{i=1}^{\infty} a_{si} |x_i - x_i'| \right|,$$

$s = 1, 2, \cdots$, in the region defined by $t \geqq 0$, $|x_i| \leqq R > 0$, $\sum_{i=1}^{\infty} a_{si} \leqq L$, and that $w_s(0, 0, \cdots, t) = 0$, $s = 1, 2, \cdots$. In the first part of the paper, using the method of successive approximations, the existence of a solution determined by the initial conditions $x_s(0) = c_s$ is demonstrated. It is also shown that a "méthode des réduites" is valid, namely, the solution of $dx_s/dt = w_s(x_1, x_2, \cdots, x_N, 0, 0, \cdots, t)$ approaches the solution of (1) as $N \to \infty$.

In the second part of the paper, the author turns to the question of the stability of the "trivial" solution, $x_s = 0$, $s \geqq 1$. First the homogeneous equation of first approximation is discussed, $dx_s/dt = \sum_{i=1}^{\infty} p_{si}(t) x_i(t)$, $s = 1, 2, \cdots$; then the nonhomogeneous linear equation, $dx_s/dt = \sum_{i=1}^{\infty} p_{si}(t) x_i(t) + f_s(t)$, and then finally, using the second method of Liapounoff, the nonlinear equation (1), all under certain hypotheses on w_s, $p_{si}(t)$ and $f_s(t)$. *R. Bellman* (Stanford University, Calif.).

Source: Mathematical Reviews, Vol 10 No. 5

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.

Persidskii, K. On the characteristic numbers of the solution of an infinite system of linear differential equations. Doklady Akad. Nauk SSSR (N.S.) 63, 229-232 (1948). (Russian)

The author applies the concept of a characteristic number of a solution of a linear differential equation, introduced by Liapounoff, to infinite systems of linear differential equations of the form $dx_s/dt = \sum_{r=1}^{\infty} p_{sr}(t)x_r$, $s=1, 2, \cdots$. Thus, for example, he proves that if $\sum_{r=1}^{\infty}|p_{sr}(t)| \leqq p(t)$, $s \geqq 1$, and if one sets $x(t) = \sup_s |x_s(t)|$, then $-\int_{t_0}^{t} p(t_1)dt_1 \leqq \log x(t)/x(t_0) \leqq \int_{t_0}^{t} p(t_1)dt_1$.

R. Bellman (Stanford University, Calif.).

Source: Mathematical Reviews, Vol. 10 No. 1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

19751 - PERSIDSKIY, K. P. Ravnomernaya ustoychivost' pri pervom priblizheniyu. Prikl. matematika i mekhanika, 1949, Vyp. 3, s. 229-40. Bibliogr: 5 nazv.

SO: LETOPIS' ZHURNAL STATEY, Vol. 27, MOSKVA 1949

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

24733. PERSIDSKIY, K.P. K Zadomu Bol'shikh Chisel Uchen. Cazapiski Kazakh. Gos. Un-ta Im. Kirova, T XII, 1949 S. 3-8

SO: Letopis' No. 33, 1949

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

24734. PERSIDSKIY, K.P. Ob-odnoy Teoreme Zakona Bol-shikh Chisel. Uchen. Zapishi Kazakh. Gos. Unta Im. Kirova, T. XII, 1949, S. 81-85

SO: Letopis' No. 33, 1949

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

3

Persidskiĭ, K. P. Uniform stability in the first approximation. Akad. Nauk SSSR. Prikl. Mat. Meh. 13, 229-240 (1949). (Russian)

The author considers the infinite system

$$dx_i/dt = f_i(x_1, x_2, \cdots, x_n, \cdots),$$

where

$$f_i = \sum_j p_{ij}x_j + g_i(x).$$

$|g_i(x)| \leqq \|x\|\, g(\|x\|)$ ($\|x\| = \sup_i (|x_1|, |x_2|, \cdots)$), $g(\|x\|) \to 0$ as $\|x\| \to 0$. Ordinary stability of the particular solution $x_1 = x_2 = \cdots = 0$ requires the existence of an r, depending upon ϵ and in general t_0, such that $\|x(t_0)\| \leqq r$ implies $\|x(t)\| \leqq \epsilon$ for $t \geqq t_0$. If r is independent of t_0, the stability is said to be uniform. The stability is asymptotic if $\lim_{t\to\infty} x_i(t) = 0$ for all i. Various theorems are demonstrated illustrating the connection between the uniform and asymptotic stability of the solution of the linear approximation and that of the solution of the full equation. In particular, a necessary and sufficient condition for uniform stability is given. *K. Bellman* (Stanford University, Calif.).

Source: Mathematical Reviews, Vol 11 No. 1

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Analysis

Persidskii, K. On the stability of solutions of differential equations. Izvestiya Akad. Nauk Kazah. SSR 1950 no. 97, Ser. Mat. Meh. 4, 3–18 (1950). (Russian)

Definition of derivative, integral, differential equation for $x(t)$ where x ranges over a Banach space. Proof of the existence theorem by successive approximations. Stability à la Lyapunov is discussed. Among the spaces included is the bounded subset of a general cartesian product of lines, metrized by $\sup|x_\alpha|$ (x_α any coordinate). *S. Lefschetz.*

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

Persidskiĭ, K. P. On the spectrum of characteristic values. Akad. Nauk SSSR. Prikl. Mat. Meh. 14, 635-650 (1950). (Russian)

The author considers the distribution of the set of characteristic numbers, in the sense of Liapounoff, associated with the infinite system of linear differential equations with variable coefficients, $dy_r/dt = \sum_{s=1}^{\infty} b_{rs}(t)y_s$, $r = 1, 2, \ldots$.

R. Bellman (Stanford University, Calif.).

Source: Mathematical Reviews. Vol 12 No. 7

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K. P.

