

DUBOGREY, I.M., kand.med.nauk

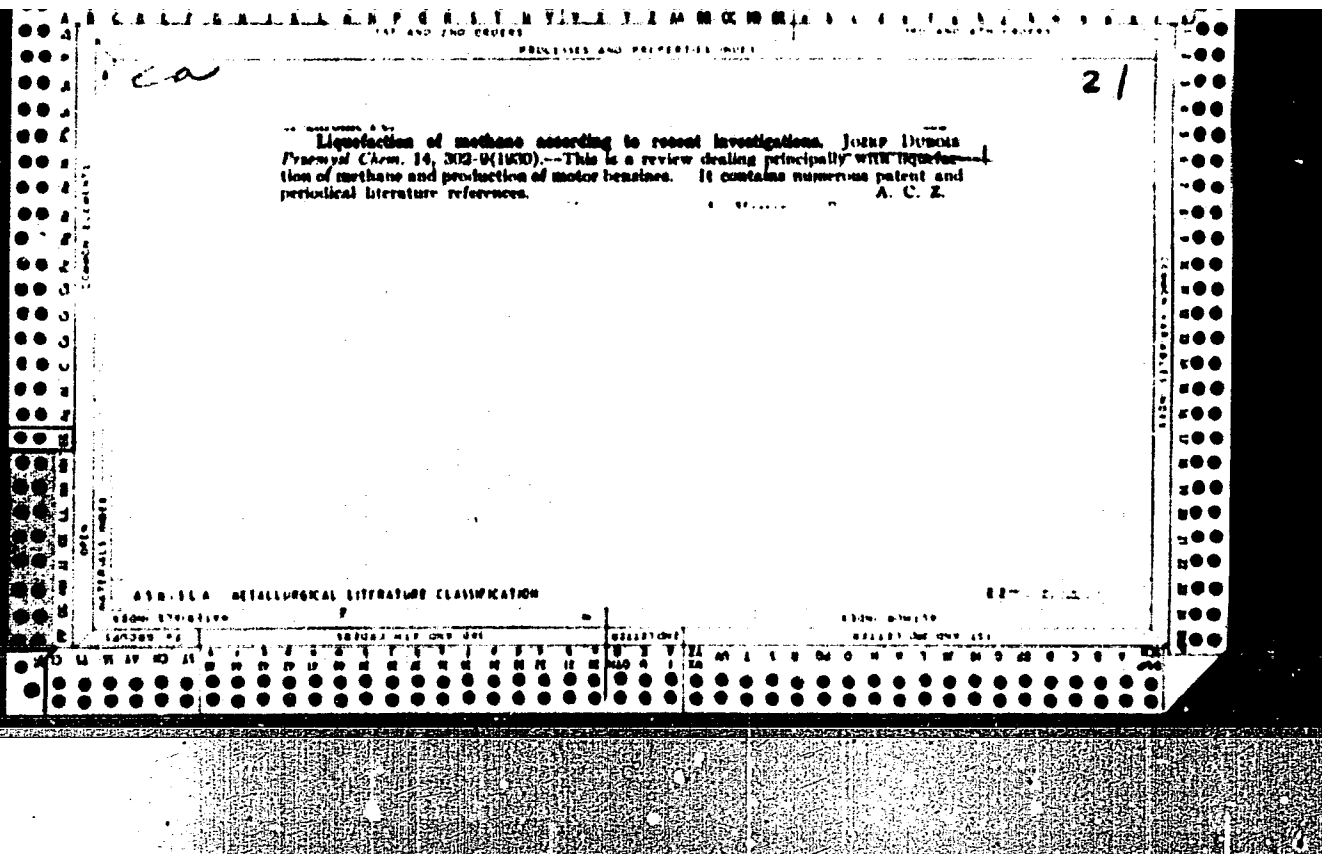
Prevention of rheumatic fever among workers of the knitted
goods factory in Stanislav. Terap.arkh. 33 no.2:22-24, F '61.

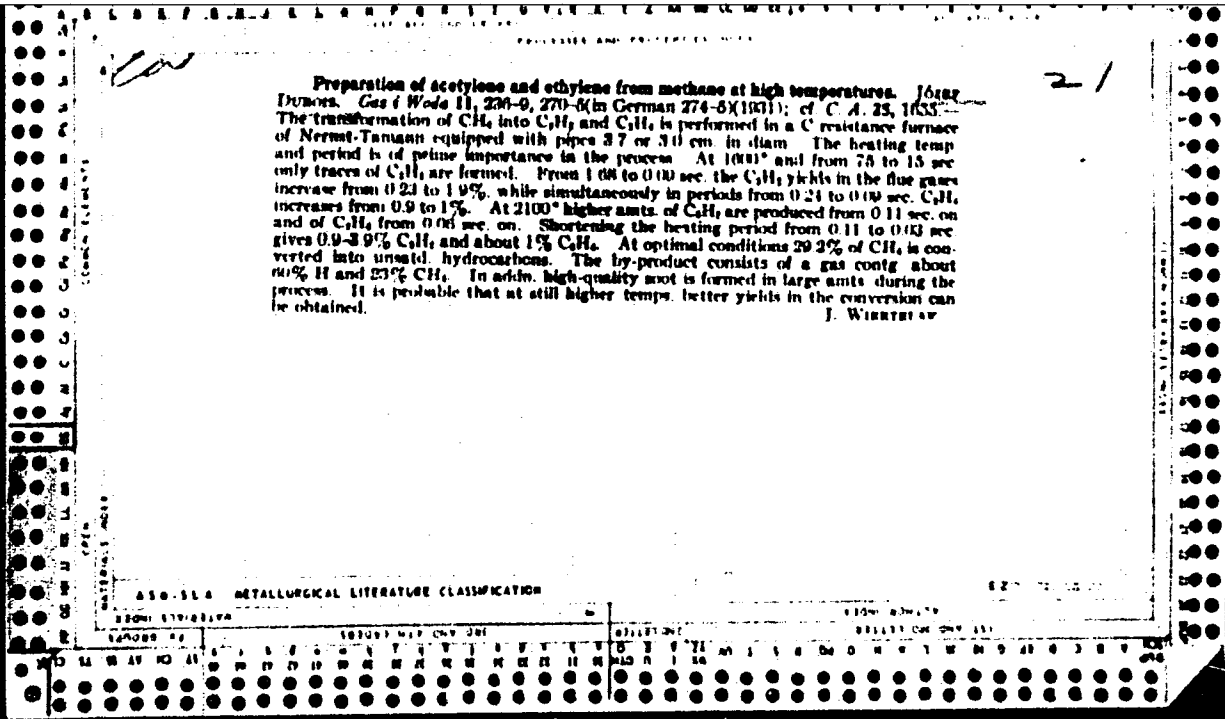
(MIRA 14:3)

