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CIA/FDD X 2069

Theory of the Motion of a Body With Cavities
Partly Filled With a Liquid, by D. E. Okhotsim-
skiy, 21 pp.

RUSSIAN, per, ~~Fizik Matemat i Mekh~~, Vol XX,
No 1, Jan./Feb 1956, pp 3-20.

NASA TT F-33

NLL M12502

Sci. - Fuels

May 60

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THE MOTION OF A Rigid Body With a Cavity Partly
Filled With Liquid, by G. S. Narimanov, 10 pp.

RUSSIAN, per, Prikl Matemat i Mekh, Vol XX, No 1,
1956, pp 21-38.

SLA 60-17360

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Impact on a Compressible Fluid, by I. T. Egorov,
12 pp.

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1956, pp 67-72.

NACA TM 1413

Sci - Phys

Apr 58

61,491

61-27046

Sokolovskii, V. V.
 THE FORMS OF STABLE SEMI-ARCHES AND
 ARCHES (O Formakh Ustoichivyykh Polusvodov i
 Svodov). Jan 60 [16]p. 5 refs. TIL/T. 4880; [DSIR LLU]
 M. 2694; AD-245 810.
 Order from OTS or SLA \$1.60

61-27046

Trans. of Prikl[adnaya] Mat[ematika i] Mekh[anika]
 (USSR) 1956, v. 20, no. 1, p. 73-86.

DESCRIPTORS: *Continuous media, Elasticity, Plastic-
 ity, Rupture, Internal friction.

An investigation is made of the two-dimensional limit-
 ing equilibrium of a connected medium with free con-
 tours, this being accompanied by rupture curves. Con-
 sideration is devoted to the limiting equilibrium of semi-
 arches and arches resulting from their own weight and
 an example is given of the determination of rupture
 (Mechanics--Statics, TT, v. 6, no. 10) (over)

1. Title: Arches
2. Title: Semi-arches
1. Sokolovskii, V. V.
- II. TIL/T. 4880
- III. Ministry of Aviation
 (Gt. Brit.)
- IV. DSIR LLU M. 2694
- V. AD-245 810

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61-23273

Loytsyanskly, L. G.
ON THE THEORY OF SPHERICAL BEARING. [1961]
[8]p. (foreign text included) 2 refs. [DSIR LLU]
M. 2605.
Order from OTS or SLA \$1.10

L. Loytsyanskly, L. G.
IL DSIR LLU M. 2605

61-23273

Trans. of Prikl[adnaya] Mat[ematika i] Mekh[anika]
(USSR) 1955 [v. 20] no. 1, p. 133-135.

DESCRIPTORS: *Fluid flow, Analysis, Spheres, Theory

An analysis is presented of the motion of an incompressible fluid located between a stationary outer sphere and a moving inner sphere of approximately the same diameter. The integral found by G. H. Wannler (Quart. Applied Math. 8: 1-32, 1950) is used; the Reynolds equation corresponds to the case of rotation of the inner sphere around the axis perpendicular to the line joining sphere centers. The formulae of the main vector and of the main moment of the fluid reaction are given. (Mechanics--Hydrodynamics, TT, v. 6, no. 3) (over)

175363

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On Vibrations of a Plate Moving in A Gas,
by A. A. Morchan, 19 pp.

RUSSIAN, per, Erik Matemat i Mekh, Vol XX,
No 2, 1956, pp 211-222.

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Sci - Phys

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A problem of heat conduction for two media,
by D. Shil'krut, 11 pp.

RUSSIAN, par, Priklad Mat i Mekh, 20, no 2,
p 284-88, 1956.

SLA R-3623

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Concerning the Application of A. M. Lyapunov's
Method for Equations with the Lags, by N. N.
Krasovskiy.

RUSSIAN, per, Prikl Matemat i Mekh, Vol XX, 1956,
pp 325-327.

INSDOC-T1909

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Three-Dimensional Streamline Flow Around Blended
Bodies, by H. D. Khadim, 27/ 12 pp.

RUSSIAN, per, Prikl Mat i Mekh, Vol XX, No 3, 1956,
pp 208-210

Sci

Aug 58

27-1165
M. D. Khadim
Friedman

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On the Motion of a Liquid in an Oscillating Container,
by V. V. Bolotin, 6 pp.
RUSSIAN, per, Prik Matemat i Mekh, Vol XX, 1956,
pp 293-294. 9691839
DDC RSIC-133

Sci - Phys
Mar 64

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Laminar Boundary Layer of a Compressed Gas on a
Plate in the Case of Considerable Temperature
Jumps, by V. V. Lunov. UNCLASSIFIED

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1956, pp 395-401. CIA 9031276

TIL 4912

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Sci - Phys
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About the Corresponding Equilibrium of a Physical
Pendulum With Movable Support Point, by A. Yu.
Ishlinskiy, 20 pp.