Math

2

2

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Analysis

7-13-54
LL

Persidskii, K. P. Some critical cases of denumerable systems. Izvestiya Akad. Nauk Kazah. SSR 1951, no. 62, Ser. Mat. Meh. 5, 3-24 (1951). (Russian)

The system under consideration is

(1) $\dot{y}=F(t;x;y)$; (2) $\dot{x}=H(t;x;y)$

$$F(t;0;0)=H(t;0;0)=0$$

$$\begin{matrix}\|F(t;x';y')-F(t;x'';y'')\| \\ \|H(t;x';y')-H(t;x'';y'')\|\end{matrix} < B(t)\|x'-x'';y'-y''\|$$

where $B(t)$ is continuous. Typical theorem: If $y=0$ is stable for (1) when x is small and $x=0$ for (2) when y is small, then $x=0$, $y=0$ is stable for (1) and (2) together. A number of further complicated stability or instability theorems are displayed in the paper. *S. Lefschetz* (Princeton, N. J.).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

USSR/Mathematics - Doctoral Dissertation

Card 1/1

Author : Vinograd, R. E.

Title : An assertion of K. P. Persidskiy

Periodical : Usp. mat. nauk, 9, No 2(60), 125-128, 1954

Abstract : Discussion of a theorem in K. P. Persidskiy's doctoral dissertation entitled "O kharakteristicheskikh chislakh differentsial'nykh uraveniy" [Concerning the characteristic numbers of differential equations], 1946, which also appeared in Izvestiya AN Kazakh SSR, No 1 (1947). The theorem concerns the comparison of the characteristic numbers (indices) of the two systems of differential equations $x' = A(t)x$ and $y' = A_\tau(t)y$, where the matrix $A_\tau(t)$ coincides with $A(t)$ in the interval $(0,\tau)$ and possesses periodic extension; the case $\tau \to \infty$ is studied. Three USSR references.

Submitted : July 1, 1953

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P., akademik.

Errors in the estimation of natural resources. Vest. AN Kazakh. SSR 14 no.4:38-48 Ap '58. (MIRA 11:6)

1. AN KazSSR.

(Natural resources)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P., akademik

Second Liapunov's method in linear normed spaces. Vest. AN Kazakh. SSR 14 no.7:89-97 Jl '58. (MIRA 11:9)

1.AN KazSSR.

(Functional analysis)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P., akademik

Estimation of natural resources. Vest. AN Kazakh. SSR 14 no.9: 61-65 S '58. (MIRA 11:11)

1. AN KazSSR.

(Natural resources)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

~~16(1)~~ 16.4600

67080

SOV/31-59-4-10/14

AUTHOR: Persidskiy, K.P., Academician of the AS of the Kazakhskaya SSR

TITLE: On a Derivative of a Norm in the Banach Space

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1959, Nr 4, pp 85-89 (USSR)

ABSTRACT: The author assumes that E is a full linear normalized space and P a great number of any possible kind of ordered pairs (t, x), where t is any finite material number and x - any point of E. He further assumes that [a,b] is a certain segment for which he adopts the function

$$x = x(t) , \qquad (1)$$

most of the values of which belong to E. The function x(t) is assumed to have a continuous derivative x'(t) on segment [a,b]. On these assumptions the total of those points (t,x) $\in$ P, the coordinates of which satisfy the correlation (1), can be considered as a certain

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

Enumerable systems of differential equations and stability of their solutions. Izv.AN Kazakh.SSR.Ser.mat. i mekh. no.7:52-71 '59. (MIRA 12:5)

(Differential equations)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

57409

~~16(1)~~ 16.4600

SOV/31-59-10-4/21

AUTHOR: Persidskiy, K.P., Academician

TITLE: The Application of Lyapunov's Second Theorem on Fluctuation in Standardized Linear Spaces

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1959, Nr 10, pp 31 - 35 (USSR)

ABSTRACT: The author begins by proposing that E be a complete standardized linear space, P - a great number of all sorts of ordered pairs (t, x) where $t \geqslant 0$ - any finite material number, and x is any point on E. He then considers the differential equation

$$\frac{dx}{dt} = \varphi(t,x) \qquad (1)$$

where t is an independent material variable, x = x (t) the unknown function of t, a large number of whose

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

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SOV/31-59-10-4/21

The Application of Lyapunov's Second Theorem on Fluctuation in Standardized Linear Spaces

values belongs to E, and φ (t, x) is the given function of t and x, a large number of whose values also belongs to E. If the right-hand side of equation (1) does not depend on t, another article by the author [Ref 2] proves that the function v (t, x) does not depend on t and that instead of equation (17) we may substitute

$$v(t, x) = e^{-T}(0, x) \qquad (20)$$

There are 2 Soviet references.

ASSOCIATION: AN KazSSR (AS KazSSR)

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

67080

~~16(1)~~ 16.4600 SOV/31-59-4-10/14

AUTHOR: Persidskiy, K.P., Academician of the AS of the Kazakhskaya SSR

TITLE: On a Derivative of a Norm in the Banach Space

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1959, Nr 4, pp 85-89 (USSR)

ABSTRACT: The author assumes that E is a full linear normalized space and P a great number of any possible kind of ordered pairs (t, x), where t is any finite material number and x - any point of E. He further assumes that [a,b] is a certain segment for which he adopts the function

$$x = x(t) , \qquad (1)$$

most of the values of which belong to E. The function x(t) is assumed to have a continuous derivative x'(t) on segment [a,b]. On these assumptions the total of those points (t,x) ϵ P, the coordinates of which satisfy the correlation (1), can be considered as a certain

Card 1/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

L 21767-66 EWT(d) IJP(c)

ACC NR: AP6015527 SOURCE CODE: UR/0361/65/000/001/0010/0018

AUTHOR: Persidskiy, K. P.