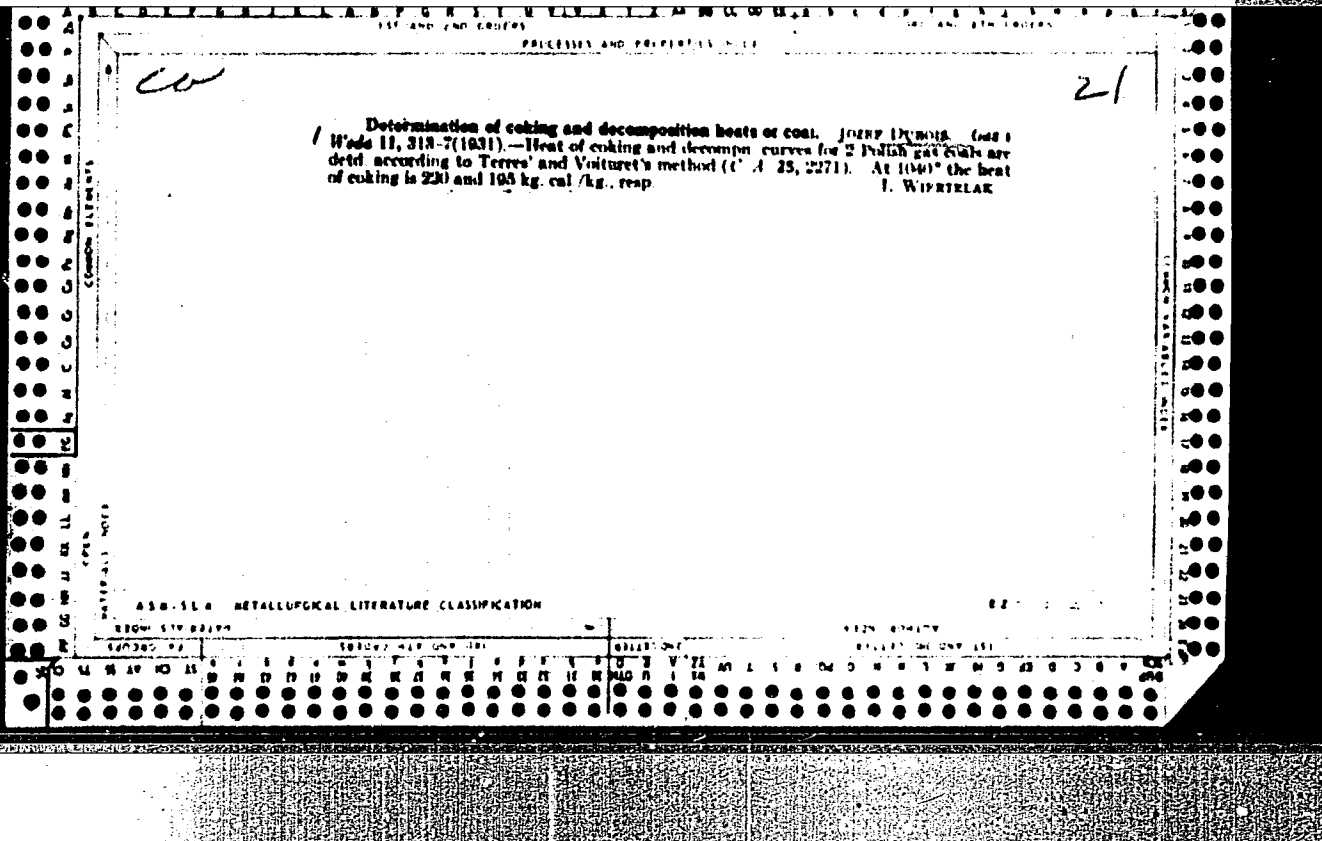
1. Iz Stanislavskogo meditsinskogo instituta.

(RHEUMATIC FEVER)

(STANISLAV—TEXTILE WORKERS—DISEASES AND HYGIENE)







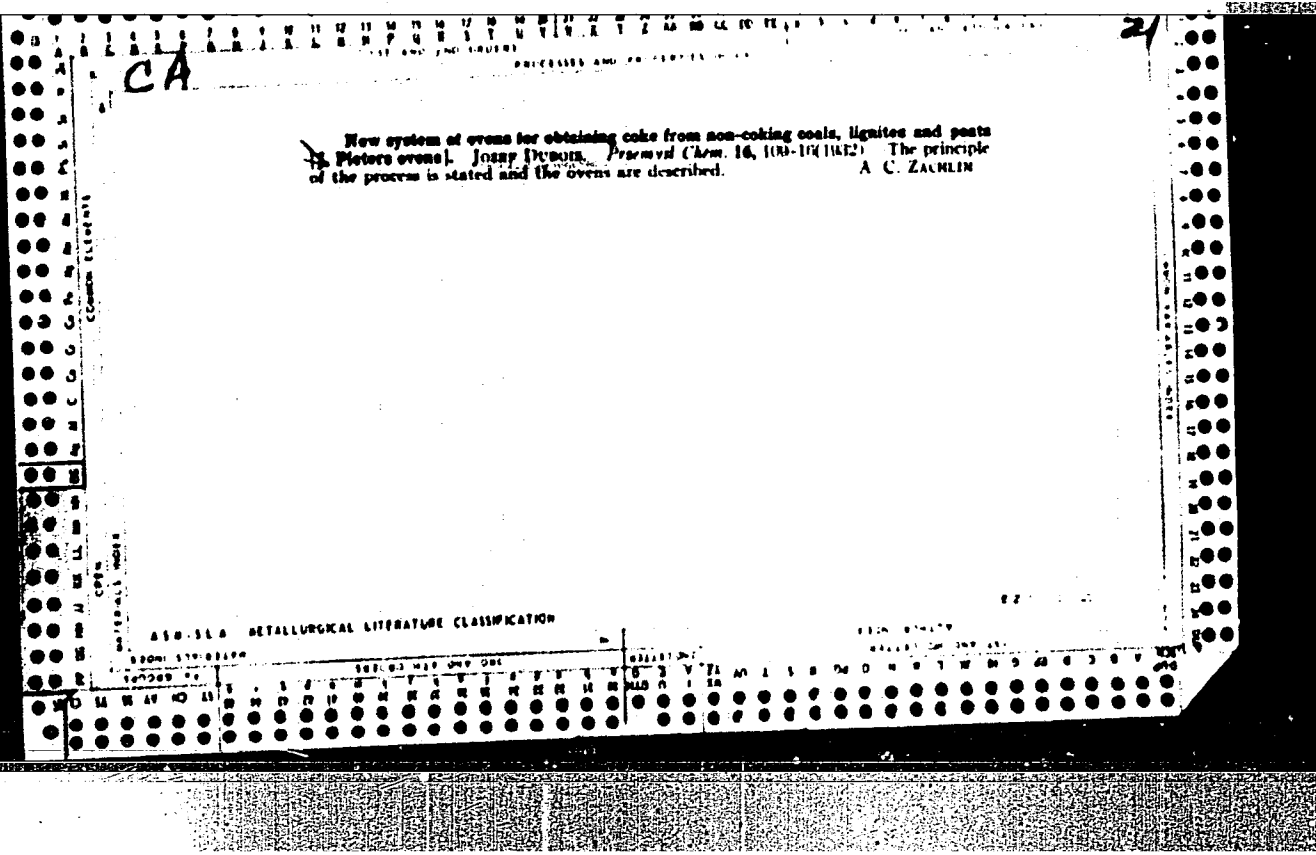
CA

7

Calorimetric method of determining ethylene, propylene and butylene. *J. Dupont, Przemysl Chem. 19, 390-4(1931)*—The app. necessary for this method is a gas calorimeter "Union," Bunte buret and Hempel's pipet for fuming (20% SO₃) H₂SO₄. Heat of combustion detns. are made on original gas, that from which all unsatd. hydrocarbons are removed by fuming H₂SO₄, and that from which the homologs of ethylene but not ethylene are removed by fuming H₂SO₄. By taking the heats of combustion from Swietoslowski's "Thermochemistry" for 1 l. ethylene as 14,818 cal., propylene 21,804 cal. and butylene 28,013 cal. 3 equations can be set up with 3 unknowns, from which by heat of combustion detns. the content of the 3 ethylene homologs can be calcd. The advantages of this method lie in rapidity and small vol. (0.01) of gas required. An example is given.

