KIBARSKIS, Kh.Kh.; STUPELIS, I.G.

Rauwolfia serpentina preparations in the compound treatment of hypertension. Sov.med.22 no.1:82-89 Ja '58. (MIRA 11:4)

1. Iz kafedry gospital'noy terapii (zav. - dotsent D.Z.Lautsevichus) Vil'nyusskogo universiteta imeni V.Kapsukasa na baze 1-y sovetskoy klinicheskoy bol'nitsy Vil'nyusa (glavnyy vrach I.T. Yeliseyev)

(RAUWOLFIA ALKALOIDS, ther. use
serpentina prep. in combined ther. of hypertension (Rus))
(HYPERTENSION, ther.
Rauwolfia serpentina prep. in combined ther. (Rus))

KIBARSKIS, Kh.Kh., dotsent

Dyskinesias of the biliary tract. Sov. med. 25 no.11:50-56 N '61.
(MIRA 15:5)

1. Iz kafedry gospital'noy terapii (zav. - dotsent L.Z.Lautsevichus) Vil'nyusskogo universiteta imeni V. Kapsukasa na baze 1-y sovetskoy klinicheskoy bol'nitsy (glavnyy vrach V.G.Bernatskib).
(BILIARY TRACT--DISEASES)

KIBARTAS, V.V.

USSR.

SOLUTION OF THE FOCK EQUATIONS FOR THE BERYLLIUM ATOM IN A TWO-CONFIGURATIONAL APPROXIMATION. V. V. Kibartas and A. P. Yutsis. Zhur. Eksptl'. i Teoret. Fiz. 25, No. 3, 284-7(1953). (In Russian)

The configurations $1s^2 2s^2$-$1s^2 2p^2$ are employed to generalize the self-consistent field method. One-electron radial functions are employed which are (a) solutions of the Fock equations (in a one-configurational approximation); (b) solutions in the two-configurational approximation. The results are: "Fock" energy, -14.577; (a) -14.611; (b) -14.622; experiment, -14.666 in atomic units. (Science Abstracts)

62
1

Vil'nyus State Univ.

KIBARTAS, V. V.

✓ Solution of simplified Fock equation in double configurational approximation for beryllium-type atoms. A. P. Yutsis, V. V. Kibartas, and I. I. Glembotskii (Physico-Tech. Inst., Acad. Sci. Lithuanian S.S.R., State Univ., Vilna). *Zhur. Eksptl. i Teoret. Fiz.* 27, 425–30(1954).—General survey and practical computations showed that solution of simplified Fock equation in double configurational approximation demands a slight supplementary computational work after obtaining solution of Fock equations in single configurational approximation for the configuration in question. Comparison of results with those obtained previously (*C.A.* 49, 5104g) shows that in the case of the Be atom the difference between the exact and simplified Fock equation is only 0.001 at. units of total energy. Presented are solutions of such simplified equations for basic configurations of B^+ and C^{++} ions. With the aid of solution of simplified Fock equations in double configurational approximation $1s^22s^2 - 1s^22p^2$ the values of total energy for Be, B^+, and C^{++} are detd. and compared with exptl. values.
V. N. Belinarski

62

USSR/Nuclear Physics - Fok's Equations Kibartas, V. V. FD-3336

Card 1/1 Pub. 146 - 8/28

Author : Glembotskiy, I. I., Kibartas, V. V., and Yutsis, A. P.

Title : Self-consistent Fok's field in two configurative approximation to Bohr's atom

Periodical : Zhur. Eksp. i Teor. Fiz., 29, No 5, 617-621, 1955

Abstract : Solutions of usual Fok's equations of the basic configuration of a neutral Bohr atom are presented and solutions of Hartree equations, completed with a configurative term, for the function $P(2p/'r)$ of the configuration $Is^2 2p^3$, computed for the two configurative approximation $Is^2 2s^2 2p - Is^2 2p^2$; also the value of total energy determined in one configurative and two configurative approximation. Function of total potential and radial possibility distribution are tabulated. Eight references.

Institution : Physico-technical Institute of the Acad. Sci. Litvian SSR, Vilno State University.

Submitted : July 12, 1954

USSR/Nuclear Physics, Fok's Equation Kibartas, V.V. FD-3337

Card 1/1 Pub. 146 - 9/28

Author : Kibartas, V. V., Kavetskis, V. I., and Yutsis, A. P.

Title : Self-consistent Fok's field in three configurative approximation to the Beryllium atom

Periodical : Zhur. Eksp. i Teor. Fiz., 29, No 5, 623-628, 1955

Abstract : A practical method of self-consistent Fok's field application to multiconfigurative approximation is analyzed. A three configurative approximation $1s^2 2s^2 - 1s^2 2p^2 - 2s^2 2p^2$ is applied to the basic configuration of the beryllium atom. The function of total potential and the radial possibility distribution are presented. Six references.

Institution : Vilno State University, Vilno State Pedagogical Institute

Submitted : July 12, 1954

KIBARTAS, V. V.:

KIBARTAS, V. V.: "The autocorrelat on of the Fok (Falk?) field in mul-ti-configurational approximation." Vil'nyus State U imeni V. Kapsukas. Chair of Theoretical Physics. Vil'nyus, 1956. (Disseration for the Degree of Candidate in Physicomathematical Sciences)

Knizhnaya letopis', No 39, 1956. Moscow.

KIBARTAS, V V

Category : USSR/Atomic and Molecular Physics - Physics of the Atom D-1

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3359

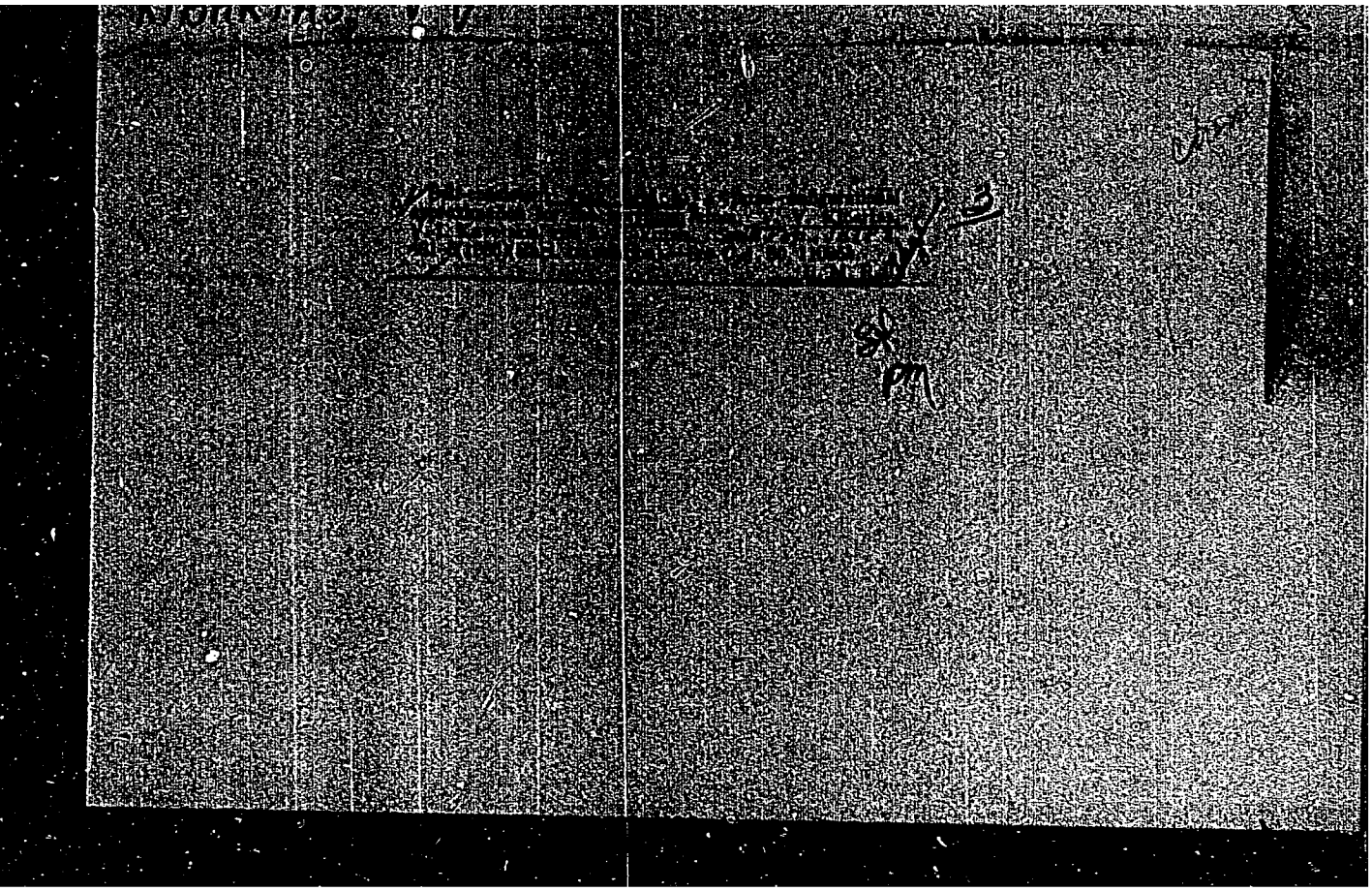
Author : Tsyunaytis, G.K., Kibartas, V.V., Yutsis, A.P.
Inst : Vil'nyius University, Physicotechnical Institute, Academy of Sciences Lithuanian SSR

Title : Self-Consistent Field for the Fundamental Configuration of Helium Type Atoms.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 1, 5-8

Abstract : A solution was obtained for the equations of the self-consistent field for the ground states of H^-, He, Li^+, Be^{2+}, B^{3+}, and C^{4+}. The values of the energy parameters ξ_{1s1s} of the radial integral F_0 (1s1s) and of the energy are given for all cases, as are the radial functions of H^-, B^{3+}, and C^{4+}. All the calculations were performed with greater accuracy than in the calculations previously made on analogous atoms.

Card : 1/1



Kibartas, V.V.

USSR/Atomic and Molecular Physics- Physics of the Atom. D-1

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11356

Author : Yutsis, A.P., Kibartas, V.V., Pelkyavichyus, I.Yu.
Inst :
Title : The Hartree Self-Consistent Field in the Two-Configuration Approximation for the Two Lower Configurations of the Carbon Atom.

Orig Pub : Lict. mosklu Akad. darbai, Tr. An LitSSR, 1956, B4, 3-14

Abstract : The Hartree self-consistent field method, extended to include the case of the two-configuration approximation, is applied to the lowest configurations of the carbon atom. The Hartree equations, supplemented by configuration terms, are solved for the 2p radial wave functions which are taken into account by the configurations, and the values of the total energy are given. In this approximation, the authors determine the effect of the mass of the spectral lines, arising from transitions between the investigated

Card 1/2

USSR/Atomic and Molecular Physics - Atomic Physics D-1

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 8927

Author : Vizbarayte, Ya.I., Batarunas, I.V., Kibartas, V.V. Yutsis, A.P.
Title : The Fock Self-Consistent Field in the Two-Configuration Approximation for the Nitrogen Atom in Various Degrees of Ionization.