ORG: none

TITLE: Differential equations in nonlinear spaces

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 1, 1965, 10-18

TOPIC TAGS: differential equation, Banach space

ABSTRACT: The article deals with solutions to differential equations in a nonlinear space L. The author finds that, since the solutions to differential equations in such a space lose many of the properties inherent in solutions to differential equations in a Banach space, the best method in questions of the stability of solutions to differential equations in the space L is one based on the second method of Lyapunov. Orig. art. has: 28 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: none / ORIG REF: 003

Card 1/1

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

L 33074-66 EWT(d) LIP(c)

ACC NR: AP6024117 SOURCE CODE: UR/0361/66/000/001/0064/0070

AUTHOR: Persidskiy, K. P.

ORG: none

27
B

TITLE: System of differential equations

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 1, 1966, 64-70

TOPIC TAGS: differential equation system, mathematic space, successive approximation, construction, differential equation solution

ABSTRACT: Conditions are established under which a given set is a complete linear normed space. The system of differential equations 16

$$\frac{dx_\alpha(t)}{dt} = \omega_\alpha(t, \ldots, x_\beta(t), \ldots), \quad (\alpha \in \sigma)$$

is examined, and solutions are presented for given conditions. Using successive approximations the author constructs functions passing through a given point which are a solution to the differential equations. The solutions and conditions are discussed fully. Orig. art. has: 21 formulas. [JPRS]

SUB CODE: 12 / SUBM DATE: none

Card 1/1

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ZHAUTYKOV, O.A., akademik, otv. red.; AMANDOSOV, A.'., red.; YERZHANOV, Zh.S., doktor tekhn. nauk, red.; KIM, Ye.I., red.; PERSIDSKIY, K.P., akademik, red.; SHEVCHUK, T.I., red.

[Studies on differential equations and their application] Issledovaniia po differentsial'nym uravneniiam i ikh primeneniiu. Alma-Ata, Nauka, 1965, 1965. 199 p. (MIRA 18:8)

1. Akademiya nauk Kazakhskoy SSR, Alma-Ata. Sektor matematiki i mekhaniki. 2. Chlen-korrespondent AN Kaz.SSR (for Kim). 3. AN Kaz.SSR (for Zhautykov, Persidskiy).

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

Generalized solutions to differential equations. Izv. AN Kazakh. SSR. Ser. fiz.-mat. nauk 3 no. 3:17-24 S-D '65.

Errors in computing the resources of mineral deposits. Ibid.:61-69 (MIRA 18:12)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P., akademik

Some properties of embedded spheres. Vest. AN Kazakh. SSR 21 no.12:27-30 D '65. (MIRA 18:12)

1. Akademiya nauk Kazakhskoy SSR.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

Differential equations in nonlinear spaces. Izv. AN Kazakh. SSR. Ser. fiz.-mat. nauk 4 no.1 10-18 Ja-Ap '65. (MIRA 18:4)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PENTKOVSKIY, M.V., otv. red.; ZHAUTYKOV, O.A., red.; MOIYUKOV, I.D., red.; PERSIDSKIY, K.P., red.; YATAYEV, M., red.; BEDEL'BAYEV, A.E., red.; OSADCHIY, F.Ya., red.; SHEVCHUK, T.I., red.; ALFEROVA, F.F., tekhn. red.

[Transactions of the Second Republic Conference on Mathematics and Mechanics] Trudy Vtoroy respublikanskoy konferentsii po matematike i mekhanike. Alma-Ata, Izd-vo Akad. nauk Kazakhskoy SSE, 1962. 183 p. (MIRA 15:7)

1. Respublikanskaya konferentsiya po matematike i mekhanike, 2d, Alma-Ata, 1959.
(Mathematics—Congresses) (Mechanics—Congresses)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

11.3400

S/04[illegible]/62/00[illegible]/00[illegible]/027/0[illegible]
C111/C333

AUTHOR: Persid[illegible], [illegible]

TITLE: Denum[illegible] [illegible] differential [illegible] stability [illegible] stability [illegible] the solutions of denum[illegible] differential equations

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, [illegible], abstract [illegible]. ("Izv. [illegible] SSR. Ser. [illegible] 1960 ([illegible]), [illegible] ([illegible]), 11-[illegible])

TEXT: Part I, II [illegible] RZh Mat, 1960, 6479, 12[illegible]. [illegible] considers the system

$$\frac{dx_s}{dt} = \Phi_s(t, x_1, x_2, \ldots, x_n), \quad s = 1, 2, \ldots, n$$

which can be written in vector form as

$$\frac{dx}{dt} = \Phi(t, x),$$

and which can be understood as an operator differential equation

Card 1/4

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

S/044/62/000/002/027/032
Denumerable syst[illegible] ... [illegible]/0333

in the space of the bounded sequences

$$\|x\| = \sup \{ |x_1|, |x_2|, \ldots, |x_n|, \ldots \}.$$

It is assumed that $\omega(t,0)=0$; $\omega(t,x)$ is continuous in t and satisfies the Lipschitz condition

$$\|\omega(t,x') - \omega(t,x'')\| \le \lambda(t) \|x' - x''\|,$$

where $\lambda(t)$ is a continuous function. Furthermore, the Lyapunov stability relative to this [illegible] is defined. Now, let

$$\omega(t,x) = \lambda(t)x + L(t,x)$$

where $\lambda(t)$ is a matrix, all the elements of which are not [illegible] than $\lambda(t)$, and

$$\|L(t,x)\| \le x \quad [illegible] \quad x \quad [illegible]$$

where [illegible] with [illegible] x [illegible] 0. To this [illegible]
Card 2/7

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

theorems on stability, and on stability with respect to [illegible] approximation from the theory of a finite number of [illegible] equations. The method of proof is nearly the same as in the finite-dimensional case. It should be noted that also to these equations the author applies the notion of the spectrum of characteristic numbers for linear infinite-dimensional systems formerly introduced by him (theorem 3.2). Furthermore, the theorems of the second method of Lyapunov are transferred to this case. The author introduces the functions $V(t, x_1, x_2, \ldots, x_n)$. Let instead of the arguments x_i the solution of our system be substituted under the function sign V, then V is transformed into a function of one variable; its derivative $V'(t)$ is considered which is denoted as strict derivative or as derivative in consequence of the system. Obviously it is

$$V(t, x_1(t), \ldots) = V(t_0, x_1(t_0) \ldots) + \int_{t_0}^{t} V' dt .$$

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[illegible]

Denumerable [illegible] ... [illegible]

This equation serves [illegible] basis of the theory. Under this interpretation of the notion of the complete derivative, all the theorems of the second method of Lyapunov prove to be correct.