A. C. ZACHIN

ADVISED DEVELOPMENTAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

22

ca

Thermal transformation of ethylene and its part in aromatization of crude oil. Jozef Dubois. *Przemysl Chém.* 17, 188-97(1933).—Rate of change of C_6H_6 on heating for 6 min. at various temps. was: 800° 0.175 cc./min.; 600° 5.4; 700° 12.8; 1000° 16.4; 1250° 16.6 cc./min. The change of the greatest significance takes place at 700° during the first 1.5 min. Reduction of the partial pressure of C_6H_6 reduces markedly its rate of change as shown in N_2 and CH_4 . In H_2 at 700° diminished partial pressure does not affect the rate very much. Equil. consts. for the reaction $C_6H_6 + 3H_2 \rightleftharpoons 2C_3H_6$ at 1000° and 1250° and for $C_6H_6 + H_2 \rightleftharpoons C_6H_8$ at 700° were studied. During pyrolysis of C_6H_6 at 700° for 1.5 and 6 min. exclusively aromatic hydrocarbons are produced with an insignificant amt. of unsatd. hydrocarbons. In the tar collected C_6H_6 , toluene, naphthalene, xylene and anthracene were shown. These expts. show beyond a doubt that ethylene can be a source of aromatic hydrocarbons. Six possible steps by which ethylene decomp. are shown diagrammatically. A. C. Z.

METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

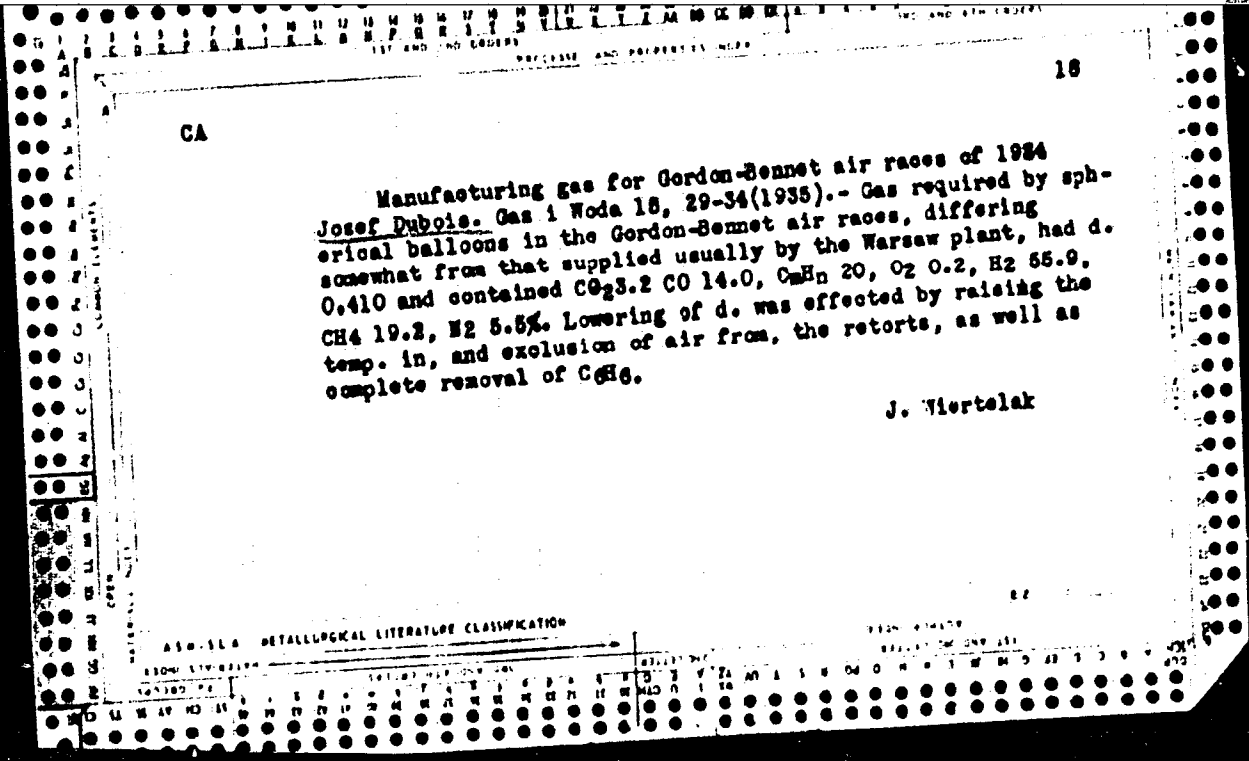
13C

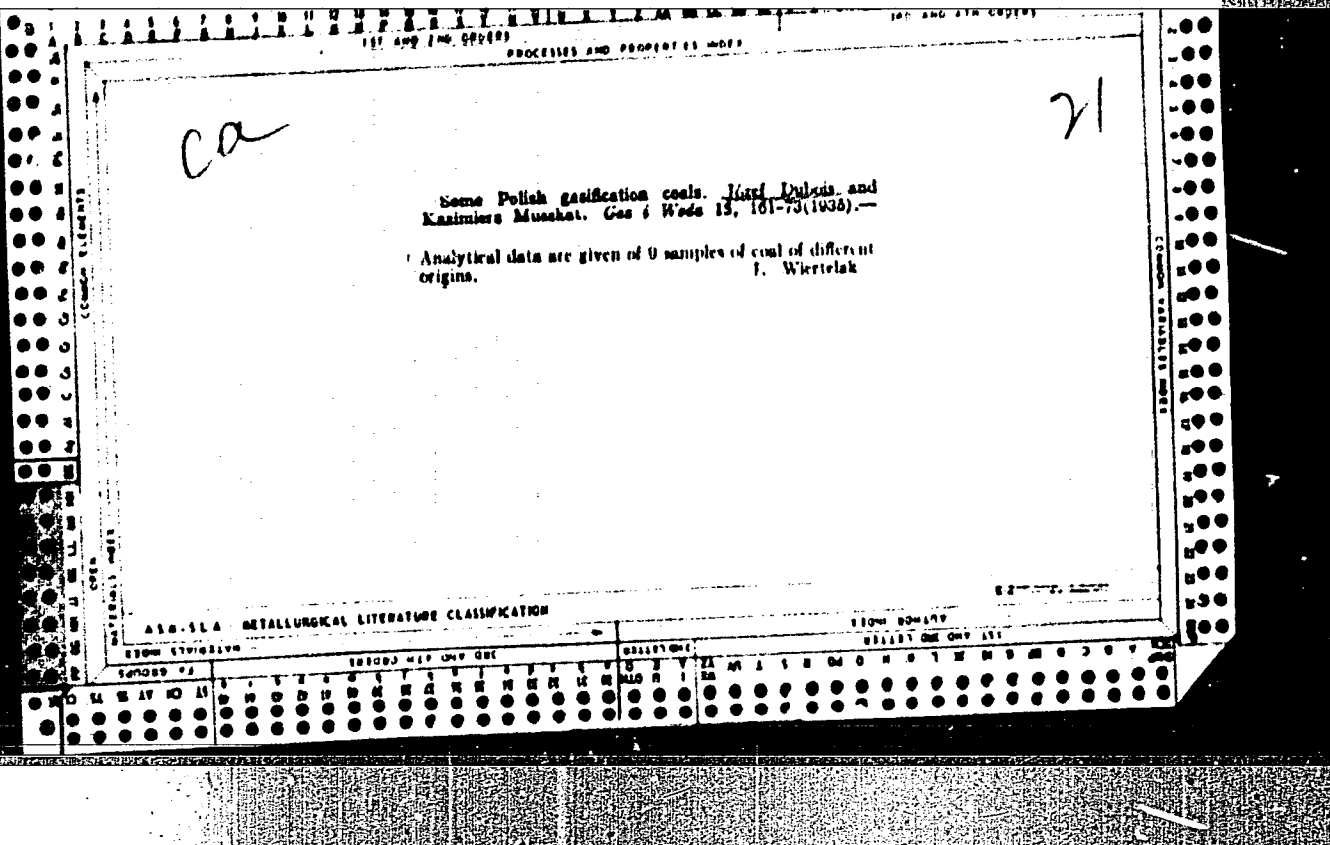
B - I - 2

Action of pyridine vapour on peat. J. Denon
(Praxymol Chem., 1933, 17, 223-225).—Peat (I) adsorbs
small quantities of CHCl_3 , Et_2O , EtOH , $\text{C}_2\text{H}_5\text{OCl}$,
 $\text{C}_2\text{H}_5\text{OH}$, EtOAc , and $\text{C}_2\text{H}_5\text{OAc}$ vapours, equilibrium
being attained within 24 hr. Considerable quantities of
 $\text{C}_2\text{H}_5\text{N}$ (II) vapour are absorbed by (I) (40% of its wt.
after 18 days), which in this respect behaves similarly
to coal. Absorption of (II) increases with the age of (I),
but appears not to be connected with the content of
bituminous substances. R. T.