Orig Pub : Liet. TSR mokslu Akad. darbai Tr. AN Lit SSR, 1956, 5B, 3-10

Abstract : The Fock equation is solved in the two-configuration approximation for a radial wave function 2p taken into account by the configuration $1s^2\ 2p^{q+2}$ of the two-configuration approximation $1s^2 2s^2 sp^q - 1s^2 sp^{q-1}$ at q = 2, 3, and 4 for the case of the nitrogen atom. The values of the energies of the 2s and 2p electrons are determined and compared with experimental data.

Card : 1/1

GORDIYENKO, V.A., red.; KALASHNIK, V.S., red.; KIRSANOV, [illegible], red.; LIBERSHTEYN, I.I., kand. sel'khoz. nauk, red.; LIGUNOV, I.K., red.; LUTASHKU, M.F., kand. sel'khoz. nauk, red.; PISKUNENKO, I.I., kand. ekon. nauk, red.

[Brief work results for 1962] Kratkie itogi raboty za 1962 god. Kishinev, "Kartia moldovenieske," 1963. 72 p. (MIRA 17:10)

1. Moldavskiy nauchno-issledovatel'skiy institut selektsii, semenovodstva i agrotekhniki polevykh kul'tur.

KIRASOV, P.T.

"The Importance of Autumn Germination of Seeds in Prewinter Seed Crop Plantings of Wheat and Barley." Cand Agr Sci, Omsk Agricultural Inst, Omsk, 1953. (RZhBiol, No 3, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55

IVANOV, Yu.; KIBBEL', F.

Trends in the development of the production of service-station equipment and its supply to automotive transportation units. Avt. transp. 43 no.6:10-11 Je '65. (MIRA 18:6)

1. Nauchno-issledovatel'skiy institut avtomobil'nogo transporta.

KIBEL', R.R.; KASHIN, R.N.

Wind-resistant infrared-radiation burner. Gaz.prom. 10 no.2:18-21 '65. (MIRA 18:12)

BERENKEY, K.; KIBEDI, T.; BOGDAN, J.

Pharmacological and clinical experiences with myanesin. Orv. hetil. 92 no.19:596-598 13 May 1951. (CLML 24:2)

1. Doctor for Berenkey and Kibedi. 2. Obstetric and Gynecologic Clinic (Director -- Prof. Dr. Janos Batizfalvy) and Institute of Pharmacology (Director -- Prof. Dr. Miklos Jancso), Szeged University.

KIRÁLY, Tibor, dr.; DIRNER, Zoltan, dr.

Experimental contribution to the reflex mechanism of tetanus inhibition. Ideg. szemle in Magy. Belorv. arch. 7 no.1:12-15 Feb 54.

1. Gyulai Magyei Korhaz (igazgato: dr. Juba Adolf egyet. m. tanar) Rontgenosztalyanak (foorvos: dr. Zeteny Gyozo) es a Szegedi Orvostudomahyi Egyetem Gyogyszertani intzetenek (igazgato: dr. Jancso Miklos egyetemi tanar) kozlemenye.

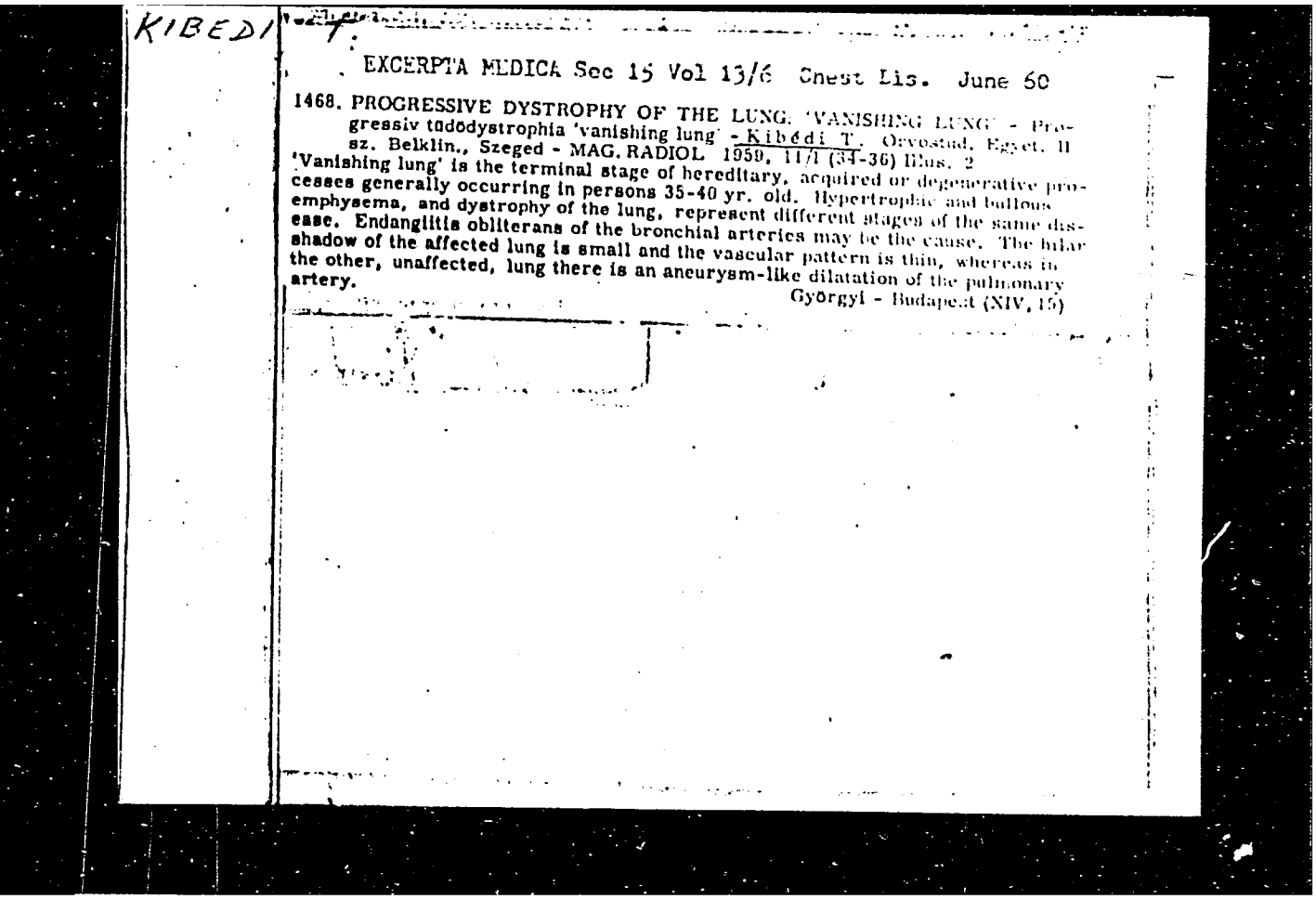
(TETANUS, exper.
strychnine-induced, eff. of proprioceptive stimuli)
(REFLEX, PROPRIOCEPTIVE
eff. of prprioceptive stimuli on exper. strychnine-induced tetanus)
(STRYCHNINE, tox.
tetanus, exper., inhib. by proprioceptive stimuli)

KIBEDI, Tibor, dr.; ZETENY, Gyozo, dr.

Cardiac calcification. Magy. radiol. 7 no.1:31-35 Jan 55.

1. A Bekesmegyei Tanacs Korhaza, Gyula (igazgato: Juba, Adolf dr. foorvos) rontgenosztalyanak (foorvos: Zeteny, Gyozo dr.) kozlemenye.

(CALCIFICATION,
myocardium, x-ray.)
(MYOCARDIUM, diseases,
calcification, x-ray.)



KIBEDI T.

EXCERPTA MEDICA Sec 15 Vol 13/6 Chest Dis. June 60

1468. PROGRESSIVE DYSTROPHY OF THE LUNG. 'VANISHING LUNG' - Progressiv tüdödystrophia 'vanishing lung' - Kibédi T. Orvostud. Egyet. II sz. Belklin., Szeged - MAG. RADIOL 1959, 11/1 (34-36) Illus. 2

'Vanishing lung' is the terminal stage of hereditary, acquired or degenerative processes generally occurring in persons 35-40 yr. old. Hypertrophic and bullous emphysema, and dystrophy of the lung, represent different stages of the same disease. Endangiitis obliterans of the bronchial arteries may be the cause. The hilar shadow of the affected lung is small and the vascular pattern is thin, whereas in the other, unaffected, lung there is an aneurysm-like dilatation of the pulmonary artery.

Györgyi - Budapest (XIV, 15)

KIBEDI, Tibor, dr.; SZOKE, Szabolcs, dr.

Roentgen diagnostic signs of epiploitis. Magy. radiol. 14 no.5: 279-284 S '62.

1. Nograd Megyei Tanacs Korhaza, Salgotarjan, Rontgen- (foorvos Kibedi Tibor dr.:) es Sebeszi osztalyanak (mb. foorvos Szoke Szabolcs dr.) kozlemenye.

(CMENTUM) (INTESTINAL NEOPLASMS)

VELKEY, Laszlo, dr.; KIBEDY, Flora, dr.; MESZAROS, Klara, dr.; SZEKERES, Erzsebet, dr.

Our experiences with 304 antrotomies in infancy. Gyermekgyogyaszat 14 no.6:167-172 Je '63.

1. Borsod megyei Semmelweis korhaz (igazgato: Pavlyak Pal dr.) I. sz. Gyermekosztalyanak kozlemenye. (Foorvos: Kostyas Laszlo dr.).
(INFANT, NEWBORN, DISEASES) (STAPHYLOCOCCAL INFECTIONS) (MASTOIDITIS) (SEPTICEMIA) (MEINIGITIS) (CTITIS)

KIBEL', F.S.; KUNSHCHIKOVA, L.K.; PADEREVSKAYA, V.N.; RATNER, M.M.

Dispensary care for rheumatic fever patients in the Oktyabrskiy District of Sverdlovsk. Zdrav. Ros. Feder. 4 no. 4:30-32 Ap '60. (MIRA 13:10)

1. Iz Sverdlovskogo gorzdravotdela.
(SVERDLOVSK—RHEUMATIC FEVER)

KIBEL, I. A.

"Theoretical Meteorology," Transactions of the Central Geophysical Observatory, Edition 4, Leningrad, 1935.

KIBEL', I. A.