[Abstracter's note: Complete translation.]

Card 4/4

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, K.P.

Enumerable systems of differential equations and stability of their solution. Izv.AN Kazakh.SSR.Ser.mat.i mekh. no.8:45-64 '59. (MIRA 13:5)

(Differential equations, Linear)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, L.N.

Device for cutting film strips used in color negative printing. Tekh.kino i telev. 4 no.7:69-70 Jl '60. (MIRA 13:7)
(Color photography--Equipment and supplies)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, L.N.

Device for cutting transparent film strips for the reinforcement of color film filters. Tekh.kino i telev. 4 no.7:70 Jl '60. (MIRA 13:7)

(Color photography--Equipment and supplies)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, L.N.

Improving the magnetic head of the RMF sound mechanism.
Tekh.kino i telev. 4 no.8:71 Ag '60. (MIRA 13:8)
(Motion-picture projectors)
(Sound--Recording and reproducing)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

89384

S/040/61/025/001/003/022
B125/B204

13,2520

AUTHOR: Persidskiy, S. K. (Alma Ata)

TITLE: The second Lyapunov method

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 1, 1961, 17-23

TEXT: The present paper deals with the system of differential equations $dx_s/dt = f_s(t,x_1,\ldots,x_n)$ $(s = 1,\ldots,n)$, where f_s denotes a function given within a certain domain (h) $t \geqslant 0$, $\|x\| = \sqrt{x_1^2 + \ldots + x_n^2} \leqslant R$. These functions are continuous with respect to t and satisfy the Cauchy condition with respect to $x_1,\ldots,x_n$. Here $f_s(t,0,0,\ldots 0) \equiv 0$ holds. It is then assumed that $\varphi(\tau)$ is a real continuous function with $\tau \geqslant 0$ with one continuous derivative. It satisfies the conditions (1) $\varphi(\tau) = 1$ with $0 \leqslant \tau \leqslant R_0 < R_1 < R$, and (2) $\varphi(\tau) = 0$ with $\tau = R_1$. Further $F_s(t,x_1,\ldots,x_n) = f_s(t,x_1,\ldots,x_n)\,\varphi(\|x\|)$ $(s = 1,\ldots,n)$ is introduced with $f_s(t,x_1,\ldots,x_n) = 0$ with $\|x\| > R$. The functions F_s are continuous with respect to t and satisfy the Cauchy

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B125/B204

The second Lyapunov method

condition with respect to $x_1,\ldots,x_n$. The author then studies the system of differential equations $dx_s/dt = F_s(t,x_1,\ldots,x_n)$ $(s=1,\ldots,n)$. Through each point $(t_0,x_{10},\ldots,x_{n0})$ of the domain H a unique solution $x_s = x_s(t,t_0,s_{10},\ldots,x_{n0})$ $(s=1,\ldots,n)$ of the system (2) passes. These relations may be solved in H with respect to the quantities x_{s0}. Within the domain (h_0) $t\geqslant 0$, $\|x\|\leqslant R_0$, the solutions of the system (2) are in agreement with the corresponding solutions of the system (1), and therefore the zero solutions of these systems are equivalent with respect to stability in Lyapunov's sense. In a certain domain (g) $t\geqslant 0$, $\|x\|\leqslant r$ $(r\leqslant R_0)$, a continuous unique function $V(t,x_1,\ldots,x_n)$ with a given sign is assumed to be defined, which, with an arbitrary fixed value $t\geqslant 0$ is positive. The properties of this function $V(t,x_1,\ldots,x_n)$ are individually specified, and this function is then described as being "weakly definite". In a similar manner, the conception "strongly definite function" is defined. $V(t,x_1,\ldots,x_n)$ is positive definite with an arbitrary fixed

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The second Lyapunov method

value $t \geqslant 0$, where in the domain H, $V'(t,x_1,\ldots,x_n) \leqslant 0$ holds because of the system of equations (2). Firstly, the following is shown: If the zero solution of the system (1) is unstable, the function $V_0(t,x_1,\ldots,x_n) = \sum_{s=1}^{n} x_s^2(0,t,x_1,\ldots,x_n)$ in the domain h_0 will be weakly positive definite. Secondly, the zero solution of the system (1) and thus also of system (2) is assumed to be asymptotically uniformly stable with respect to the coordinates $x_{10},\ldots,x_{n0}$. Then $V_0(t,x_1,\ldots,x_n)$ is positively strongly definite in domain h_0. The following theorems are derived: Theorem 1: In order that the zero solution of system (1) be unstable, it is necessary and sufficient that, within a certain domain (g) $t \geqslant 0$, $\|x\| \leqslant r \leqslant R_0$, a weakly positive definite function $V(t,x_1,\ldots,x_n)$ exists, so that $V'(t,x_1,\ldots,x_n)$ because of the system of equation (1), is weakly positive definite. Theorem 2: In order that the zero solution of system (1) be asymptotically uniform with respect to the coordinates $x_{10},\ldots,x_{n0}$, it is necessary and sufficient that, within a certain domain

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The second Lyapunov method

(g) $t \geqslant 0$, $\|x\| \leqslant r < R_0$, a strongly positive definite function $V(t,x_1,\ldots,x_n)$ exists, so that, because of the Eqs. (1), $V'(t,x_1,\ldots,x_n)$ holds. The sufficiency and the necessity of these two theorems are proven by the author step by step. There are 4 Soviet-bloc references.