RUSSIAN, per, Prikladnaya Matematika i Mekhanika,
Vol XX, No 3, 1956, pp 397-308.

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Sci - Engineering
Jun 58

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Approximate Solution of Some Nonstationary Boundary Layer Problems, by E. M. Kobryshman.
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Vol 20, 1956, pp 402-410. P911129166
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in the Non-Linear Theory of ~~EL~~ Elasticity
by L. A. Tolokonnikov, 6 pp.

RUSSIAN, per, Prikl ~~M~~ Matemat i Mekh, Vol XX,
No 3, 1956, pp 438-444.

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Sci - Phys
Nov 61

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Theory of Shallow Shells, by I. I. Vorovich,
37 pp.
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FTD-TT-65-1744

Sci. - Math Sci
Oct 66

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CIA/FDD/X-2443

Barenblatt, G. I.

ON CERTAIN PROBLEMS OF THE THEORY OF ELASTICITY THAT ARISE IN THE INVESTIGATION OF THE MECHANISM OF HYDRAULIC RUPTURE OF AN OIL-BEARING LAYER (O Nekotorykh Zadachakh Teorii Uprugosti, Voznikayushchikh pri Issledovanii Mekhanizma Gidravlicheskogo Razryva Neftenonogo Plasta). [1962] [27]p. (foreign text included) 12 refs.

Order from OTS or SLA \$2.60

62-14583

Trans. of Prikladnaya Matematika i Mekhanika (USSR) 1956, v. 20 [no. 4] p. 475-486.

DESCRIPTORS: *Elasticity, Theory, Petroleum, Sources, Rock, Fracture (Mechanics).

A clarification is presented of the hypothesis of S. A. Christianovich (Akad. Nauk SSSR Otdel. Tekh. Nauk Izvestia 1953: no. 5 and 1955: no. 11) from (Mechanics, TT, v. 8, no.9) (over)

62-14583

1. Title: Hydraulic fracturing
1. Barenblatt, G. I.

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On the Theory of Gyro-horizon Compass, by A. Yu.
Ishlinskiy, 25 pp. UNCLASSIFIED

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Sci - Engineering

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On ~~the~~ ^{the} Asymptotical Stability of Systems with
Aftereffect, by N. N. Krasovskiy, 14 pp.

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Nov 57

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AF 1093644

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Apr 67

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On the Problem of a Laminar Boundary Layer Near a
Porous Wall, by L. S. Gordin, and R. E. Solov'ichik,
4 pp.

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G - 138 \$2.00

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Stress for an Infinitely Long Cylindrical Shell,
by L. A. Shapalov.
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Mar 64
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NLI Ref: 5207 (1210)

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Filtration of a Gas in a Porous Medium, by G. I.
Barenblatt.

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May 58

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A. Yu. Ishlinekiy, 28 pp.

RUSSIAN, per, Prik Matemat i Mekh, Vol XXI, 1957,
pp 3-14.

ATIC F-TS-9289/V

Sci - Phys

Jan 58

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The Flow of a Heavy Liquid Over an Undulating
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pp 15-20,
NLL Ref: 5828.4F (7807)

Sci/Physics
Mar 70

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Shock Wave Damping, by M. D. Ladyzhenskiy.

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1957, pp 3-152, Encl to IR 975-57, USAFE, ATI
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AF 1120363

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Sci - Mathematics; Eng
Aug 57

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Asymptotic Integration of Equations of the Static
Stability of a Conical Shell of Rotation, by N. A.
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Co-op Tr Scheme 385

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Sci - Math, Physics

Mar 59

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Approximate Integration of Equations of a Plane Problem
of the Theory of Plasticity, by S. M. Belonosov.
UNCLASSIFIED

RUSSIAN, per, ^{encl}Prik Mat i Mekh, Vol XXI, No 1, 1957,
pp 109-115.

*DSIR/TCL 101

Sci - Math
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Razumikhin, B. S.
ESTIMATES ON SOLUTIONS OF SYSTEMS OF DIFFERENTIAL EQUATIONS WHICH ARE EQUATIONS OF DISTURBED MOTION WITH VARIABLE COEFFICIENTS. [1961] [7]p. 2 refs.
Order from OTS or SLA \$1.10

61-16124

Trans. of Priladnaya Matematika i Mekhanika (USSR)
1957, v. 21, no. 1, p. 119-120.

DESCRIPTORS: *Differential equations, Numerical analysis. *Motion, Stability, Equations.