Front Shifting in the Atmosphere, Dokl. Ak. Nauk SSSR, 14, 7, 429-31, 1937.

This is an outline of a longer paper to be published in the Transactions of the Main Geophysical Observatory (Leningrad). The motion oftwo air masses separated by a frontal surface is considered. The general equationsc of motion are first given. From these and the conditions of the particular problem a system of equations is derived, which may be solved.. Hence if the shape of the frontal surface together with the component velocities and the pressure at the earth's surface be known at the initial moment, then the motion of the air masses and the shape of the frontal surface for any subsequent time can be determined.

KIBEL, I. A.

"Boundary Layer in Compressible Liquid With Allowance for Radiation," Dok. AN 25, No 4, 1939.

Leningrad State Univ.

KIBEL, I. A.

"Supplement to the Meteorology of the Mechanical Equations for a Baroclinic Fluid", Izvestiya AN SSSR (News of the Academy of Sciences USSR), Geographic and Geophysical Series, No 5, 1940

SO: U-3039, 11 Mar 1953

KOCHIN, N. E.; KIBEL, I. A.; ROZE, N. V.

Teoreticheskaya Gidromekhanika (Theoretical Hydromechanics), 1941.

KIBEL, I. A.

"Temperature Distribution in the Atmosphere of the Earth," Dok. AN 39, No 1, 1943.

Central Geop. Obs.

KIBEL', I. A. (Cor. Mbr.)

"Work of the Fridman School on Meteorology During the Past Two Years," a report submitted at the first meeting on crystallography at the General Assemblies of IUGG in 1948.

IAN-Ser Fiz, Vol 9, No 3, 1945

KI .L', I.A.

Primenenie metoda dlinnykh voln v szhimaemoi zhidkosti. (Prikladnaia mate-matika i mekhanika, 1944, v. 8, no.5, p. 413-416) Summary in English.

Title tr.: Application of the method of long waves in a compressible fluid.
QA801.P7 1944

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

KIEBEL, I. A. PA 4T89

USSR/Aerodynamics 1945

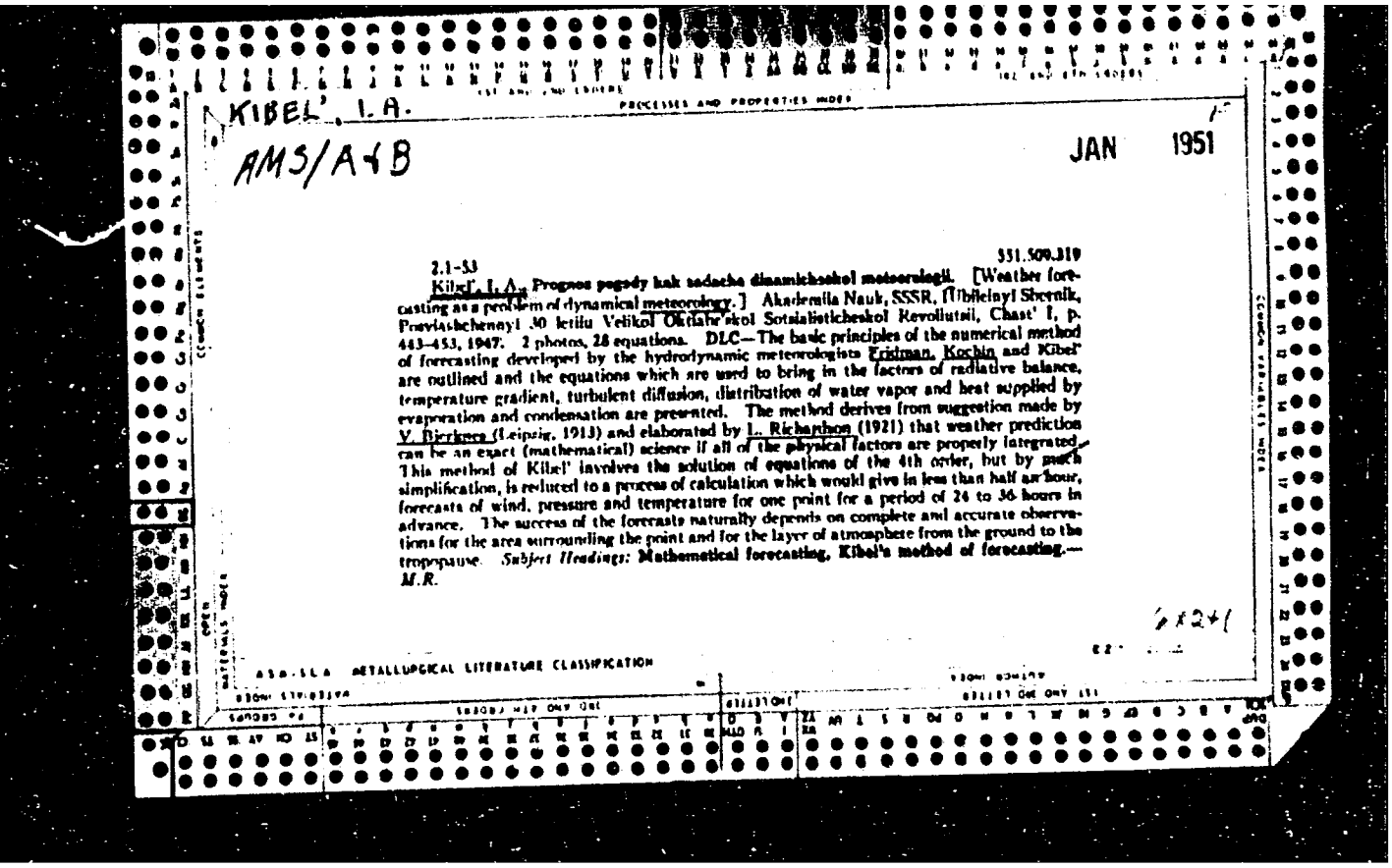
"A Case of Unhomogeneous Turbulence in a Compressible Fluid," I. A. Kiebel, 4 pp

"CR Acad Sci" Vol XLIX, No 4

The authors seek to give solutions for unhomogeneous and anisotropic turbulence, extending the original work of Keller and Friedman's method for a closed system of turbulence equations.

4T89

Central Inst. Hydrometeorological Forecasts; Corr. Mbr. AS



KIBEL', I. A.

AMS/A+B

JAN 1951

551.509.319

2.1-53

Kibel', I. A. Prognoz pogody kak zadacha dinamicheskoi meteorologii. [Weather forecasting as a problem of dynamical meteorology.] Akademiia Nauk, SSSR, Iubileinyi Sbornik, Prevoskhodnyi 30 letiiu Velikoi Oktiabr'skoi Sotsialisticheskoi Revoliutsii, Chast' I, p. 443–453, 1947. 2 photos, 28 equations. DLC—The basic principles of the numerical method of forecasting developed by the hydrodynamic meteorologists Tristman, Kochin and Kibel' are outlined and the equations which are used to bring in the factors of radiative balance, temperature gradient, turbulent diffusion, distribution of water vapor and heat supplied by evaporation and condensation are presented. The method derives from suggestion made by V. Bjerknes (Leipzig, 1913) and elaborated by L. Richardson (1921) that weather prediction can be an exact (mathematical) science if all of the physical factors are properly integrated. This method of Kibel' involves the solution of equations of the 4th order, but by such simplification, is reduced to a process of calculation which would give in less than half an hour, forecasts of wind, pressure and temperature for one point for a period of 24 to 36 hours in advance. The success of the forecasts naturally depends on complete and accurate observations for the area surrounding the point and for the layer of atmosphere from the ground to the tropopause. *Subject Headings:* **Mathematical forecasting, Kibel's method of forecasting.**—*M.R.*

X241

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Kibel, I. A.

"Method of Solving Problems of Local Winds," Doklady Akademii Nauk SSSR, Vol 1, No 1-2, 1947

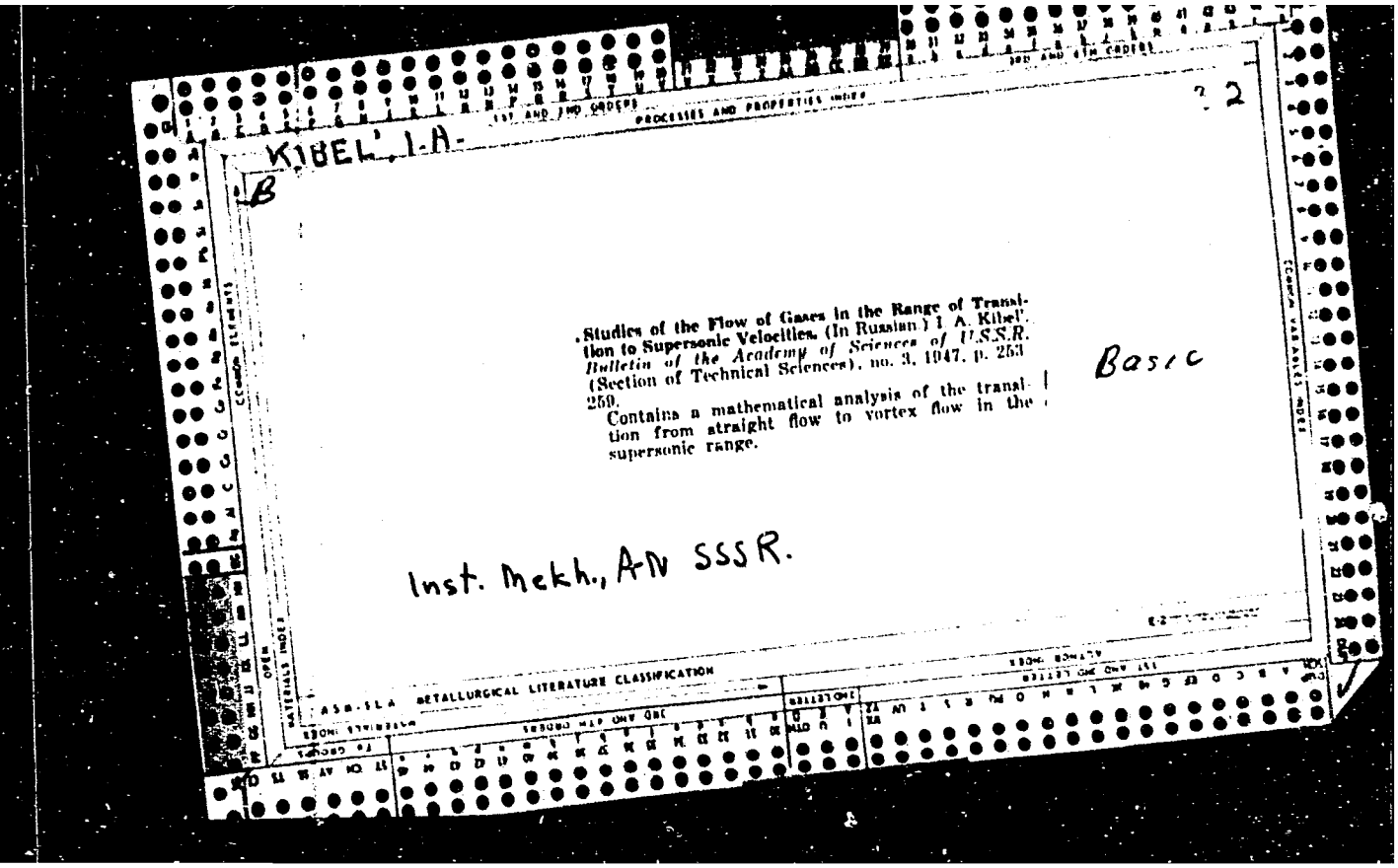
SO: U-3039, 11 Mar 1953

KIBEL', I. A.