SUBMITTED: July 30, 1960

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APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S.K.

Stability of motion. Izv. AN Kazakh. SSR. Ser. fiz.-mat. nauk 3 no. 3:42-44 S-D '65. (MIRA 18:12)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S, K.

A Contribution to the Problem of Stability on a Finite Interval p.156

TRANSACTIONS OF THE 2ND REPUBLICAN CONFERENCE ON MATHEMATICS AND MECHANICS (TRUDY VTOROY RESPUBLIKANSKOY KONFERENTSII PO MATEMATIKE I MEKHANIKE), 164 pages, published by the Publishing House of the AS KAZAKH SSR, ALMA-ATA, USSR, 1962

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

L 61527-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AR5016191 UR/0124/65/000/006/A010/A010

SOURCE: Ref. zh. Mekhanika, Abs. 6A76

16
B

AUTHOR: Persidskiy, B. K.

TITLE: On the problem of uniform asymptotic stability

CITED SOURCE: Tr. Mezhvuz. konferentsii po prikl. teorii ustoychivosti dvizheniya i analit. mekhan., 1962, Kazan', 1964, 110-113

TOPIC TAGS: Lyapunov stability, differential equation

16

TRANSLATION: The article presents a proof of two theorems from the Lyapunov direct method of the uniform stability and the uniform asymptotic stability of the trivial solution of the equations system

$$\frac{dx_s}{dt} = f_s(t, x_1, \ldots, x_n) \quad (s = 1, \ldots, n).$$

SUB CODE: MA ENCL: 00

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIISKIY, S.K. (Alma-Ata)

Contribution to the second method of Liapunov. Prikl. mat. i mekh. 25 no.1:17-23 Ja-F '61. (MIRA 14:6)
(Differential equations)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

S/044/62/000/010/007/042
B112/B102

AUTHOR: Persidskiy, S. K.

TITLE: Stability of the solutions to differential equations

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1962, 40 - 41, abstract 10B169 (Tr. Mekhan.-matem. fak. Kazakhsk. un-t, v. 1, no. 2, 1960, 158 - 160)

TEXT: For the system of differential equations

$$dx_s/dt = f_s(t,x_1,\ldots,x_n) \quad (s = 1,2,\ldots,n), \qquad (1)$$

where the f_s arereal functions which are given in the domain H:

$$t \geqslant 0, \ \|x\| = \sqrt{x_1^2 + \ldots + x_n^2} \leqslant R$$

continuously with respect to t, and which fulfill a Cauchy condition with respect to $x_1,\ldots,x_n$ where $f_s(t,0,\ldots,0) = 0$, the following theorem is proved: If in a certain domain h:

$$t \geqslant 0, \quad \|x\| \leqslant r \leqslant R$$

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such a Lyapunov function $V(t,x_1,\ldots,x_n)$ exists that in this domain

$$V(t,x_1,\ldots,x_n) \leqslant \varphi(t) W(t,x_1,\ldots,x_n)$$

is valid, where W is a certain bounded function and where $\varphi(t)$ is such a function that $\lim \varphi(t) = 0$ for $t \to \infty$; if, furthermore, the total derivative $V'(t,x_1,\ldots,x_n)$ of the function V according to system (1) is non-negative in a certain domain h_0:

$$t \geqslant 0, \quad |x| \leqslant r_0 \leqslant r,$$

and if, finally, for any $t = t_0 \geqslant 0$ when $x_1,\ldots,x_n$ are chosen numerically small enough, it is always possible to find a point, at which V is positive, then the zero solution of the system of differential equations under consideration will be unstable. Some conclusions are drawn linear differential equations, in particular. [Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S. K. Cand Phys-Math Sci —(diss) "Certain Questions on the theory of Stability of Movement," Alma-Ata, 1960, 8 pp, 300 copies (Moscow State U. im. M. V. Lomonosov, Mechanical-Mathematical Faculty) (KL, 47/60, 97)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S.K.

Some theorems of Liapunov's second method. Vest.Akad Kazakh. SSR 16 no.2:72-76 F '60. (MIRA 13:6)
(Differential equations)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

16(1) SOV/31-59-9-11/21

AUTHOR: Persidskiy, S.K.

TITLE: On the Stability During the Finite Interval

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1959, Nr 9 pp 75-80 (USSR)

ABSTRACT: The article deals with differential equations in connection with the stability of motion during the finite interval of time. Due to a lack of space in this article, no formulation of the problem of stability during the finite interval is given [3],[4], [5]. The author only concedes that the solution of a series of such problems is expressed by mode estimates as quoted in (18), (31), (32), (33), (39), and (40). There are 5 Soviet references.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

16(1) SOV/31-60-2-11/25

AUTHOR: Persidskiy, S.K.

TITLE: Some Theorems From Lyapunov's Second Method

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1960, Nr 2, pp 72-76 (USSR)

ABSTRACT: The article gives 7 theorems, the first of which is developed from the following equation:

$$\frac{dx_s}{dt} = \omega_s (t, x_1, \ldots, x_n) \quad (s = 1, 2, \ldots, n) \tag{1}$$

Card 1/2 The last equation shows that

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Some Theorems From Lyapunov's Second Method

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$$\frac{1}{2}\overline{\lim_{t\to\infty}}\ \frac{1}{t-t_0}\left(\ln\lambda_1(t) - \int_{t_0}^{t}\mu_2(t)\,dt\right) \leq \eta \leq$$

$$\leq \frac{1}{2}\overline{\lim_{t\to\infty}}\ \frac{1}{t-t_0}\left(\ln\lambda_1(t) - \int_{t_0}^{t}\mu_1(t)\,dt\right) \tag{20}$$

There are 2 Soviet references.