METALLURGICAL LITERATURE CLASSIFICATION

REPORT NO.		SERIAL NO.		COLLECTION		PUBLICATION	





1st AND 2nd CASES
PROCESSES AND PROPERTIES INDEX

F

E

2323. IMPROVEMENT OF COKE IN THOREZ COKING PLANT. Dubois, J.,
Milaszewicz, O. and Kahane, S. (Przeglad Gorniczy (Min. Rev.),
1950, vol. 6, 339-346; abstr. in Chem. Abstr., 1950, vol. 44, 11065).

A mixture of 75% of high volatile coking coal and 18% of flotation
coal with the addition of 7% of coke breeze yielded an improved coke
with respect to lump size and mechanical strength, without any adverse
effect on abrasion properties. The breeze was passed through a
screen to remove particles larger than 2 m.m. size. With 5% or 6%
of coke breeze the results were decidedly inferior. The optimum
conditions in the Koppers type ovens were a temperature of 1000-1020°
and a coking time of about 26 hrs.

ASB 114 METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

137 AND 138 SERIES PROCESSES AND PROPERTIES INDEX

B

F

50. IGNITION TEMPERATURE FOR CERTAIN POLISH PEATS. Dubois, J. and Cieciewicz, E. (Przeglad Gorniczy (Min. Rev.), Oct. 1950, vol. 6, 525-528).

Three peat samples, two upland (A and B) and one lowland (C), were pulverized and divided into fractions with particles from under 0.1 m.m. to 3-2 m.m. across. Ignition temperatures were: (A) 202-235°C., (B) 194-227°C., (C) 189-206°C., and (B as milled) 278°C. (L).

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

ASB-51A	ASB-51B	ASB-51C	ASB-51D	ASB-51E	ASB-51F	ASB-51G	ASB-51H	ASB-51I	ASB-51J	ASB-51K	ASB-51L	ASB-51M	ASB-51N	ASB-51O	ASB-51P	ASB-51Q	ASB-51R	ASB-51S	ASB-51T	ASB-51U	ASB-51V	ASB-51W	ASB-51X	ASB-51Y	ASB-51Z

CR

Laboratory determination of spontaneous combustion of peats. Josef Jhalam and Edward Czekowski. *Forestal* (January 7, 1961 (TR51)). The tendency of machine-cut peat to spontaneous ignition when stacked in storage was determined by the Justorff method by measuring the spontaneous combustion temp. of samples from 3 different kinds of peat. They were 135, 130, and 48". The third sample (decompr. factor of 40-50% and about 11% ash content) would thus normally be considered unsafe for storage. On testing the samples by heating at the rate of 1° per min. in a stream of O₂ in a Fischer retort, spontaneous combustion occurred at 139, 130, and 69°, resp. An exothermic reaction takes place between O₂ and the peat. The temp. in the interior is as much as 8° higher than that of the retort itself, prior to combustion. After exposure to O₂ for 20 hrs., the samples show a spontaneous combustion temp. of 128°. Thus, evaluation by the Justorff method may sometimes be misleading.

Bruno C. Metzner

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000013

Polish Technical Abstracts
No. 4, 1953
Other Branches of National
Economy, Miscellaneous

2532/

622.631-552

* Dubois J. Peat Technology

„Technologia torfu”. Stalingrad, 1953, PWT, 189, 221 pp., 94 figs., 69 tabs.

The problem of peat evaluation and utilization. Basic properties and principles of classification of the raw material. Methods of exploiting peat lands. Laboratory methods of fixing the energy of peat by means of dehumidizing the water and rich content. Characteristics of combustion temperature, rate of decomposition and spontaneous ignition in samples. Peat as a fuel; briquetting peat; various methods of thermal processing of peat to obtain producer gas, water gas and mixed gas; peat as a fuel for motor vehicles; peat as a source of ammonia, methanol, formic aldehyde, acetic acid and wax. Peat as a material for the production of insulating boards for the building industry, peat bedding, horticultural pulverized peat and peat flower pots.

S/035/62/000/003/017/053
A001/A101

3,5150

AUTHOR: Dubois, J.

TITLE: On the study of crepuscular arcs

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 3, 1962, 64,
abstract 3A469 ("Byul. astron. in-tov Chekhoslovakii", 1961, v. 12,
no. 3, 99-105, French, Russian summary)

TEXT: The author describes the results of visual, photographic and spectrographic observations of brightness and color of crepuscular arcs; observations were carried out at the Pic-du-Midi Observatory during August-September 1950. Altitude above the horizon and azimuth distribution of crepuscular arcs on the side of the Sun and of purple light on the opposite side were studied as functions of the immersion angle of the Sun. A change in color in crepuscular arcs is determined by superposition of effects of molecular scattering and selective absorption by ozone, water vapors and oxygen. Corresponding absorption bands were obtained on spectra of twilight in the band $\lambda\lambda$ 4000 - 8000. The author presents the curves expressing relations between the altitude above the horizon of crepuscular arcs of various colors and the immersion angle of the

Card 1/2

On the study of crepuscular arcs

S/035/62/000/003/017/053
A001/A101

Sun, on which breaks at $Z_{\odot} = -8^{\circ}$ and -10.5° connected with the properties of the atmosphere proper are noted. The presence of thin cirri, aerosols, etc. changes brightness distribution in crepuscular arcs, as an example, in the red portion the brightness may raise by approximately 10 times.

L. Fishkova

✓B

[Abstracter's note: Complete translation]

Card 2/2

DUBOIS, J.

"Small high-temperature vacuum furnace" by G.Arthur. Reviewed
by J.Dubois. Pomlary 8 no.1:48 Ja '62.

DUBOIS, J.

"Microwave measurement of the radiation temperature of plasmas"
by G.Bekefi, S.Brown. Reviewed by J.Dubois. Pomiary 8 no.1:48
Ja '62.

DUBOIS, J.

"High-precision laboratory furnaces." Reviewed by J.Dubois.
Pomiary 8 no.1:48 Ja '62.

DUBOIS, J.

"Improvement of temperature control system in electric furnaces"
by M. Bogojawlenskij. Reviewed by J.Dubois. Pomiary 8 no.1:48
Ja '62.

DUBOK, A. P.

"Geological Structure of the Aralichev Anthracite Deposits in the Kuzbass." Cand Geol-Min Sci, Tomsk U, Tomsk, 1954. (RZhGeol, Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556 24 Jun 55

14-57-4-4321
Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 4,
p 41 (USSR)

AUTHOR: Dubok, A. P.

TITLE: Recent Developments in Methods of Locating a
Displaced Limb (Novoye v metodike poiskov smesh-
chennogo kryla)

PERIODICAL: Tr. Tomskogo un-ta, ser. geol. 1954, Vol 132,
pp 365-366

ABSTRACT: Bibliographic entry
Card 1/1

STANISLAV, J.

Sardine fishing in Southwest Africa. p. 8. (GLASNIK, Vol. 6, no. 1/2, 1954,
Belgrade, Yugoslavia)

OO: Monthly List of East European Accessions, (EEL), L, Vol. 4, No. 1
Jan. 1955 Intl.

89511

S/044/60/000/008/013/035
C111/C222

/6.3400

AUTHORS: Bolotin, A.S., and Dubolar', V.K.