"On the Error of Haurwitz," Meteorologiya i Gidrologiya, No. 3, 30-33, 1947. Translation available.

The author analyzes an article by Prof. B. Haurwitz in American Meteorological Society, Bulletin, 1946, containing a criticism of I. Kibel's method for forecasting and points out the erroneous interpretation by Haurwitz of the method criticized, as well as some other faults of American meteorologists.

Subject Headings: Single station forecasting, Kibel's method of forecasting.



KIBEL', I.A.

B

2

Studies of the Flow of Gases in the Range of Transition to Supersonic Velocities. (In Russian.) I. A. Kibel'. *Bulletin of the Academy of Sciences of U.S.S.R.* (Section of Technical Sciences), no. 3, 1947, p. 253-259.

Contains a mathematical analysis of the transition from straight flow to vortex flow in the supersonic range.

Basic

Inst. Mekh., AN SSSR.

KIEBEL, I. A.

PA 8T105

USSR/Aerodynamics
Velocity, Subsonic

Jan 1947

"Exact Solutions for Equations of Aerodynamics,"
I. A. Kiebel, 6 pp

"Prik Mate i Mekh" Vol XI, No 1 p 193

Solving the problem of finding solutions yielding subsonic velocities for one part of a space and supersonic for the other.

8T105

KIBEL', I. A.

USSR/Physics
Liquids - Thermal Properties
Heat Exchange Systems

Nov/Dec 1947

PA 52T95

"Heating of a Viscous Liquid by Means of a Revolving Disc," I. A. Kibel', Moscow, 4 pp

"Priklad Matemat i Mekhanik" Vol XI, No 6 p. 611

Author intends to show by means of formulae that it is possible to obtain an exact solution for the temperature regime during the heating of a viscous fluid by means of a revolving disc. Problems which deal with the heating of a viscous liquid, as a result of a revolving disc, have not been concerned with solving the temperature regime. Solutions of questions

[redacted]

52T95

USSR/Physics (Contd)

Nov/Dec 1947

concerning distribution of temperature particularly are lacking. Author expresses gratitude to A. S. Monin for his assistance. Submitted 6 Dec 1947.

[redacted]

52T95

KIBEL', I. A., KOCHIN, Nikolay Yevgrafovich, and ROZE, N. V.

Theoretical Hydromechanics. Leningrad, Gosud. Izdat. Tekhniko-teoreticheskoi Literatury, 1948. Revised 4th ed. 2 v., 535 p. 179 figs, refs.

Review of German translation of Vol. 1 by Sutton, O. G., in Meteorological Magazine 84(991):27, Jan 1955.

The several parts of this voluminous and highly theoretical treatise (or collection of treatises) cover in the first volume: I. Kinematics of fluids (A. Deformation field, B. Equations fof continuity, C. Kinematics of rectilinear and vortex motion) II. Basic equations of hydrodynamics of ideal fluids; III. Hydrostatics; IV Simple cases of motion ini ideal fluids; V. Eddy motion in ideal fluids (Kochin) VI. Simple problems of movement of bodies in ideal fluids; VII. Extension of problems of motion in an ideal fluid; VIII. Wave motion in an ideal fluid (Kochin) including basic equations, simple waves, 3-dimensional waves and long waves. In the second volume: I. Theoretical basis of gas dynamics (Kibel'). II. Movement of viscous fluids (Kochin); III. Elementary theory of turbulence (Kibel').
Subject headings: 1. Theoretical hydrodynamics 2. Tubbubence theory. 3. Eddy motion. 4. Textbooks.

Kibel', I. A.

KIBEL', I. A.

Gazovaia dinamika. (In: Mekhanika v SSSR za tridtsat' let, 1917-1947. Moskva, Gostekhizdat, 1950. p. 321-331)
Bibliography: p. 329-331. 65 references.
Title tr.: Gas dynamics.

QA802.M4

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

KOCHIN, Nikolay Yevgrafovich; KIBEL', Il'ya Afanas'yevich; ROZE, Nikolay Vladimirovich; RABINOVICH, Ye.Z., redaktor; GAVRILOV, S.S., tekhnicheskiy redaktor

[Theoretical hydromechanics] Teoreticheskaia gidromekhanika. Izd. 5-oe, ispr. i dop. Moskva, Gos.izd-vo tekhniko-teoret.lit-ry. Pt.1. 1955. 560 p. (MLRA 9:2)

(Hydromechanics)

KIBEL', I. A.

USSR/ Geophysics - Meteorology

Card 1/1 Pub. 22 - 14/52

Authors : Kibel', I. A., Member-Corresp. of the Acad. of Scs. of the USSR

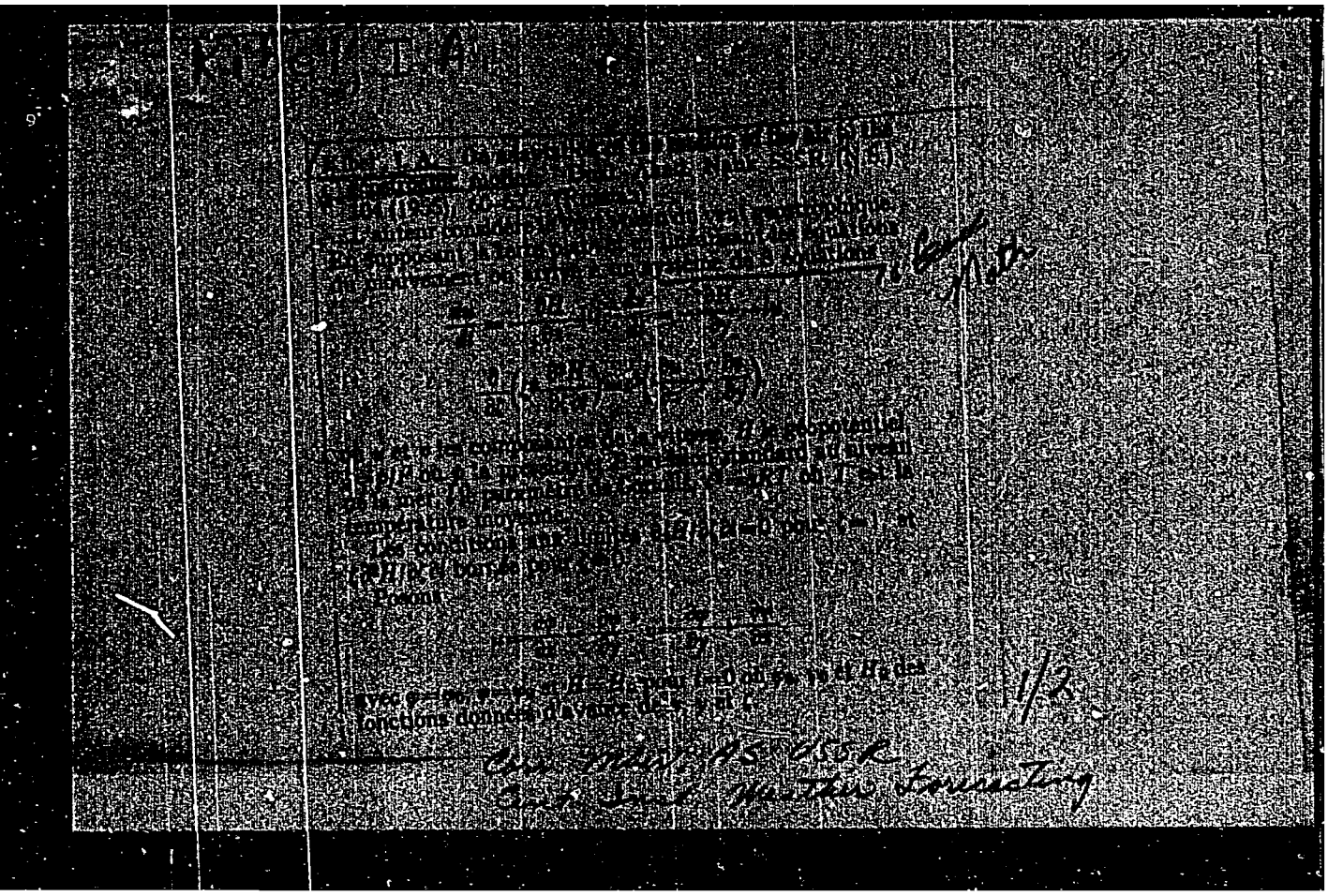
Title : The space problem of the flow of an air current over the irregularities of the earth's surface