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

SOV/124-57-7-7516

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 7 (USSR)

AUTHOR: Persidskiy, S. K.

TITLE: On Lyapunov's Second Method (Ko vtoroy metode I yapunova)

PERIODICAL: Izv. AN KazSSR, ser. matem. i mekhan., 1956, Nr 4, pp 43-47

ABSTRACT: The author examines the system of differential equations

$$\frac{dx_s}{dt} = f_s(t, x_1, \ldots, x_n) \qquad (s = 1, \ldots n; \ t \geq 0) \qquad (1)$$

wherein the functions f_s are continuous and have continuous partial derivatives with respect to all of the arguments in the neighborhood of the point $x_1 = \ldots = x_n = 0$, with the stipulation that $f_s(t, 0 \ldots 0) = 0 (s = 1, \ldots, n)$. The following instability criterion is proposed: If within the region

$$x_1^2 + \ldots + x_n^2 \leq \rho^2, \qquad t \geq 0$$

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SOV/124-57-7-7516

On Lyapunov's Second Method

a function V exists such that

$$V > 0 \text{ when } x_1^2 + \ldots + x_n^2 \neq 0, \text{ and } \frac{dV}{dt} \geq 0$$

on the strength of equations (1), and $V \to 0$ when $t \to \infty$ uniformly along $x_1, \ldots, x_n$ then the solution $x_1 = \ldots = x_n = 0$ will be unstable and any trajectory of (1) for increasing t will depart from the spherical surface $x_1^2 + \ldots + x_n^2 + \leq \epsilon^2 < \rho^2$. The author discusses several variants of the formulation and generalization of the theorem, and the converse thereof is proven. REVIEWER'S COMMENT: The author's formulation of the theorem's converse can be strengthened by first proving the existence of a function V having continuous derivatives of any order with respect to all of the arguments, the sole assumption being that said function fulfills the conditions of uniqueness of the solutions (e. g., that it fulfills the Lipshits stipulations with respect to x_j in each of the $0 \leq t \leq T$ intervals). The author's proof of the theorem's converse contains inaccuracies, which, however, can be corrected. It is not clear just what the author means by stating that the well-known theorems of Lyapunov's second method are irreversible, since the converse of Lyapunov's theorems [Ustoychivost' dvizheniya, teorema III, p 92 (The Stability of Motion, Theorem Nr 3, p 93)] and of those of N. G. Chetayev [Ustoychivost' dvizheniya,

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SOV/124-57-7-7516

On Lyapunov's Second Method

1955, p 32 (The Stability of Motion, 1955, p 32)] has already been proved in papers by I. Vrkoč (Chekhosl. matem. zh., 1955, Vol 80) and by the reviewer (RZhMekh 1957, abstract 3894). We shall note also in passing that the function

$$v = V \exp \int_0^t G(V)\, dt$$

[wherein V is the function from the author's own theorem.

$$\int_0^\infty [G(V)]_{x=\text{const}}\, dt$$

converges uniformly and $G(V)V>0$ when $V \neq 0$] satisfies the conditions of the Chetayev theorem.

N. N. Krasovskiy

Card 3/3

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

ACC NR: AT6019245 SOURCE CODE: UR/0000/65/000/000/0009/0011

AUTHOR: Persidskiy, S. K.

ORG: none

TITLE: On the second Lyapunov method

SOURCE: Kazakhstanskaya mezhvuzovskaya nauchnaya konferentsiya po matematike i mekhanike. 1st, Alma-Ata, 1963. Trudy, Izd-vo "Nauka" KazSSR, 1965, 9-11

TOPIC TAGS: linear differential equation, differential equation solution

ABSTRACT: For the system of equations

$$\frac{dx_s}{dt} = f_s(t, x_1, \ldots, x_n) \quad (s = 1, 2, \ldots, n), \qquad (1)$$

where the f_s are real functions defined in the domain

$$(h)\ t \geqslant 0,\ \|x\| = \sqrt{x_1^2 + \ldots + x_n^2} \leqslant R,$$

are continuous with respect to t, and satisfy the Cauchy condition relative to $x_1, \ldots, x_n$, necessary and sufficient conditions are found for uniform stability of the null solution of (1) and for asymptotic stability uniform with respect to t_0. It is

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assumed in the treatment that through each point $(t_0, x_{10}, \ldots, x_{n_0})$ of the region

$$(H): t > 0, \|x\| < \infty$$

there passes a unique solution

$$x_s = x_s(t, t_0, x_{10}, \ldots, x_{n0}) \quad (s = 1, 2, \ldots, n)$$

of system (1). Orig. art. has: 14 formulas.

SUB CODE: 12/ SUBM DATE: 18Nov65/ ORIG REF: 001

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S.K.

Liapunov's second method. Izv.AN Kazakh.SSR.Ser.mat. i mekh. no.4:43-47 '56. (MIRA 10:3)

(Stability) (Motion)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S. K.

√Persidskii, S. K. On the second method of Lyapunov. Izv. Akad. Nauk Kazah. SSR. Ser. Mat. Meh. 1956, no. 4(8), 43–47. (Russian)

1-F\W

Consider an n-vector system

(1) $\dot{x}=f(t;x),\ f(t;0)=0$ for $t\geq 0$,

where f and its partials as to the x_i are continuous for $t\geq 0$ wherever considered. In analogy to Lyapunov we have: Theorem 1. Let there exist a function V defined in a closed spherical region S centered around the origin and of radius ρ, where (a) $V>0$ outside the origin; (b) $\dot{V}\geq 0$; (c) $V\to 0$ as $t\to+\infty$ uniformly in x. Then the origin is completely unstable for (1). Theorem 2. (Converse of 1). If the origin is completely unstable a V exists such as described. *S. Lefschetz* (Princeton, N. J.)