(Mechanics. TT, v. 6, no. 2)

61-16124

I. Razumikhin, B. S.

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On asymptotic stability in the first approximation

Ueber die asymptotische Stabilität nach erster Näherung

Prikl. Mat. i Mekh., 21, 133-136 (1957) - German

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Sci - Math
Oct 58

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On the Stability of the Rotating Movements of a
Solid Body the Cavity of which is Filled With an
Ideal Liquid, by N. G. Chetayev, 17 pp. UNCL

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The Theory of the Two-Gyroscope Vertical, by A. Yu. Ishlinskiy, 15 pp.

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On the Lift and Induced Drag of a Wing-Body System,
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Certain Variational Problems in the Gas Dynamics of
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18 pp.

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Vol XXI, No 2, 1957, pp 195-206.

SIA 59-10317

Sci - Electron
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OTS 60-17349

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30 Mar 62

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Wings of Minimum Drag, by Y. L. Zhilin,
14 pp.

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OTS 60-17350

Sci

30 Mar 62

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Vol 21, No 2, 1957, pp 221-230.
FTD-S-~~226~~ 290-68

Jan 69

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On the Stability of a Panel Moving in a
Gas, by A. A. Movchan, 23 pp.

RUSSIAN, per, Erik Matemat i Mekhanika,
Vol XXI, No 2, 1957, pp 231-243.

NASA RE 11-21-53W

Sci - Phys, Maths

Mar 59

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Asymptotic Solution of a Nonlinear Differential
Equation of Second Order.

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LTS 60-17347

Sci - Math

Nov 60

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CIA/FDD X-2712

Feb 58

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On Stability With Large Initial Perturbations, by
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Sci - Math

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Kreyn, M. G.
ON THE CHARACTERISTIC FUNCTION $\chi(\lambda)$ OF
THE LINEAR CANONICAL SYSTEM OF SECOND
ORDER DIFFERENTIAL EQUATIONS WITH PERI-
ODIC COEFFICIENTS. [1964] [19]p. 9 refs.
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Trans. of Prikl. i Issl. Matematika i Mekhanika (USSR)
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(Mathematics, TT, v. 5, no. 10)

61-10621

1. Functions - Theory
2. Differential equations -
Theory
1. Kreyn, M. G.

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Concerning One Case of the Movement of a
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Sci - Engr

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NLL M 5143

Calculation of Certain Sonic Flows of a Gas,
by P. I. Chushkin. UNCL

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1957, pp 353-360.

RAE 816

Sci - Phys
Sep 59

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Chushkin, P. I.

CALCUL DES ÉCOULEMENTS SONIQUES D'UN GAZ
(Raschet Nekotorykh Zvukovykh Tehenii Gaza)

[Calculation of Some Gas Flows for Sonic Velocity] tr.
by Vinogradoff, B. 9 Sep 60 [20]p. (foreign text in-
cluded) 10 refs. CEA Trans. no. R 1007 (text in
French).

Order from OTS or SLA \$1.60

61-15786

Trans. in French of Prikl[adnaya] Mat[ematika i]
Mekh[anika] (USSR) 1957, v. 21, no. 3, p. 353-360.

DESCRIPTORS: Bodies of revolution, *Gas flow,
Numerical analysis, Differential equations, Velocity.

Consideration is given to the approach flow of ellipses,
ellipsoids of revolution (direction of the flow coincides
with the large axis) and arbitrary plane contours by a
flow which propagates with sonic velocity. With the aid
of a method of A. A. Dorodnitsyn for the calculation of
(Mechanics--Aerodynamics, TT, v. 6, no. 9) (over)

61-15786

I. Chushkin, P. I.

II. CEA-tr-R1007

III. Commissariat à l'Énergie
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THE FORMATION OF A BOUNDARY LAYER ON A SURFACE WITH
A MOVING DISCONTINUITY IN THE DENSITY, by Yu. A.
Dem'yanov, 11 pp.

RUSSIAN, per, Prikl Matemat i Mekh, Vol XXI, No 3,
May/Jun 1957, pp 368-374.

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Sci - Geophysics
Sep 58

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Elasto-Plastic Equilibrium of a Wedge in a Plane
Stress Condition, by L. M. Kachanov. UNCL

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DBIR 34177/CT

Sci - Math
Mar 59

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the Steady One-Dimensional Flow of a Viscous Trickle-
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21, No 3, May-Jun 1957, pp 424-430.

ATIC F-TS-9489/III

Sci - Phys
Jul 58

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Heat Convection in a Revolving Round Pipe With a
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Conditions, by V. I. Rosenblum, 10 pp.