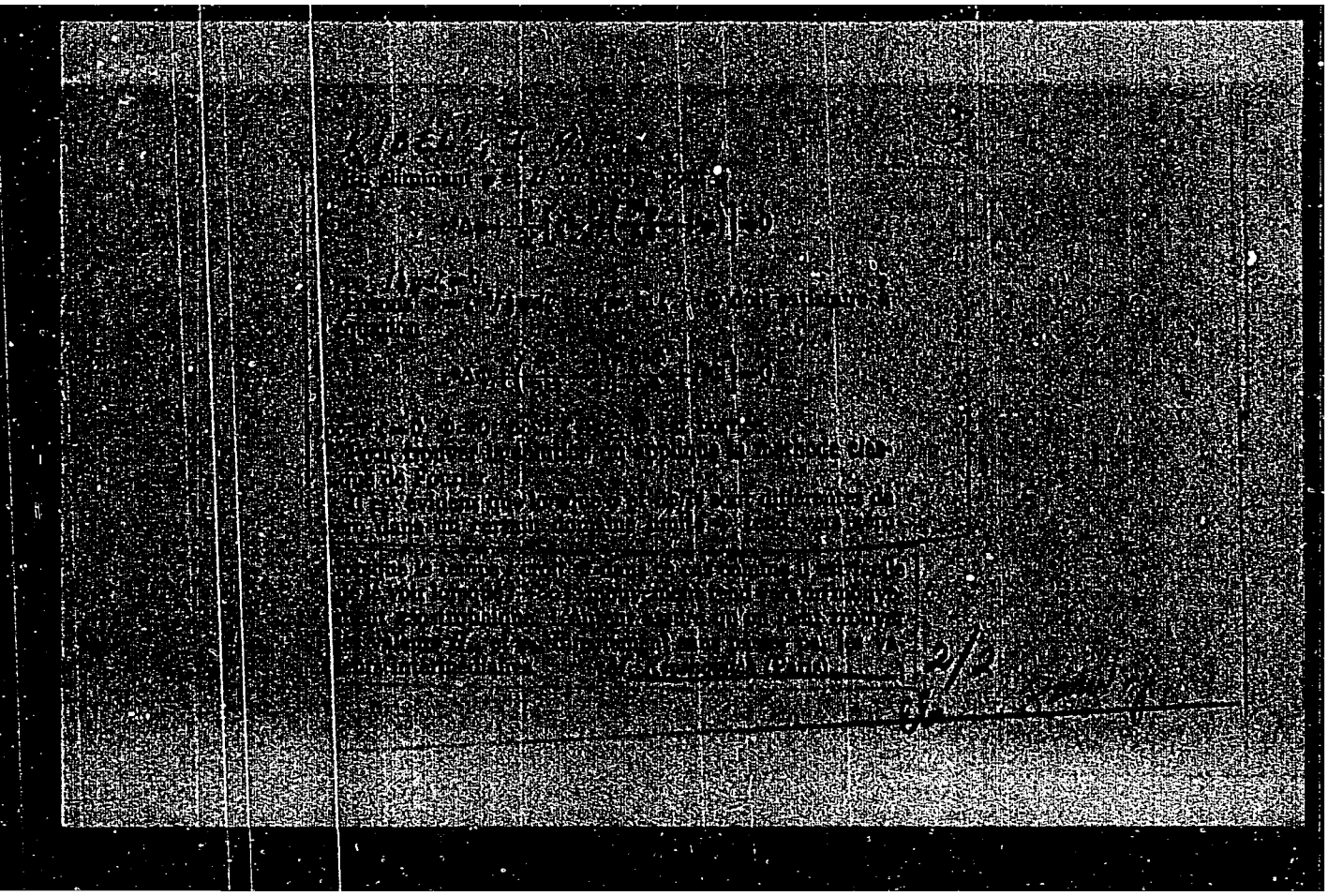
Periodical : Dok. AN SSSR 100/2, 247-250, Jan 11, 1955

Abstract : A solution is given of the space problem dealing with the flow over the rough surface of the earth of an air current of a certain speed U along the X axis, however, independent of the x,y,& z coordinates. The methods of stabilized phases and of super-positions are used for the solution. One USSR reference (1940).

Institution : The Central Fore Institute

Submitted : .....





KIBEL', IL'YA AFANAS'YEVICH

PHASE I BOOK EXPLOITATION 532

Kibel', Il'ya Afanas'yevich

Vvedeniye v gidrodinamicheskiye metody kratkosrochnogo prognoza pogody (Introduction to Hydrodynamic Methods of Short-Range Weather Forecasting) Moscow, Gostekhizdat, 1957. 375 p. 2,000 copies printed.

Eds.: Belousov, S.L. and Bykov, V.V.; Tech. Ed.: Kolesnikova, A.P.

PURPOSE: This is a textbook in hydrodynamic methods of short-range forecasting, delivered in the spring semester of 1956 at the Mathematical and Engineering Faculty of the Moscow State University im. Lomonosov.

COVERAGE: The book discusses the role of hydrodynamics in synoptic meteorology, with special emphasis on recent mathematical studies of forecasting methods. A number of equations is included for use in modern electronic computers and the existing hydrodynamic

Card 1/7

Introduction to Hydrodynamic Methods (Cont.) 532

methods of forecasting are analyzed and evaluated. A full account is given of research conducted in the division of dynamic meteorology at the Central Institute of Weather Forecasting (of the Gidrometsluzhba, Moscow). The author also discusses a number of non-Soviet contributions whenever they have been tested with electronic computers. The author's own contribution lies in defining a method of determining the heat inflow through radiation. No description of computers or other instruments is given. There are 98 figures, 5 tables, and no references.

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AVAILABLE: Library of Congress

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MM/ad
8-29-58

KIBEL', I.A.

Carl-Gustav Arvid Rossby; obituary. Meteor.i gidrol. no.10:56-57 O '57. (MIRA 10:11)
(Rossby, Carl-Gustav Arvid, 1898-1957)

K/Bf/

KIREL', I.A.

Problems of dynamic and synoptic meteorology. Trudy TSIP no.60:3-9 '57. (MIRA 11:3)
(Weather forecasting)

AUTHOR: Kibel', I. A., Corresponding Member of the AS USSR 20-118-4-17/61

TITLE: A Method of the Short-Term Forecasting of Meteorological Elements (Sposob kratkosrochnogo prognoza meteorologicheskikh elementov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 4, pp. 687-690 (USSR)

ABSTRACT: The hypothesis of the quasi-static character permits to reduce the problem of the short-term forecasting of the four main meteorological elements (of the three components u,v,w and of the potential H) to the solution of a system of differential equations (given here). The author here introduces a potential part and a vortex part for the horizontal velocities u and v. The computation is pursued step by step. The system obtained here contains third-order differentiations with respect to time. Let the three functions φ, H, and Ψ be known at t = 0. The solution of the equations resulting here can be taken from a previous paper by the author (reference 1). The formulae resulting for H, φ and Ψ after

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A Method of the Short-Term Forecasting of Meteorological Elements 20-118-4-17/61

a few more computation steps can be used for the forecasting of meteorological elements. In this forecast, the entire time interval under consideration must be divided into small partial intervals. The formula deduced here represents a generalization of the known formula deduced for quasigeostrophic conditions by N. I. Buleyev and G. I. Marchuk.
There are 2 Soviet references.

SUBMITTED: October 17, 1957

AVAILABLE: Library of Congress

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KIBEL, I. A.
p. 2

3(7)
AUTHOR: Popov, L. I. SOV/50-59-4-19/21

TITLE: International Congress of Geophysicists (Mezhdunarodnaya Assambleya geofizikov)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 4, pp 74-77 (USSR)

ABSTRACT: From July 1, 1957 to December 31, 1958, investigations of our planet were carried out by scientists of 65 countries under the program of the International Geophysical Year (IGY). The 5th Congress of the Special Committee on the International Geophysical Year from July 29 to August 9, 1958 in Moscow was dedicated to the execution of these measures. A short survey of this Congress is given here.-The suggestion by A. A. Zolotukhin on a world-wide organization of evaluations of meteorological data of the IGY in form of synoptic daily world maps, maps of the southern and northern hemispheres, and of vertical sections of the atmosphere, was discussed. The Study Group of Meteorology carried out the following work: on numerical methods of weather forecasts (conducted by I. A. Kibel', Corresponding Member of the AS USSR), on luminous night clouds (conducted by Professor V. V. Sharonov), on meteorology in the Antarctic (conducted by Professor B. L.

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Dzerdzeyevskiy). A. D. Obukhov, Corresponding Member of the AS USSR, and A. S. Monin (Moscow) delivered a report on the theory of the adjustment of quasistatic and quasigeostrophic conditions in the atmosphere for a linear case, and put forward the results of a number of investigations in this direction. I. A. Kibel', Corresponding Member of the AS USSR, and V. P. Sadokov (Moscow), reported on the forecasts of temperature on the earth's surface with help of hydrodynamic methods, and for the first time put forward a scheme for the solution of the quasistatic-quasigeostrophic system of equations for the forecast in consideration of the turbulent heat conductivity. N. I. Buleyev and G. I. Marchuk (Moscow) put forward a new iteration method for the solution of finite difference equations typical for the tasks of the numerical short-termed forecast. Professor M. I. Yudin (Leningrad) suggested some alterations of the forecast equations, thus reducing the area of influence considered in the forecast. He pointed out the necessity of thoroughly testing the methods worked out by many investigators (N. Ye. Kochin and A. A. Dorodnitsyn) for the consideration of the influence of the non-adiabatic factors and of large mountain ranges. O. G. Krichak

(USSR) delivered a report on "The Characteristics of the Circulation in the Atmosphere Over the Antarctic and the Relationship of This Circulation With the Processes on the Southern Hemisphere".

KIBEL', I.A. (Moscow)

"Basic Nonlinear Problems in Dynamic Meteorology."

report presented at the First All-Union Congress on Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb 1960.

KIBEL', IL'YA AFANASYEVICH

A Collection of Articles on Dynamic Meteorology. (Washington) American Geophysical Union; New York, Consultants Bureau (c. 1960)
181 p. Graphs, tables. (Soviet Research in Geophysics in English Translation , Vol. 1)
Translated from the Original Russian: Sbornik Statey Po Dinamicheskoy Meteorologii (Trudy Geofizicheskogo Instituta, No. 37 (164). Moscow, 1956.

KIBEL', I.A.; SADOKOV, V.P.

Short-range weather forecasting in nonadiabatic cases. Nek.probl. meteor. no.1:7-12 '60. (MIRA 13:8)
(Weather forecasting)

S/020/60/132/02/20/067
B014/B007

AUTHOR: Kibel', I.A., Corresponding Member of the AS USSR

TITLE: A Finite-difference Scheme of the Solution of a Complete System of Equations of the Short-range Weather Forecast and the Quasi-geostrophic Relations

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 2, pp. 319-322

TEXT: The problem of short-range weather forecast by means of a complete system of equations of hydrodynamics leads to the determination of four functions: The geopotential Φ, the horizontal wind components u and v, and the quantity $\overline{\omega} = dp/Pdt$ (p = air pressure, P = normal pressure at sea level). For the purpose of determining these functions the author of the present paper proceeds from the four differential equations (1) - (4), and, under consideration of the differential equations (5) for the vertical component of wind velocity and of the equations (6) for temperature and density, the solutions (21) for Φ, (26) for u, (27) for v, and (28) for $\overline{\omega}$ are obtained. For the individual terms of the solutions which are represented as sums, the corresponding

Card 1/2

A Finite-difference Scheme of the Solution of a Complete System of Equations of the Short-range Weather Forecast and the Quasi-geostrophic Relations

S/020/60/132/02/20/067
B014/B007

formulas are given. The solutions for Φ, u, and v consist of three and four terms, respectively, of which the first is in each case called the evolutionary, the second the steady, and the third term the damping term. $\overline{\omega}$ contains no evolutionary term. Neglecting the nonlinear terms, one obtains simpler solutions which may well be used for the forecast, but in the general case the nonlinear terms must be taken into account. There are 3 Soviet references.