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, S.K.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 473
AUTHOR PERSIDSKIJ S.K.
TITLE On the second Liapunov method.
PERIODICAL Izvestija Akad. Nauk Kazach.SSR 4,(8), 43-47 (1956)
reviewed 1/1957

Let be given the system

$$\frac{dx_s}{dt} = f_s(t,x_1,x_2,\ldots,x_n) \qquad (s=1,2,\ldots,n). \tag{1}$$

Let f_s and $\frac{\partial f}{\partial x_i}$ $(i=1,2,\ldots n)$ be continuous for $t \geqslant 0$ and for all finite values of $x_1,x_2,\ldots,x_n$. Through every point $x_1=c_1,\ldots, x_n=c_n$, $t=t_0 \geq 0$ there runs exactly one integral line of (1).
The following theorems are proved:
1. Let (1) be such that in a certain domain

$$x_1^2 + x_2^2 + \ldots + x_n^2 \leq 0, \quad t \geq 0 \tag{2}$$

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there exists a function V and its derivative

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L 26012-66 EWT(d) IJP(c) GS

ACC NR: AT6013421 SOURCE CODE: UR/0000/65/000/000/0020/0027

AUTHOR: Persidskiy, S. K.

ORG: none

19

B+1

16

TITLE: On uniform stability

SOURCE: AN KazSSR, Sektor matematiki i mekhaniki. Issledovaniya po differentsial'nym uravneniyam i ikh primeneniyu (Research on differential equations and their application). Alma-Ata, Izd-vo Nauka, 1965, 20-27

TOPIC TAGS: Cauchy problem, asymptotic property, real function, continuous function, ordinary differential equation

ABSTRACT: The set of differential equations

$$\frac{dx_s}{dt} = f_s(t, x_1, \ldots, x_n) \quad (s = 1, 2, \ldots, n), \qquad (1)$$

is considered where f_s is a real function, given in some domain (h)

$$(h) \quad t \geqslant 0, \ \|x\| = \sqrt{x_1^2 + \ldots + x_n^2} \leqslant R,$$

continuous in t and satisfying the Cauchy conditions in $x_1, \ldots x_n$. To investigate the uniform and asymptotic stabilities of equation 1, several theorems are proved

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ACC NR: AT6013421

using Lyapunov's second method (A. M. Lyapunov. Obshchaya zadacha ob ustoychivosti dvizheniya, M., 1955). These theorems state the necessary and sufficient conditions for uniform and/or asymptotic stability of equation 1 using the Lyapunov function V. To this end, $V(t, t_0, x_1 \ldots x_n)$ is defined as having a fixed positive sign in the domain

$$(g) \quad l > 0, \ \|x\| < l \leqslant R_0$$

and satisfying the condition

$$V(t_0, t_0, x_1, \ldots, x_n) = W(x_1, \ldots, x_n),$$

for all $t = t_0 \geq 0$. As an example, the equations

$$x' = -x\cos^2 t + my\sin t;$$

$$y' = -n\sin t - \frac{1}{2}y\,|\cos t|,$$

are considered where $m \cdot n > 0$ and V is given by

$$V(t, t_0, x, y) = \left(\frac{x^2}{m} + \frac{y^2}{n}\right)\exp\left[\frac{1}{2}(t - t_0) + \frac{1}{4}(\sin 2t - \sin 2t_0)\right].$$

Orig. art. has: 40 equations.

SUB CODE: 12/ SUBM DATE: 23Jun65/ ORIG REF: 007

Card 2/2

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

SHPAZHNIKOV, Boris; PERSIDSKIY, V.

Notes of a naturalist. IUn.nat. no.7:38-39 Jl '62. (MIRA 15:8)
(Animals, Habits and behavior of)

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7"

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, V. Ya.

Chair Hosp. Therapy Clinic

The effect of coffee on gastric secretion. V. Ya. Persidskii (O. O. Bogomolets Med. Inst., Kiev). *Fiziol. Zhur., Akad. Nauk Ukr. R.S.R.* 1, No. 6, 76-82(Russian summary, 81)(1955).—A total of 101 exptl. observations were made on 39 individuals in normal health as controls. The exptl. group consisted of individuals who suffered certain gastro-intestinal disturbances. Coffee was found to be a strong stimulant to gastric secretion in men under all conditions of the gastrointestinal tract. Under exptl. conditions a drink containing 15-20 g. of coffee per 300 ml of H_2O exerted the highest gastro-secretory stimulation, which was considered equivalent to that of beef bouillon. The stimulating gastro-secretory effect of coffee is conditioned basically by the neuro-humoral mechanism. The stimulating gastro-secretory effect of caffeine-free coffee is only slightly inferior to that of the original infusions of coffee. Raw and roasted coffee beans possess gastro-secretory effects of equal intensity. The addn. of sugar lowers the effect of the coffee, while the addition of cream renders the stimulating effect of coffee upon the gastro-secretion to become latent; it also lowers the HCl content of the stomach and delays the emptying of the stomach into the intestine. It is suggested that black coffee be excluded from the diet of patients with an hyperfunctioning gastric-secretion, or those suffering from gastric hyperacidity and especially from patients having gastric ulcers and hyperacidic gastritis. Such patients may be permitted to have coffee with cream and sugar. Patients with a lowered gastro-secretory function should be given slightly sweetened coffee. B. S. Levine

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"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240120013-7

PERSIDSKIY, V. Ya.