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CIA/TDD X-4030

Sci - Engr
Jan 60

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Some Precise Solutions of the Equations of
Uniform Unsteady Motion of an Ideal Gas, by
N. N. Kochina.

RUSSIAN, per, Prikl Matemat i Mekhan, Vol XXI,
No 4, 1957, pp 449-458.

TIL T 4932

Sci - Phys

Jan 61

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Translated by Morris D Friedman

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On the Stability of a Plane Stationary Shock
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RUSSIAN, per, Prikladnaya Matematika i Mekhanika,
Vol 21, 1957, pp 465-472.
NTC 71-14360-01A

AEL / LA / TR-71-10

AMB L.B. Tr

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Influence of a Boundary Layer on the Flow Characteristics of a Gas Behind a Moving Shock Wave in a Pipe, by Yu. A. Dem'yanov, 7 pp.

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Sci - Physics
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On the Motion of a Container Partially Filled With a
Liquid Taking Into Account Large Motions of the
Latter, by G. S. Narimanov.

RUSSIAN, per, Priklate i Mekh. Vol XXI, 1957,
pp 513-524.

*Redstone Arsenal

Sci - Phys

Aug 63

Yakovlev, I. I. and Yulovich, V. I.
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 Order from RIS \$5.00 RIS S-2110

Trans. of Tekhnicheskaya Mekhanika i Mekhanika (USSR)
 1967, v. 21, no. 4, p. 525-532.

AEC-SCL-T-65-271

(Hydrodynamics, TT, v. 5, no. 11)

61-2105

1. Liquids--Physical factors
2. Liquids--Hydrodynamic characteristics
- I. Yakovlev, I. I.
- II. Yulovich, V. I.
- III. RIS S-2110
- IV. Research Information Service, New York

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Canonical Transformations of Equations of the
Automatic Control Theory with the Presence of
Multiple Radicals, by Va A. Troitskii, 5 pp.
RUSSIAN, per, Prik Matem i Mekh, Vol 21, 1957,
pp 574-577.
ARM/RSIC-Tr-574-577

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A Contribution to the Construction of Periodic
Solutions of Autonomous Systems with One Degree of
Freedom, by A. P. Proskuryakov, 11 pp.

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ATIC F-TS-9453/III

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Boundary-Layer Equations and Their Boundary
Conditions in the Case of Motion at Supersonic
Velocities in a Moderately Rarefied Gas, by
Yu. N. Lunkin, ¹⁵²⁴

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Sci - Math

Nov 61

NLL M. 2392
FTD-MT-63-154

173, 882

Q11-111111-111111

The Stability (Based on Linear Approximation) of
the Periodic Solution of the System of Differential
Equations Having Discontinuous Right-Hand Sides,
by M. A. Aizerman, F. R. Gantmakher.

RUSSIAN, per, Prikl Matemat i Mekhan, Vol XXI,
1957, pp 658-669.

RAE 890

137,378

Sci - Phys

Jan 61

63-14455

I. Krasovskii, N. N.

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ONE OPTIMAL CONTROL PROBLEM. [1963] 12p.
9 refs.

Order from OTS or SLA \$1.60

63-14455

Trans. of Prikl[adnaya] Matem[atika] i Mekhan[ika].
(USSR) 1957, v. 21, no. 5, p. 670-677.
Another trans. is available from LC or SLA mi\$2.40,
pb\$3.30 as 60-18306 [1960] 13p.

DESCRIPTORS: *Control systems, Mathematical
analysis, *Difference equations, *Differential
equations.

For abstract see Technical Translations 5: 147, 1961.

(Mathematics, TT, v. 10, no. 8)

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61-27298

Drakhlis, E. Kh.
THE SOLUTION OF THE EQUATIONS FOR A CASE
OF STATIONARY HEAT CONVECTION IN AN INFI-
NITE OBLIQUE CIRCULAR CYLINDER (Reshenie Ura-
vnenii dlya Odnogo Sluchaya Statsionarnoi Teplovoi
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DESCRIPTORS: *Cylindrical bodies, Mathematical
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An examination is presented of the system of finite dif-
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$$x_i[(k+1)h] - x_i(kh) = [a_{ij}x_j(kh) + \dots + a_{in}x_n(kh) + q_{i1}u_1(kh) + \dots + q_{ir}u_r(kh) + j_i(kh)]h,$$

where $(i = 1, \dots, n)$, $(k = 0, 1, \dots)$, and $(h > 0 = \text{const})$;
 $x_1, \dots, x_n$ are the coordinates of a point in the phase
space of the system; $u_1, \dots, u_r$ are the control varia-
bles; $f_i(kh)$ are known functions; and a_{ij} , q_{ij} are con-
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equations when $h \rightarrow 0$ is substantiated.

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