ASSOCIATION: Institut prikladnoy geofiziki Akademii nauk SSSR (Institute of Applied Geophysics of the Academy of Soiences of the USSR)

SUBMITTED: February 19, 1960

Card 2/2

VUL'FSON, Naum Isaakovich; KIBEL', I.A., otv.red.; PSHENAY-SEVERIN, S.V., red.; GUS'KOV, G.G., red.izd-va; PRUSAKOVA, T.A., tekhn.red.; SHEVCHENKO, G.N., tekhn.red.

[Investigation of convective motions in the free atmosphere] Issledovanie konvektivnykh dvizhenii v svobodnoi atmosfere. Moskva, Izd-vo Akad.nauk SSSR, 1961. 521 p. (MIRA 14:6)

1. Chlen-korrespondent AN SSSR (for Kibel').
(Meteorology)

S/042/61/016/002/005/005
C 111/ C 222

AUTHORS: Belotserkovskiy O. M., Kibel' I. A., Moiseyev N. N., Khristianovich S. A., Chushkin P. I., and Shmyglevskiy Yu. D.

TITLE: Anatoliy Alekseyevich Dorodnitsyn (on the occasion of his 50th birthday

PERIODICAL: Uspekhi matematicheskikh nauk, v. 16, no. 2, 1961, 189-196

TEXT: A. A. Dorodnitsyn was born on December 2, 1910 in the district Tula. In 1931 he finished the study at the Mining Faculty of the Petroleum Institute Groznyy. Since 1935 he worked in the Glavnaya geofizicheskaya observatoriya (Geophysical Main Observatory) in Leningrad under the leading of J. A. Kibel' (school of N. Ye. Kochin). In 1939 -- candidate of physical-mathematical sciences. Since 1941 he was in the Tsentral'nyy aerogidrodinamicheskiy institut imeni N. Ye. Zhukovskogo (Central Aerohydrodynamic Institute imeni N. Ye. Zhukovskiy). In 1942 -- Doctor dissertation "Boundary layer in a compressible gas". In 1953 -- member of the Academy of Sciences of the

Card 1/3

Anatoliy Alekseyevich Dorodnitsyn

USSR. Since 1955 he is the director of the Vychislitel'nyy tsentr Akademii nauk SSSR (Computing Center of the Academy of Sciences USSR). Educational activity: 1939-1940 - dotsent at the Chair of Higher Mathematics in the Leningrad Mining Institute; 1944-1946 - Professor at the Chair of Theoretical Aerodynamics of the Moskovskiy aviatsionnyy institut imeni S. Ordzhonikidze (Moscow Aviation Institute imeni S. Ordzhonikidze) Since 1947 - Professor and leader of the Chair of Gas Dynamics of the Moskovskiy fiziko-tekhnicheskiy institut (Moscow Physical-Technical Institute) Furthermore - President of the Komissiya po vychislitel'noy tekhnike AN SSSR (Committee of Computing Technics of the Academy of Sciences USSR); member of the Komitet po Leninskim premiyam (committee for Lenin Prizes); president of the ekspertnaya komissiya VAK po avtomatizatsii i priborostroyeniya (Committee of Specialists of the VAK for Automatization and Construction of Equipment) Chief editor of the "Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki (Journal of computing mathematics and mathematical physics). A. A. Dorodnitsyn participated in the following congresses: Sweden in 1957; USA in 1958; France in 1959; Poland in 1959; Spain in 1958;

Card 2/3

Anatoliy Alekseyevich Dorodnitsyn ... S/042/61/016/002/005/005
C 111/ C 222

Switzerland in 1960. His papers contain essential contributions in the domains: dynamic meteorology, gas dynamics and applied mathematics.

The authors mention N. Ye. Zhukovskiy and S. A. Chaplygin. There is a list containing the publications of A. A. Dorodnitsyn (1936-1960) with 23 titles and a photo of him.

Card 3/3

S/020/62/143/006/014/024
B164/B101

AUTHOR: Yibel', I. A., Corresponding Member AS USSR

TITLE: Transformation of a system of differential equations used in local weather forecasting into a system of algebraic equations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 143, no. 6, 1962, 1336-1339

TEXT: The following simplified system of differential hydrodynamic equations is used for local weather forecasting:

$$\frac{\partial u}{\partial t}+\frac{\partial u^2}{\partial x}+\frac{\partial uv}{\partial y}+\frac{\partial u\omega}{\partial \zeta}=-\frac{\partial \Phi}{\partial x}+lv; \quad (1)$$

$$\frac{\partial v}{\partial t}+\frac{\partial uv}{\partial x}+\frac{\partial v^2}{\partial y}+\frac{\partial v\omega}{\partial \zeta}=-\frac{\partial \Phi}{\partial y}-lu; \quad (2)$$

$$\frac{\partial u}{\partial x}+\frac{\partial v}{\partial y}+\frac{\partial \omega}{\partial \zeta}=0; \quad (3)$$

$$\frac{\partial \Gamma}{\partial t}+\frac{\partial u\Gamma}{\partial x}+\frac{\partial v\Gamma}{\partial y}+\frac{\partial \omega\Gamma}{\partial \zeta}+c^2\omega=0. \quad (4)$$

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This equation makes it possible to integrate the differential equations (1)-(4) over the variables x, y, ζ within the boundary conditions. Thereby, a system of differential equations of time is obtained. To integrate over time, the period of time under consideration is divided into intervals, and the functions to be integrated are expanded in polynomials of the time variables. The author's result is a closed system of algebraic equations.

ASSOCIATION: Vychislitel'nyy meteorologicheskiy tsentr
(Meteorological Computer Center)

SUBMITTED: February 3, 1962

KOCHIN, Nikolay Yevgrafovich; KIBEL', Il'ya Afanas'yevich; ROZE, Nikolay Vladimirovich; ROZAL'SKAYA, N.I., red.; MIKHLIN, E.I., tekhn. red.

[Theoretical hydromechanics] Teoreticheskaia gidromekhanika. Pod red. I.A.Kibelia. Moskva, Fizmatgiz. Pt.1. Izd.6. ispr. i dop. 1963. 583 p. Pt.2. Izd.4., perer. i dop. 1963. 727 p. (MIRA 16:10)

(Fluid mechanics)

KIEEL, I.A.

"Some new problems of hydrodynamic short range weather forecasting."

Report submitted to the Intl. Symp. on Numerical Weather Prediction
Oslo, Norway, 11-16 March 1963

KIBEL',I.A. (Moscow)

"Short-term weather forecast as a problem of hydromechanics"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

KIBEL', I. A.

"Short-range forecast as a hydrodynamic problem."

report submitted for 11th Intl Cong of Theoretical & Applied Mechanics & General Assembly, Munich, 30 Aug-5 Sep 64.

KIBEL', I.A., red.; GANDIN, L.S., doktor fiz.-mat. nauk, red.; NEDOSHIVINA, T.G., red.

[Transactions of the Symposium on Numerical Methods of Weather Forecasting, Moscow, 1963] Trudy Simpoziuma po chislennym metodam prognoza pogody. Leningrad, Gidrometeoizdat, 1964. 234 p. (MIRA 17:12)

1. Simpozium po chislennym metodam prognoza pogody, Moscow, 1963.

L 27256-65 EWT(d)/FCC GW

ACCESSION NR: AT4048455 S/0115/64/000/003/0003/0018

AUTHOR: Kibel', I. A. (Corresponding member AN SSSR)

TITLE: Some new problems in hydrodynamic short-range weather forecasting

SOURCE: Mirovoy meteorologicheskiy tsentr. Trudy, no. 3, 1964, Voprosy gidrodinamicheskogo kratkosrochnogo prognoza pogody i mezometeorologii (Problems in hydrodynamic short-range weather forecasting and mesometeorology), 3-18

TOPIC TAGS: weather forecasting, numerical weather forecasting, local weather, cloud, hydrodynamic forecast

ABSTRACT: This paper is a review of a number of Soviet studies on hydrodynamic short-range weather forecasting. The reviewed studies are concerned with the problem of a change from the forecasting of a meteorological situation to the numerical forecasting of the weather itself, particularly local weather. The author objects to the opinion expressed by many meteorologists that clouds form spontaneously in the atmosphere and that the only possible approach to the phenomenon is statistical. The author devotes particular attention to the patchiness of weather and attributes it to nonhomogeneity of the underlying surface (differences in vegetation, soil, heating, roughness, etc.). This is followed by

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ACCESSION NR: AT4048465

discussion of the meteorological background against which local weather develops. The two principal problems involved in local forecasts are analyzed: boundary conditions and initial data. New approaches to an effective solution of nonstationary problems are analyzed. The final problem considered is the different techniques for forecasting for the boundary layers, particularly with respect to their applicability in the forecasting of local weather. Orig. art. has: 12 figures and 22 formulas.

ASSOCIATION: Mirovoy meteorologicheskiy tsentr (World meteorological center)

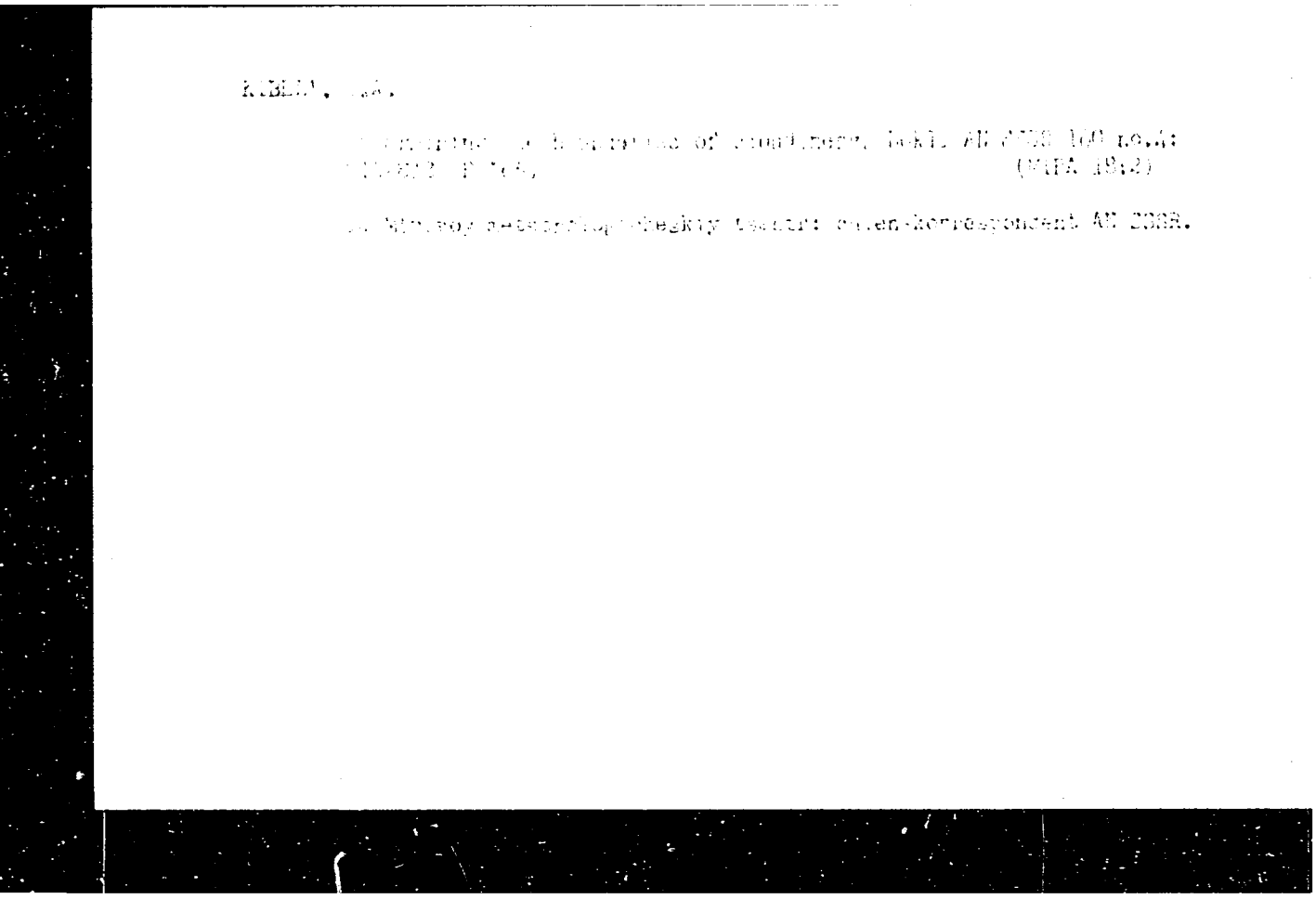
SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 012 OTHER: 003