Effect of cocoa on the secreting and evacuating functions of the stomach. V. Ya. Persidskii (Med. Inst., Kiev). *Voprosy Pitaniya* 14, No. 2, 30-4(1955).—Eighteen men with different cases of gastric secretions (normal, hypersecretion, hypochylia, and achylia gastrica) received 8 or 15 g. cocoa suspended in 300 ml. milk or water. Each 10 min. (within 70-130 min.) after the cocoa was drunk the stomach content was analyzed for free HCl, total acidity, digesting power of the gastric fluid, and the amt. (in ml.) of the fluid. In all instances the cocoa drink showed a great effect on the secreting function of the stomach, particularly during the 2nd phase of the gastric secretion. All the qualities of the gastric fluid investigated showed a regular increase during the first 70-80 min. after drinking cocoa. Evacuation of the I drink from the stomach into the intestines was slower than that for water, 5% EtOH soln., or a meat broth. The secretion of HCl after drinking of cocoa in some instances was 1½-2 times greater than after drinking of 5% EtOH soln. Cocoa prepd. with milk passed into the intestines much slower than when prepd. with water; the concn. of free HCl in the gastric fluid was lower when cocoa was used with milk. These effects were not due to theobromine, since its equiv. amt. (1.88%) present in cocoa sample, when used alone with water, did not show any addnl. effect over that for water. E. Wierbicki

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PERSIDSKIY, V. Ya.: "The effect of tea, coffee, and cocoa on gastric secretion." Kiev Order of Labor Red Banner Medical Inst imeni Academician A. A. Bogomolets. Kiev, 1956. (Dissertation for the Degree of Candidate in Medical Sciences.)

Source: Knizhnaya letopis' No 40 1956 Moscow

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Comparative examinations of the effect of tea, coffee, and cocoa on gastric secretions. Vrach. delo no.2:33-38 F '61. (MIRA 14:3)

1. Fakul'tetskaya terapevticheskaya klinika (zav. - akademik AN USSR, deystvitel'nyy chlen AMN SSSR, prof. V.N.Ivanov) Kiyevskogo meditsinskogo instituta.
(STOMACH—SECRETIONS) (TEA—PHYSIOLOGICAL EFFECT)
(COFFEE—PHYSIOLOGICAL EFFECT) (COCOA—PHYSIOLOGICAL EFFECT)

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KLIMENKO, Il'ya Yefimovich; PERSIDSKOV, Petr Maksimovich; PRIGARINA, Stalina Ivanovna; BRONSHTEN, V.A., nauchnyy red.; GORODENSKIY, L.M., red. izd-va; GVOZDEV, V.A., tekhn. red.

[Answers to some questions about the universe] Otvety na nekotorye voprosy o Vselennoi. Moskva, Ob-vo po raspr. polit. i nauchn. znanii RSFSR, 1960. 40 p. (MIRA 14:9)
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PERSIKOV, M. V. -- "Directional Shunting for an H_{01} Wave in a Round Cross-sectional Wave Guide." Acad Sci USSR, Inst of Radiotechnology and Electronics, Moscow, 1956. (Dissertation for the Degree of Candidate of Technical Sciences)

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109-2-1-9/17

AUTHOR: Persikov, M. V.

TITLE: Directional Coupler for H_{01} Wave in a Round Cross-Section Waveguide (Napravlennyy otvetvitel' dlya volny H_{01} v volnovode kruglogo secheniya)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr 1, pp 65-74 (USSR)

ABSTRACT: Coupling between a round cross-section waveguide and a measuring channel is considered. By mathematical analysis, the conditions for separation of mode H_{01} wave from other modes are found, and design formulas for coupling factors, for directivity, and for suppression of undesirable modes are obtained. Theoretical calculations are verified experimentally.

The main difficulty in designing directional couplers is in obtaining a high directivity combined with suppression of undesirable modes. The article offers a new device (figure 1) which appears to overcome the above difficulty better, and suggests an analysis of the device by Ya. N. Fel'd's method (reference 2). The device secures at least a partial division of the elements that materialize directivity from those which effect suppression of undesirable modes. A round waveguide is coupled by means of a series of apertures with four small equidistant

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Directional Coupler for H_{01} Wave in a Round Cross-Section Waveguide

rectangular measuring waveguides. Conditions of excitation of electromagnetic waves in the measuring waveguides are explored mathematically. Figures 3 and 4 illustrate how modes H_{11}, H_{31}, H_{21}, and other undesirable modes are eliminated. The longitudinal system of apertures helps in the suppression of undesirable modes and serves as a directional element (equations 15 through 21). Engineering design formulas for directivity factor, suppression factor, and coupling factor are derived (formulas 22 through 29). A better directivity factor can be obtained with a system of different-sized apertures (figure 7). Engineering design formulas for the three above factors are derived for this case (formulas 30 through 39). Two experimental models, with similar apertures and with different apertures, were tested within a 8,600÷9,600 mc band. Model data is given in the table on page 72. Theoretical (dotted line) and experimental (solid line) values of directivity, coupling factor, and suppression factor are presented in figures 8 and 9 for models 1 and 2, respectively. The experimental suppression factor exceeded 40 db. The azimuth system of rectangular guides coupled to the round waveguide by longitudinal rows of apertures

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Directional Coupler for H_{01} Wave in a Round Cross-Section Waveguide

permits taking off the energy of one definite mode. High performance of the directional coupler is secured by suppression of those undesirable modes which have a phase constant close to that of the desirable mode by means of an azimuth system of rectangular guides. Other undesirable modes are suppressed by a longitudinal set of apertures. Results of the analysis given in the article are applicable to a directional-coupler design for any mode of waves propagating in a round waveguide or other weak-coupling measuring device. Calculations and experiments with the directional coupler have shown that with $2R/\lambda \leq 1,6$ satisfactory results can be obtained with only two rectangular guides and a simple longitudinal row of apertures. With a higher ratio of $2R/\lambda$, the coupler can be used along with conical smaller-to-larger diameter joints. The above-described coupler models permit measuring, at H_{01} mode, in round waveguides, the following magnitudes: small (30÷40 db) reflection factors, power passing the given cross-section of the waveguide, mode H_{01} attenuation in various waveguide elements, and losses associated with transformation of H_{01} mode into other modes.

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