TITLE: The application of the method of the small parameter for equations of higher order

PERIODICAL: Referativnyy zhurnal. Matematika, no.8, 1960, 86-87
abstract no.8870. Uch. zap. Kishenevsk. un-t, 1959, 39,
253-260

TEXT: The author investigates the question on the critical movable points of the integrals of the equations

$$w^{(n)} = R(w^{(n-1)}, \dots, w', w, z), \quad (1)$$

where R is a rational function of $w, w', w'', \dots, w^{(n-2)}, w^{(n-1)}$ and analytic in z . By generalizing the method of Painlevé which is based on the theorem on the series development of integrals in terms of powers of the small parameter, the author obtains conditions for the absence of critical movable points for this equation. These conditions read as follows:

- 1) R must be a polynomial with respect to $w^{(n-1)}$, where its degree is not higher than two, i.e. (1) must have the form:

Card 1/2

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C111/C222

The application of the method...

$$w^{(n)} = A_0(w^{(n-2)}, \dots, w, z)(w^{(n-1)})^2 +$$

$$A_1(w^{(n-2)}, \dots, w, z)w^{(n-1)} + A_2(w^{(n-2)}, \dots, w, z);$$

2) the coefficient A_0 has only simple poles with respect to $w^{(n-2)}$ and

has no entire part, i.e. $A_0(w^{(n-2)}) = \sum \frac{1 - \frac{1}{N_k}}{w^{(n-2)} - c_k}$, where N_k are natural numbers.

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

Card 2/2

MIRONOV, S.A., doktor tekhn. nauk, prof.; KRIVITSKIY, M.Ya., kand. tekhn. nauk;
SCHASTNYIY, A.N., inzh.; pri uchastii: DUBOLAZOV, N.M., inzh.; SHCHEDRIN,
A.Ya., inzh.; IFTINKA, G.A. red. izd-va; BOROVNEV, N.K., tekhn. red.

[Instructions for manufacturing large air-entrained concrete articles]
Ukazaniia po izgotovleniiu krupnorazmernykh gazobetonnykh izdelii.
Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit. materialam,
1960. 30 p. (MIRA 14:6)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobeta, Perovo. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Mironov). 3. Laboratoriya yacheistykh, legkikh i uskorenogo tverdeniya betonov Nauchno-issledovatel'skogo instituta betona i zhelezobeta Akademii stroitel'stva i arkhitektury SSSR (for Schastnyy, Krivitskiy) (Continued on next card)

MIRONOV, S.A., --- (continued) Card 2.

4. Laboratoriya stroitel'nykh materialov Zapadno-Sibirskogo filiala Akademii stroitel'stva i arkhitektury SSSR (for Dubolazov). 5. Tsentral'naya nauchno-issledovatel'skaya laboratoriya Novosibirskogo sovnarkhoza (for Shchedrin)
(Lightweight concrete)

BEREZHKOVSAYA, M.I., kand.ekonom.nauk; DUBOLAZOVA, L.B., inzh.

Some facts about the manufacture of glass in the U.S.A. Stek. i ker.
20 no.5:42-43 My '63. (MIRA 16:7)

1. Institut stekla. (United States--Glass manufacture)

DUBONOS, M.F.

BERBER, Ibsif Hoyekhovich; DUBONOS, Nikolay Faddeyevich; KORZHENEVSKIY, I.I.,
kand.ekon.nauk; KHIMENKO, I.S.; LYUDSKOV, B.P., red.; SUDAK, D.M.,
tekhn.red.

[Planning economic activities of commercial organizations]
Planirovanie khoziaistvennoi delatel'nosti torgovoi organizatsii.
Moskva, Gos. izd-vo torgovoi lit-ry, 1957. 148 p. (MIRA 11:4)
(Russia--Commerce)

DUBONOSOV, A.

~~International gold market following the Second World War. Den. i kred.~~
15 no.3:50-59 Mr '57. (MLRA 10:5)
. (Gold)

DUBONOSOV, T.S., nauchnyy sotrudnik

Cultivation of leached Chernozems in central and southern regions
of the Kuban. Zemledelie 8 no.7:59-65 JI '60. (MIRA 13:9)

1. Otdel zemledliya i kormoproizvodstva Krasnodarskogo nauchno-
issledovatel'skogo instituta sel'skogo khozyaystva.
(Kuban-- Chernozem soils)

DUBONOSOV, T. S., Cand Agr Sci -- "Comparative study of
~~different~~ ^{various} systems of soil cultivation in the zone of alka-
line chernozems of Krasnodarskiy Kray." Krasnodar, 1961.
(Min of Agr Sci RSFSR. Kuban Agr Inst) (KL, 8-61, 253)

- 263 -

DUBONOSOV, T.S., kand. vel. skokhoz. nauk; PANARIN, I.V., mladshiy nauchnyy
sotrudnik

Virus diseases of grain crops in Krasnodar Territory. Zashch. rast.
ot vred. i bol. 8 no.12:19-22 D '63. (MIRA 17:3)

1. Nauchno-issledovatel'skiy institut sel'skogo khozyaystva Tsentral'noy chernozemnoy polosy imeni V.V.Dokuchayeva, Krasnodar.

LUK'YANENKO, P., akademik; DRAGALIN, P.; SIMAKIN, A.; DUBONOSOV, T.S.

Fertilize the entire area under winter wheat. Zemledelie
26 no.1:23-26 Ja'64. (MIRA 17:5)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni Lenina (for Luk'yanenko).
2. Krasnodarskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva (for Dragalin).
3. Kubanskiy sel'skokhozyaystvennyy institut (for Simakin).
4. Krasnodarskoye krayevoye upravleniye proizvodstva i zagotovok sel'skokhozyaystvennykh produktov (for Dubonosov).

DUBONOSOV, T.S.; YERKAYEV, A.D.

Introduce advanced technology in agriculture. Zemledelie
26 no.5:12-20 My '64. (MIRA 17:6)

1. Zamestitel' nachal'nika Krasnodarskogo krayevogo upravleniya
proizvodstva i zagotovok sel'skokhozyaystvennykh produktov (for
Dubonosov). 2. Glavnyy tekhnolog Kubanskogo nauchno-issle-
dovatel'skogo instituta ispytaniya traktorov i sel'skokhozyaystvennykh
mashin (for Yerkayev).

KUZIN, A.M.; DUBONOSOV, T.S.; BEREZINA, N.M.; RIZA-ZADE, R.R.; TARKOV, S.H.

Possibilities for utilization of ionizing radiations in hydroponics. Radiobiologiya 4 no.3:457-459 '64.

(MIRA 17:11)

1. Institut biologicheskoy fiziki AN SSSR, Moskva i Krasnodarskiy nauchno-issledovatel'skiy sel'skokhozyaystvennyy institut, gidroponicheskoye khozyaystvo.

DUBONOSOV, T.S., kand.sel'skokhoz.nauk; PANARIN, I.V., mladshiy nauchnyy
sotrudnik

Trace elements used simultaneously with compound herbicides.
Zashch.rast. ot vred. i bol. 9 no.11:23 '64.

(MIRA 18:2)

1. Krasnodarskiy nauchno-issledovatel'skiy sel'skokhozyaystvennyy
institut.

Dubonskiy, B. G.
USSR/Nuclear Physics - Nuclear Engineering and Power

C-8

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 588
Author : Gromova, Z.I., Dubonskiy, B.G., Kamayev, A.V., Orlov, V.V.
Inst : -
Title : Measurement of Resonant Absorption of Neutrons in the
Reactor of the Atomic Electric Station.
Orig Pub : Atomn. energiya, 1957, 2, No 5, 411-415

Abstract : The authors propose and discuss methods for an experimental determination of the resonant capture probability of neutrons $1 - \varphi$ for heterogeneous reactors. The authors consider the corrections that take into account the leakage of the neutrons, the fission of U and the capture of the neutrons in the resonant region. For the reactor of the atomic electric station, working with enriched uranium (5% U^{235}), these corrections turned out to be substantial. An experimental determination of φ is based on the measurement of the ratio R/T, where R is the number of

Card 1/3

USSR/Nuclear Physics - Nuclear Engineering and Power

C-8

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 588

by a cylindrical counter. As a result of the activity measurement in the open specimen, and in the irradiated cadmium-clad specimen, quantities proportional to $R + T$ and R respectively were obtained. Averaging over ten series of measurements yielded $R/T - 1.67 \pm 0.03$.