Card 2/3

KIBEL', I.A.

Some types of wave motions in the free atmosphere. Trudy
IMGS no.6:3-7 '65. (MIRA 18:12)



L 62768-65 EWP(m)/EPF(n)-2/EWT(l)/FCC/EWA(d) Pu-4 GW/WE

ACCESSION NR: AP5018080 UR/0020/65/163/001/0091/0093 18 17 B

AUTHOR: Kibel', I. A. (Corresponding member AN SSSR)

TITLE: Hydrodynamics of cloud systems

SOURCE: AN SSSR, Doklady, v. 163, no. 1, 1965, 91-93

TOPIC TAGS: cloud hydrodynamics, cumulus hydrodynamics, typhoon hydrodynamics

ABSTRACT: Assuming that the movements of air outside clouds are adiabatic while those within a cloud may be viewed as pseudoadiabatic, the author bases his hydrodynamics of clouds on the following set of equations (in cylindrical coordinates):

$$a\frac{\partial u}{\partial t}+w\frac{\partial u}{\partial z}-\frac{v^2}{r}=-\frac{\partial \Phi}{\partial r}, \quad (1)$$

$$a\frac{\partial v}{\partial t}+w\frac{\partial v}{\partial z}+\frac{uv}{r}=0; \quad (2)$$

$$a\frac{\partial w}{\partial t}+w\frac{\partial w}{\partial z}=-\frac{\partial \Phi}{\partial z}+\frac{g}{T_m}T'; \quad (3)$$

$$\frac{\partial \rho_0 a^{\varkappa}}{\partial t}+\frac{\partial \rho_0 a^{\varkappa} w}{\partial z}=0; \quad (4)$$

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ACCESSION NR: AP5018080

$$u\frac{\partial T'}{\partial r}+w\frac{\partial T'}{\partial z}+(\sigma\gamma_a-\gamma)w=0. \qquad (5)$$

where z is the altitude above the ground; r = distance from the symmetry axis; u, v, w = velocity components along r, the azimuth, and the vertical, respectively; T' = deviation of the temperature T from its value T_∞ (z) at large distances from the cloud; g = gravitational acceleration; T_m = average temperature of the air column; Φ = deviation of the geopotential from its standard value; γ_a = adiabatic gradient; $\gamma = -dT_\infty/dz$ = const; ε = 1 outside the cloud;

$$\sigma = \sigma_\infty = \left[1-\frac{0.622}{c_p}L\frac{p}{R-1}\frac{f_{max}(T_\infty)}{p_\infty T_\infty}\right]\left[1+\frac{0.622}{c_p}\frac{L}{p_\infty}\frac{df_{max}}{dT_\infty}\right]^{-1} \qquad (5a)$$

and

$$f_{max}(T_\infty)=0.1\cdot10^{-3}p\exp\left(17.13\frac{T_\infty-273}{T_\infty-38}\right) \qquad (5b)$$

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ACCESSION NR: AP5018080

(see I. A. Kibel', DAN, 160, no. 4, 1965); c_p = air heat capacity at constant pressure; k = heat capacity ratio; L = latent heat of condensation; $p_{st}(x)$ = standard pressure; P = sea level pressure; and $\rho_{st}(z)$ = standard density. The author evaluates the four appropriate integrals and applies the solution to: 1) the model of a cumulus; and 2) the central portion of a typhoon. The theoretical results agree in broad terms with the results of observations. Orig. art. has: 20 formulas and 2 figures.

ASSOCIATION: Mirovoy meteorologicheskiy tsentr (World Meteorological Center)

SUBMITTED: 17Apr65 ENCL: 00 SUB CODE: ES, ME

NO REF SOV: 001 OTHER: 000

Card 3/3

20344

S/020/61/136/005/002/032
C111/C222

16 3400
AUTHOR: Kibenko, A.V.

TITLE: On the Theory of Ordinary Differential Equations in the Banach Space

PERIODICAL: Doklady Akademii nauk SSSR, 1961, Vol. 136, No. 5
pp. 1019 - 1021

TEXT: In the Banach space E, the author considers the uniqueness of the solution of the Cauchy problem

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

(2) $x(t_0) = x_0$

and the non-local continuability of the solutions of (1).
Let $\varphi(t,u,v)$ be a nonlinear functional continuous for $t \in (t_0, t_0 + a]$, $\| u - x_0 \| \leq b$, $\| v - v_0 \| \leq b$ which vanishes for $u = v$, is positive for

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On the Theory of Ordinary Differential Equations in the Banach Space

(3) $$\lim_{t \to t_0 + 0} \varphi[t, u(t), v(t)] = 0 ,$$

where $u(t)$, $v(t)$ are arbitrary solutions of (1)-(2). Furthermore let the condition

$$\varphi(t + \Delta t, u + \Delta u, v + \Delta v) - \varphi(t, u, v) \leq$$

(4) $$\leq D_1(t, u, v)(\Delta t) + D_2(t, u, v)(\Delta u) + D_3(t,u,v)(\Delta v) + + O(|\Delta t| + \|\Delta u\| + \|\Delta v\|)$$

be satisfied, where the generally nonlinear functionals D_i are semi-homogeneous ; for $\alpha > 0$

$$\alpha D_i (t,u,v)(h) \leq D_i (t,u,v)(\alpha h) ;$$

D_1 is continuous ; D_2 and D_3 are semicontinuous from above

$$\lim_{\|h_n - h\| \to 0} D_i (t,u,v)(h_n) \leq D_i (t,u,v)(h_0) \qquad (i = 2,3)$$

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S/020/61/136/003/002/032
C111/C222

On the Theory of Ordinary Differential Equations in the Banach Space

Let $\phi(t,u,z)$ be a continuous functional for $t \in [t_0, t_0 + \alpha]$, $\|u - x_0\| \leq b$, $0 \leq z \leq \infty$.

Let the operator $f(t,x)$ be defined for $t \in [t_0, t_0 + a]$, $\|x - x_0\| \leq b$.

Theorem 1 : Let the condition

$$D_1(t,u,v)(1) + D_2(t,u,v)[f(t,u)] + D_3(t,u,v)[f(t,v)] \leq \phi[tu\varphi(t,u,v)] \tag{5}$$

be satisfied. For every solution $u(t)$ of (1)-(2) let all solutions of

$$\frac{dz}{dt} = \phi(t,u(t),z) \quad , \quad z(t_0) = 0$$

be non positive on $[t_0, t_0 + a_0]$ ($z(t) \leq 0$). Then the solution of (1)-(2) is unique on $[t_0, t_0 + a]$ if it exists.

Theorem 2 is a modification of theorem 1 and improves the results of Plis'

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On the Theory of Ordinary Differential Equations in the Banach Space

and Ważewski (Ref. 5).
Let the local uniqueness theorem be valid for (1) for arbitrary initial conditions. For every $\alpha > 0$ let

$$\sup_{0 \le t \le a,\ \|x\| \le a} f(t,x) < \infty .$$

Let the continuous functional $\varphi(t,u)$ $(t \in (0,\infty),\ u \in E)$ and the function $\phi(t,z)$ $(t \le z < \infty)$ be analogous to $\varphi(t,u,v)$ and $\phi(t,u,z)$. Let for every $a > 0$

$$\lim_{\|u\| \to \infty} \sup_{0 \le t \le a} \varphi(t,u) = \infty .$$

Theorem 3 : Let the upper solution of the problem

(7) $$\frac{dz}{dt} = \phi(t,z) , \quad z(0) = 0$$

be defined for all $t > 0$. Let the condition

(8) $$D_1(t,u)(1) + D_2(t,u)\left[f(t,u)\right] \le \phi\left[t, \varphi(t,u)\right]$$

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On the Theory of Ordinary Differential Equations in the Banach Space

be satisfied. Then from the local existence theorem for (1) there follows that every solution of (1) is continuable up to $t = \infty$.

The author mentions S.G. Krein. He thanks M.A. Krasnosel'skiy and A.I. Perov for the theme and advices.

There are 7 references : 2 Soviet, 1 Italian, 3 Polish and 1 American.

ASSOCIATION: Voronezhskiy gosudarstvennyy pedagogicheskiy institut (Voronezh State Pedagogical Institute)

PRESENTED: October 1, 1960, by P.S. Aleksandrov, Academician

SUBMITTED: September 30, 1960

Card 5/5

BORISOVICH, Yu.G. [Borysovych, IU.H.]; KIRENKO, A.V.

Unilateral evaluations for ordinary differential equations with delayed argument. Dop. AN URSR no.7:853-856 '64. (MIRA 17:9)

1. Voronezhskiy gosudarstvennyy universitet. Predstavlena akademikom AN UkrSSR I.I.Shtokalo.

KIRENKO, A.V.; PEROV, A.I.

Two-point boundary value problem with a parameter. Dop. AN URSR no.10:1259-1266 '61. (MIRA 14:11)

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom AN USSR I.Z.Shtokalo.
(Boundary value problems)

S/044/62/000/009/013/069
A060/A000

AUTHORS: Kibenko, A. V., Krasnosel'skiy, M. A., Mamedov, Ya. D.