Using the above result, three methods were used to calculate the value of ϕ , the resonant escape probability. The average value obtained was $\phi = 0.900 \pm 0.015$.

The experimental results are in satisfactory agreement with the calculation carried out in accordance with formulas that take into account the complex geometry of the uranium element.

Card 3/3

DUBORGEY, I. M.

"Some Pathological Shifts in the Organism of a Patient Suffering From Lobar Pneumonia." Cand Med Sci, Ukrainian Inst for the Advanced Training of Physicians, Khar'kov, 1953. (RZhBiol, No 2, Sep 54)

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

SO: Sum. No. 481, 5 May 55

TULUPNIKOV, A.I.. Prinsipalni uchastiye: BAKULIN, I.I.; VIKHLYAYEV, A.P.;
DUBOROV, N.T.; KABANOV, P.M.; PIS'MENNYI, I.G.; POPOV, N.I.;
SOLOV'YEV, A.V., prof., doktor ekon.nauk, retsenzent; MAKAROV, N.P.,
prof., doktor ekon.nauk, retsenzent; GORYACHKIN, M.I., kand.nauk,
retsenzent; OKHAPKIN, K.A., kand.nauk, retsenzent; RUSAKOV, G.K.,
kand.nauk, retsenzent; MURATOV, D.G., kand.nauk, retsenzent; CHERE-
MUSHKIN, S.D., kand.nauk, retsenzent; TOLOV, V.V., retsenzent.

[Economic basis for agricultural administration] Voprosy ekonomicheskogo obosnovaniia sistem vedeniia sel'skogo khoziaistva. Moskva, 1960. 275 p. (MIRA 13:6)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut ekonomiki sel'skogo khozyaystva. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut ekonomiki sel'skogo khozyaystva (for Bakulin, Vikhlyayev, Duborov, Kabanov, Pis'mennyi, Popov.) (Farm management)

LUBOS, R.

The multiplication of bacteriophage in vivo and its protective effect against
on experingtal. J. of exper. Med. Septemb. I. Vol 73. No 3, Pp 64-68, 1943.

GLIKIN, M.I.; IVANOVA, O.S.; DUBOSARSKAYA, M.M.; MAYSTROVAYA, L.A.
(Sverdlovsk)

Immediate and remote results of X-irradiation of the tonsils
and pharyngeal ring in chronic tonsillitis. Klin.med. 38
no.11:127-128 N '60. (MIRA 13:12)

1. Iz rentgenologicheskogo otdela (rukovoditel' - kand.med.nauk
M.I.Glikin) Sverdlovskogo instituta Kurortologii i fizioterapii
Ministerstva zdravookhraneniya RSFSR (dir. - kand.med.nauk
N.V. Orlov).

(TONSILS—DISEASES) (X RAYS—THERAPEUTIC USE)

BYZHKOV, Ivan Ivanovich; DUBOSARSKAYA, Mariya Teodorovna [Dubosars'ka, M.T.]; GORELIK, L.Ye. [Gorelik, L.E.], doktor ekonom.nauk, otv.red.; VLIKOKHAT'KO, O.T., red.isd-va; MIL'CHEN, I.D., tekhn.red.

[Economic efficiency of new techniques in the Ukrainian textile industry] Ekonomichna efektyvnist' novoi tekhniki v tekstyl'niy promyslovosti URSS. Kyiv, Vyd-ve Akad.nauk URSS, 1959. 74 p. (MIRA 12:6)
(Ukraine--Textile industry)

BLUGSHIN, B.A. (Saratov)

Concept of the coefficient. Mat. v shkole no. 6:61-62 K-2 '60.
(:IMP 14:2)
(Mathematics--Study and teaching)

1ST AND 2ND COVERS PROCESSED AND PROPERTIES INDEX

SA A 55

5424. Particular Case of Motion in Resisting Medium with Variable (Attracting) Mass. G. D'Almeida. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R. & C.* pp. 811-814, 1936. In English.—The equations of motion of a particle, attracted to a spherical body whose mass varies with the time, and moving through an atmosphere whose density varies with the time and whose resistance is proportional to its density and to the velocity of the particle, are solved by quadratures in a special case. This special case corresponds, under certain conditions, to that of a star losing mass by radiation. G. C. McV.

*Atmospheric
Mechanics*

ASS. I.L.A. METALLURGICAL LITERATURE CLASSIFICATION

REG. DIVISION SERIALS DIVISION

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DUBOSHIN, G. N.

"Mechanics in the USSR for 30 years," The Stability of Motion, Symposium,
Moscow/Leningrad, 1950, pp. 73-98.

DUBOŠIN, G. N.

Mathematical Reviews
Vol. 14 No. 8
Sept. 1968
Analysis

8-10-54
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✓ Dubošin, G. N. Some remarks on theorems of the second method of A. M. Lyapunov. Vestnik Moskov. Univ. Ser. Fiz.-Mat. Estest. Nauk 1950, no. 10, 27-31 (1950). (Russian)
New proof of Lyapunov's first theorem on stability (sharpened to asymptotic stability). [See Lyapunov, Problème général de la stabilité du mouvement, Princeton, 1947; these Rev. 9, 34]. S. Lefschetz (Princeton, N. J.).

DUBOSHIN, G. N.

"Computation of Higher Derivatives of Compound Functions," Trudy GAISH, 15,
No. 2, 1950

MLRA, Apr 52

DUBOSHIN, G. N.

DUBOSHIN, G. N.

Osnovy teorii ustoychivosti dvizheniya. Dopushcheno v kachestve ucheb. posobiya dlia fizikomatematicheskikh fakul'tetov gos. universitetov. Moskva, Izd-vo Moskovskogo universiteta, 1952. 317 p.

Bibliography: p. 7.

Title tr.: Fundamentals of the theory of stability of motion.

Approved as a textbook for faculties of physics and mathematics in state universities.

QA871.D8

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

DUBOSHIN, G. N.

PHASE II TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 41 - II

BOOK

Call No.: QA871.D8

Author: DUBOSHIN, G. N.

Full Title: FUNDAMENTALS OF THE THEORY OF THE STABILITY OF MOTION

Transliterated Title: Osnovy teorii ustoychivosti dvizheniya

PUBLISHING DATA

Originating Agency: None

Publishing House: Moscow University Press

Date: 1952 No. pp.: 318 No. of copies: 5,000

Editorial Staff

Editor-in-Chief: Prof. V. V. Golubev, Corr. Mem., Acad. of Sci. USSR

Others: Prof. V. V. Golubev; Prof. N. G. Chetayev, Corr. Mem.,
Acad. of Sci., USSR; and Prof. G. N. Sveshnikov

TEXT DATA

Coverage: The book is a compilation from lectures given by the author at the University of Moscow. It is based on the classic work, A. M. Lyapunov's General Problem of the Stability of Motion (1892). Lyapunov's mathematical treatment of the subject which demands extensive mathematical knowledge from the reader, has been as far as possible simplified without mutilation in order to make it accessible to those interested. This book is a methodical textbook introducing the reader into the theory of the stability of motion. It is, therefore, an introduction to Lyapunov's work, and does not present original work.