TITLE: One-sided estimates for the existence conditions of solutions to differential equations in functional spaces

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 36 - 37, abstract 9B193 ("Uch. zap. Azerb. un-t. Ser. fiz.-matem. i khim. n.", 1961, no. 3, 13 - 19 (Azerbayjanian))

TEXT: The sufficient conditions are formulated for the existence of a solution to the Cauchy problem

$$\frac{dx}{dt} = f(x,t), \quad x\big|_{t=0} = x_0 \qquad (1)$$

in the Banach space E. Let $\Phi(x)$, $x \in E$, be a nonlinear continuous functional, where $\Phi(0) = 0$, $\Phi(x) > 0$ for $\|x\| > 0$, and from the condition that

$\Phi(x) \to 0$ it follows that $\|x\| \to 0$. Let

$$\Phi(x+h) - \Phi(x) = D(x,h) + w(x,h),$$

where the functional $D(x,h)$ is continuous in h uniformly with respect to x in any sphere, semihomogeneous and semi-additive with respect to h, and

$$\lim_{\|h\| \to 0} \frac{w(x,h)}{\|h\|} = 0.$$

With S_o we shall denote the sphere $\|x - x_o\| \leqslant r$. Let the operator $f(x,t)$ with values in E be uniformly continuous with respect to the set of variables $t \in [0,T]$ and $x \in S_o$, let this operator satisfy the condition

$$D(x-y, f(t,x)) - f(t,y) \leqslant L(t, \Phi(x-y)),$$

where the function L is continuous, and the Cauchy problem

$$\frac{du}{dt} = L(t,u),\ u(0) = 0$$

has a unique zero solution. Then the problem (1) has a solution. It is also proven that there is at least one solution to the Cauchy problem

$$\frac{du}{dt} = f(x,t) + h(x,t),\ x\big|_{t=o} = x_o, \qquad (2)$$

provided f satisfies the conditions enumerated above, and the operator h (x,t) is completely continuous. Some considerations are cited as to the existence of a solution to the Cauchy problem

$$\frac{dx}{dt} = A(t)x + f(t,x), x\big|_{t=o} = x_o,$$

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One-sided estimates for the existence conditions of... A060/A000

where A (t) is an unbounded linear operator. The convergence of the consecutive approximations for the problem (2) is investigated.

S. G. Mikhlin

[Abstracter's note: Complete translation]

Card 4/4

S/021/63/000/003/005/022
D405/D301

AUTHOR: Kibenko, A. V.

TITLE: Green's function of a boundary value problem for an ordinary first-order differential equation with a parameter

PERIODICAL: Akademiya nauk UkrRSR. Dopovidi. no. 3, 1963, 310-314

TEXT: Green's function is constructed for boundary value problems for equations with a vector parameter, the presence of which leads to an additional boundary condition. The following problem is considered:

$$\frac{dx}{dt} = A(t)x + B(t)\lambda + f(t) \qquad (1)$$

$$\left.\begin{aligned} Cx(t_0) + Dx'(t_0) &= \xi \\ Fx(t_1) + Rx'(t_1) &= \eta \end{aligned}\right\} \qquad (2)$$

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Here A(t) and B(t) are square matrices of n-th order; C, D, F and R - constant matrices; f(t) is a vector function; ξ and η are constant vectors; λ is a vector parameter. Green's function of problem (1)-(2) is defined as the pair of matrix functions $\{K(t,s), G(s)\}$, subject to certain conditions. Green's function for problem (1)-(2) is constructed; the sufficient conditions of existence of such a function are derived; the nature of the dependence of the solutions of problem (1)-(2) on the vectors ξ and η is considered. These results are obtained in the form of 3 theorems and a lemma; although the theorems are derived for x being an element of Euclidean space, yet they remain valid also in Banach space. Theorem 2 states that for the existence of Green's function it is sufficient that there exist a matrix V^{-1} ($V = C + DA(t_0)$) and that the lemma (in the form of inequalities involving the matrices) hold. Particular cases of problem (1)-(2) are considered.

ASSOCIATION: Voronezhskiy derzhavnyy universytet (Voronezh State University)
PRESENTED: by Academician Y. Z. Shtokalo of the AS UkrRSR
SUBMITTED: April 11, 1962

KIBENKO, A.V.

Green's function of a boundary value problem for an ordinary first-order differential equation with a parameter. Dop. AN URSR no.3:310-314 '63. (MIRA 17:10)

1. Voronezhskiy gosudarstvennyy universitet. Predstavlena akademikom AN UkrSSR I.Z. Shtokalo.

L 21017-66 EWT(d) IJP(c)
ACC NR: AP6025490 SOURCE CODE: UR/0038/66/030/002/0249/0264

AUTHOR: Perov, A. I.; Kibenko, A. V.

ORG: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

TITLE: General method of investigating boundary value problems

SOURCE: AN SSSR. Izvestiya. Seriya matematicheskaya, v. 30, no. 2, 1966, 249-264

TOPIC TAGS: differential equation system, boundary value problem, existence

ABSTRACT: The article is devoted to applications of generalized fixed-point principles to unique existence problems in the solutions of certain boundary value problems for systems of ordinary differential equations and for n-th order equations. Orig. art. has: 58 formulas. [JPRS: 36,775]

SUB CODE: 12 / SUBM DATE: 04May64 / ORIG REF: 008 / OTH REF: 003

Card 1/1 pla

UDC: 517.9

0716 0869

KIBENKO, V.

Device for wetting down rock dust. Mast.ugl.3 no.3:20 Mr '54. (MLRA 7:4)

1. Burozapravshchik shakhty No.12 "Mikhaylovskaya" kombinata Voroshilovgradshakhtostroy. (Mine dusts)

LIVSHITS, B.Ya.; ROZENMAN, E.S.; KIBERNIK, K.V.; SOKOLOV, V.F.

Regulator of the feed of the ammonia sulfate pulp to the centrifuge. Koks i khim. no.7:55-56 '65. (MIRA 18:8)

1. Zaporozhskiy filial Instituta avtomatiki (for Livshits, Rozenman, Kibernik). 2. Zaporozhskiy koksokhimicheskiy zavod (for Sokolov).

ACC NR: AP7002733 (A) SOURCE CODE: UR/0126/66/022/006/0816/0822

AUTHOR: Kosevich, A. M.; Kibets, I. N.; Sheptovitskiy, L. D.

ORG: Khar'kov State University (Khar'kovskiy gosuniversitet)

TITLE: Residual deformations of a rod with a nonuniform coefficient of thermal expansion in a cyclic thermal regime

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 6, 1966, 816-822

TOPIC TAGS: plastic deformation, thermal expansion, thermal strees, stress relaxation, thermoelasticity, elastic stress

ABSTRACT: If a metal has a noncubic (e.g. hexagonal) crystalline lattice, its texture is such that thermal expansion becomes anisotropic, i.e. must be described by a second-rank tensor rather than by a scalar quantity. This factor becomes particularly essential if the texture of the specimen is inhomogeneous and its coefficient of thermal expansion is a function of the coordinates. Then even uniform heating of a specimen can produce in it considerable thermoelastic stresses reaching the yield point of the material. In this connection, thermoplastic deformations in a round metal rod with an inhomogeneous (axially symmetric) texture and hence also a nonuniform coefficient of thermal expansion are considered. It is assumed that the

Card 1/2 UDC: 669.017:[539.374+536

ACC NR: AP7002733

successive rapid heating and cooling of the specimen produces stresses in the metal. Two factors are taken into account: the hysteresis character of the equations of the phenomenological theory of plasticity and the relaxation of elastic stresses. Owing to either of these factors the shape of the specimen following the cyclic heating-cooling process differs from its original shape, i.e. residual deformations appear. It is shown that the pulsed heating of the rod at which the maximum temperature suffices for the development of plastic deformation causes the rod to undergo irreversible plastic changes. The residual deformations are proportional to the change in temperature and affected by the relationship between stresses and elasto-plastic deformations. Orig. art. has: 36 formulas.

SUB CODE: 11, 20, 13 / SUBM DATE: 11May66/ ORIG REF: 003

Card 2/2

KIBIREV, B.I.

[Maintenance of a motor vehicle; manual for studying topics 2, 11, 12] Tekhnicheskoe obsluzhivanie avtomobilia; uchebnoe posobie po izucheniiu tem 2, 11, 12. Gor'kii, Zaochnyi avtomobil'no-dorozhnyi tekhnikum, 1962. 71 p. (MIRA 17:4)

KIBIREV, S., arkhitektor

Results of a competition in planning an experimental residential district for southwestern Moscow. Zhil.stroi. no.5:3 of cover My '61. (MIRA 14:6)

(Moscow--City planning)

KIBILLIS, S.S.

USSR/Processes and Equipment for Chemical Industries - Control and Measuring Devices. Automatic Regulation. K-2

Abs Jour : Ref Zhur - Khimiya, No 2, 1957, 6988

Author : Bulatov, S.B., Kibillis, S.S.
Inst :
Title : Equalizing Concensation Vessels for Differential Manometric Steam Flow Meters.

Orig Pub : Izmerit. tekhnika, 1956, No 3, 60-63

Abst : Consideration of problems relating to the use of different types of condensation vessels in measuring rate of flow of steam. The fundamental principles of computation of constant-level equalizing vessels and of constant-charge equalizing vessels are described.

Card 1/1

KIBIREV, B.I.; ROGINSKAYA, R., otv. za vyp.

[Maintenance of a motor vehicle; educational manual for the study of the topic No.10 "Maintenance of trailers."] Tekhnicheskoe obsluzhivanie avtomobilia; uchebno-metodicheskoe posobie po izucheniiu temy No.10 "Tekhnicheskoe obsluzhivanie pritsepov." Gor'kii, Zaochnyi avtomobil'no-dorozhnyi tekhnikum, 1963. 17 p. (MIRA 16:9)
(Truck trailers--Maintenance and repair)

KIBIREV, Mikhail Fedorovich; TRESKINA, T.N., red.; BOL'SHAKOVA, L.A., tekhn.red.

[Archangel] Arkhangel'sk. Arkhangel'skoe knizhnoe izd-vo, 1959. 39 p. (MIRA 12:10)
(Archangel--Description)

KIBIREV, S., arkhitektor

Experimental residential district in Moscow. Zhil. stroi. no.5:25 '59. (MIRA 12:8)
(Moscow--Architecture--Competitions)

38057. KIBIREV, S.

Tipovye proekty zhilykh domov dlya Ashkhabada, Arkhtektura i stroit-vo 1949, No. 11, s. 12-14.

KIBIREV, S., arkhitektor

Experimental [illegible] section in the southwestern district of Moscow. Zhil. stroi. no. 1:2-5 Ja '61. (MIRA 14:2)
(Moscow--City planning)