1/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II

The first chapter covers in detail definitions of the fundamental principles advanced by Lyapunov, with simple illustrative examples and the technique of computing basic differential equations of motion named by Lyapunov "equations of perturbed motion". The second chapter discusses Lyapunov's method of integration of the above differential equations with the application of infinite series. The chapter is important for the numerous cases of the application of Lyapunov's method to practical problems. The third chapter is the most important, and is dedicated to the "second method" of Lyapunov which permits the most efficient solution of many applied problems of the theory of the stability of motion. In the fourth chapter, cases in which the equations of the first approximation are linear with constant coefficients are discussed. The fifth chapter includes two basic special cases of stability of motion with the results of Lyapunov's investigations. The sixth chapter covers Lyapunov's periodical solutions, which are closely connected with the stability theory. They are interesting in many practical applications. The seventh and last chapter contains discussions of certain cases of the stability problem of unsteady motion, when the equations of first approximation are linear differential equations with variable coefficients.

2/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II

Preface (by Prof. V. V. Golubev): The present development of theoretical mechanics with its broad technical applications and its adaptation in celestial mechanics and physics has given rise to an immense number of particular problems connected with the theory of the stability of motion. For this reason, scientific workers in all aspects of science and technology associated with theoretical mechanics need to study the fundamentals of this theory.

A. M. Lyapunov's outstanding book in this field General Problem of the Stability of Motion (1892) has not lost its value even today as a source of profound scientific ideas and methods. But its study presents great difficulty, because of the deep mathematical knowledge on which it is based. It seems that Duboshin has satisfactorily solved this question by applying his great pedagogical experience to the creation of a substantial introduction to Lyapunov's work. In addition, he showed much originality in stating the general theories and their application and results.

Introduction (by the author): In addition to the coverage stated above, the author says that his book satisfies the interest in the theory of the stability of motion which increases yearly, because of increasing demands for its application to practical problems. It contains in all

3/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II

possible detail that part of Lyapunov's fundamental work with which the systematic study of this theory must start. For this reason, the most difficult and complicated parts of Lyapunov's work and the numerous additions made in later years by Soviet scientists are not included.

In his fourth chapter discussion of the unperturbed motion, when the equations of the first approximation are linear, the author introduced the definition of that motion as "steady in the first approximation", because Lyapunov made the remark that many theorems proved by him for a steady motion remain correct for cases when the terms of higher orders have coefficients depending on time.

The problem discussed in the seventh chapter, although exceptionally important for many present applications, could not be fully explained by the author, because in the fundamental work of Lyapunov this problem is analyzed in detail only for periodical motions. The general problem of stability of irregular motion, based on the method of characteristic numbers, had not been brought by Lyapunov to a state which could be applied to the solution of practical problems.

In presenting Lyapunov's theory, the author tried to preserve his

4/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II

style and manner of exposition, and used all his terminology. The author carefully avoided foreign words, even substituting Russian terms for those which have taken root in contemporary Soviet literature. In conclusion, the author mentions the following Russian works which he used:

- Lyapunov, A. M., Obshchaya zadacha ob ustoychivosti dvizheniya (General Problem of the Stability of Motion), 2nd ed., ONTI, 1950
- Smirnov, V. I., Kurs visshey matematiki (Course of Higher Mathematics), Gostekhizdat, 1949
- Suslov, G. K., Teoreticheskaya mekhanika (Theoretical Mechanics), Gostekhizdat, 1944
- Stepanov, V. V., Kurs differentsialnykh uravneniy (Course of Differential Equations), Gostekhizdat, 1950
- Petrovskiy, I. G., Lektsii po teorii obyknovennykh differentsial'nykh uravneniy (Lectures on the Theory of Normal Differential Equations), Gostekhizdat, 1947
- Golubev, V. V., Lektsii po analiticheskoy teorii differentsial'nykh uravneniy (Lectures on the Analytical Theory of Differential Equations), Gostekhizdat, 1950

5/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II

Nemytskiy, V. V. and Stepanov, V. V., Kachestvennaya teoriya differentsial'nykh uravneniy (Qualitative Theory of Differential Equations), Gostekhizdat, 1949

Steklov, V. A., Osnovy teorii integrirvaniya obyknovennykh differentsial'nykh uravneniy (Fundamentals of the Theory of Integration of Normal Differential Equations), Gosizdat, 1927

Chetayev, N. G., Ustoychivost' dvizheniya (Stability of Motion), Gostekhizdat, 1946

Malkin, I. G., Metody Lyapunova i Puankare v teorii nelineynykh kolebaniy (Methods of Lyapunov and Poincaré in the Theory of Non-Linear Vibrations), Gostekhizdat, 1949

Kurosh, A. G., Kurs vysshey algebry (Course of Higher Algebra), Gostekhizdat, 1946

Sushkevich, A. K., Osnovy vysshey algebry (Fundamentals of Higher Algebra), ONTI, 1937

Subbotin, M. F., Kurs nebesnoy mekhaniki (Course of Celestial Mechanics), Vol. 2, ONTI, 1937

Nemytskiy, V., Sludskaya, M., Cherkasov, A., Kurs matematicheskogo analiza (Course of Mathematical Analysis), Gostekhizdat, 1944

Abstract: The coverage, introduction and table of contents cover fully the subject matter of the book and a separate abstract seems unnecessary. No corresponding English texts were used for comparison.

6/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II

Evaluation: The outstanding feature of the book is the clearness and fullness of its definitions. The author does not assume that the reader is versed in the essentials and needs no explanations. The wording of the book follows Lyapunov's logical thinking, but develops his philosophical and often laconic treatment of the subject. The author is right in declaring his book as being an introduction to Lyapunov's classic. There is essentially nothing new in the book as compared with Lyapunov's work, however the author makes some interesting practical applications of the general theory of the stability of motion and in some cases elaborates Lyapunov's ideas.

Purpose: The book is a textbook, based on the lectures delivered by the author in Moscow State University to students of the 4th and 5th year majoring in Celestial Mechanics. It is dedicated to the training of scientific workers in connection with study and research in questions related to Theoretical Mechanics.

Table of Contents	PAGES
Preface (by Prof. V. V. Golubev)	3
Introduction (by the author)	5
Ch. 1 Fundamental Conceptions and Definitions	8-44
Differential equations of motion of a holonomic mechanical system. Statement of the problem of stability. Basic defini-	

7/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II
PAGES

tions. Differential equations of a perturbed motion. Problem of the stability of the zero solution of differential equations of a disturbed motion. Some explanatory examples. Additional remarks.

Ch. 2 Integration of Differential Equations of a Disturbed Motion

45-77

Theorem of Cauchy. Reinforcing functions. Theorem of A. M. Lyapunov. Integration of homogeneous linear equations.

Ch. 3 Fundamentals of Lyapunov's Second Method

78-136

Preliminary remarks and definitions. Lyapunov's four theorems: 1) fundamental theorem on the stability of an unperturbed motion, 2) theorem on asymptotic stability of an unperturbed motion, 3) fundamental theorem on instability of an unperturbed motion, 4) second theorem on instability of an unperturbed motion. Stability by first approximation.

Ch. 4 Study of the Problem of Stability of Motion which becomes steady in the First Approximation

137-173

Problem of stability in a zero solution (root) of a system of linear equations with constant coefficients. Homogeneous functions, satisfying certain linear partial differential equations. Lyapunov's theorem on the stability of motion,

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II
PAGES

which becomes steady in the first approximation. Study of special cases.

Ch. 5 Fundamental Special Cases of the Problem of Stability of Steady Motion 174-236

The first special case. Differential equations of a perturbed motion. Study of the stability of an unperturbed motion in the first special case. Formulation of the rule. Examples. The second special case. Differential equations of a perturbed motion. Transposing differential equations of a perturbed motion to a certain characteristic type. Study of the stability of an unperturbed motion in the second special case. Formulation of the rule. Examples.

Ch. 6 Periodic Solutions of Differential Equations of a Perturbed Motion 237-281

Periodic solutions of the problem of stability in the second special case. Certain cases of determination of a holomorphic integral. Lyapunov's general theorem on periodic solutions of differential equation of a perturbed motion.

Ch. 7 Certain Cases of the Problem of Stability of an Unsteady Motion 282-316

9/10

Osnovy teorii ustoychivosti dvizheniya

AID 41 - II
PAGES

General remarks. Simple examples. Special cases of the problem of stability of an unsteady motion. Problem of stability of a periodic unperturbed motion. Some propositions connected with the characteristic equation.

Bibliography: In introduction (see above)

Facilities: Not given

Available: Library of Congress.

10/10

DUBOSHIN, G. N.

USSR/Mathematics - Celestial Mechanics Feb 52

"A Particular Problem of Stability in the Case of Continuously Acting Perturbations," G. N. Duboshin, Chair of Celestial Mechanics

"Vest Moskov U, Ser Fiz, Mat, 1 Vest Nauk" No 1, pp 35-40

Continuation of previous article by author (ibid. 12 (1951)). He discusses approximation of previous solution. Problem is particular case of stability by A. M. Lyapunov ("General Problem of Stability of Motion". 1950) and may be solved as demonstrated by

242796

author (Trudy GAISH, (Works of State Astron Inst Imeni Siternberg) 14 (1940) and I. G. Mal'kin (Priklad Matemat i Mekhan 8 (1944)). Received 18 Jul 51.

242796

DUBOSHIN, G.M.

Stability in A.M. Liapounov's concept of Kepler motion. Trudy GAISH 21:
19-24 '52. (MLRA 7:6)
(Orbits)

DUBOSHIN, G. N.

State Astronomical Inst. im. Shternberg

"Differential Equations of Motion of Planets' Satellites," Astron. Zhur., Vol. 30,
No 3, pp 315-331, 1953

States that the aim of this work is the study of the problem of setting up the differential eqs of motion of the satellites of any major planet of the solar system. This study was motivated by the fact that in all such works, use is made of the same differential eqs of planetocentric motion without any indications as to the simplifying assumptions used in establishing these eqs and as to the accuracy of determination of the desired functions. Derives anew the involved lunar-theory system of six eqs in the geocentric coordinates of the moon and the heliocentric coordinates of the earth.

257T71

"Concerning One Theorem of Birkhoff," by G. A. Merman, Byul
In-ta. teor. astron. AN SSSR, Vol 6, No 4, 1956, pp 232-239
(from Referativnyy Zhurnal -- Mekhanika, No 1, Jan 57, Ab-
stract No 26, by G. N. Duboshin)

"It is pointed out that several of Birkhoff's theorems relating to the question of the qualitative theory of the motion of three bodies, considered in the book Dynamic Systems, should be made more exact and explained more clearly. A similar argument is given on two of Birkhoff's theorems relating to the problem of capture, and proved is one of Birkhoff's theorems of interest in a qualitative theory of the problem."

SUM. 1345

3(1),16(1)

AUTHOR: Duboshin, G.N.

SOV/33-35-2-12/21

TITLE: The Differential Equations of Translational-Rotational Motion of Mutually Attracted Rigid Bodies (O differentsial'nykh uravneniyakh postupatel'no-vrashchatel'nogo dvizheniya vzaimno prityagivayushchikhsya tverdykh tel)

PERIODICAL: Astronomicheskiy zhurnal, 1958, Vol 35, Nr 2, pp 265-276 (USSR)

ABSTRACT: In the sections 1 and 2 the author establishes the differential equations of translational-rotational motion of a system of absolute rigid bodies the particles of which are mutually attracted according to the law of Newton, in an absolute system of coordinates. In the third section it is shown that there are the same classical integrals as in the corresponding case of a system of material points. In the further sections the author shows that the system can be separated into equations of translational motion of the centers of mass and those of rotational motion of the bodies around the centers of mass only if each of the bodies is a sphere with a spherical distribution of density. In all other cases only an approximative separation

Card 1/2

The Differential Equations of Translational-Rotational SOV/33-35-2-12/21
Motion of Mutually Attracted Rigid Bodies

is possible and the author discusses some special cases and
and a transformation of coordinates to movable axes.
There are 2 Soviet references.

ASSOCIATION: Gosudarstvennyy astronomicheskiy institut imeni P.K.Shternberga
(State Astronomical Institute imeni P.K.Shternberg)

SUBMITTED: June 24, 1957

Card 2/2

16(1), 3(1)

S/055/59/000/04/005/026

AUTHOR: Duboshin, G.N.

TITLE: On the Mutual Potential of a Sphere and a Body of Rotation

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, Nr 4, pp 55-60 (USSR)

ABSTRACT: The author considers the potential between a sphere the density of which is an arbitrary function of the distance from the center, and a body of rotation lying outside of the sphere the density of which is an integrable function of the distance from the axis of rotation and the distance from a plane perpendicular to it. For the considered potential the author gives a development which is suitable for applications in several problems of celestial mechanics. In the limit cases where the body of rotation is a line or a disk, a corresponding development was already obtained in [Ref 2 and 3].

There are 3 references, 2 of which are Soviet, and 1 French.

ASSOCIATION: Kafedra nebesnoy mekhaniki i gravimetrii (Chair of Celestial Mechanics and Gravimetry)

SUBMITTED: April 17, 1959

Card 1/1

3(1),29(2)

AUTHOR:

Duboshin, G.N.

SOV/33-36-1-21/31

TITLE:

One Particular Case of the General Problem of the Translational Rotational Motion of Two Bodies.

PERIODICAL:

Astronomicheskii zhurnal, 1959, Vol 36, Nr 1, pp 153-163 (USSR)

ABSTRACT:

In continuation of his earlier paper [Ref 1] on the differential equations of relative translational-rotational motion of a system of two mutually attracting solid bodies the author considers the special case when one of these bodies is a homogeneous sphere and the other is a homogeneous material segment. Under the assumption that the length of the rod is small in comparison to the distance from its center to the center of the sphere the author gives a method for finding series developments of the general solution. The author's results can be applied to the investigation of the motion of a cosmic rocket or a cylindrical sputnik. There is 1 Soviet reference.

ASSOCIATION: Gosudarstvennyy astronomicheskii institut imeni P.K.Shternberga
(State Astronomical Institute imeni P.K.Shternberg)

SUBMITTED: February 5, 1958

Card 1/1

22083

S/035/61/000/003/004/048
A001/A101

3,1420

AUTHOR: Duboshin, G.N.

TITLE: On perturbations in the motion of the Saturnian satellites

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 3, 1961, 12, abstract 3A147 ("Tr. Gos. astron. in-ta im. P.K. Shternberga", 1960, v. 28, 121 - 148)

TEXT: The author analyzes the motion of each of the nine satellites of Saturn under the effect of attraction by the planet proper, all other satellites, the Sun and Jupiter. He presents equations of Saturnian-central motion of the system of Saturnian satellites in cylindrical coordinates, which are a system of joint 27 second-order differential equations. The author seeks the solution of these equations close to that in which the motion of each satellite is a circular Keplerian motion, i.e., motion without allowance for attraction by the Sun, Jupiter and other satellites. The solution sought for can be presented in the form of series which are absolutely convergent during a certain time interval; this permits calculation of Saturnian-central coordinates with a sufficient accuracy

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Card 1/2

22083

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A001/A101

On perturbations in the motion ...

degree. It is shown that formulae for independent determination of perturbations of any order have the same appearance and differ only by free terms which are time functions becoming successively more and more complicated in their structure. The author considers mainly mutual perturbations of the Saturnian satellites, presents calculation formulae for determining first-order perturbations in coordinates of every satellites, and presents the results of estimating the perturbations. There are 10 references.

Ye. Polyakhova

[Abstracter's note: Complete translation]

Card 2/2

DUBOSHIN, G.M.

Disturbances in the motion of Iapetus and Phoebe. Trudy GAISH 28:
161-170 '60. (MIRA 13:10)
(Satellites--Saturn)

DUBOSHIN, G.H.

Some partial solutions of the problem of an advancing-rotary motion of two bodies. Soob.GAISH no.108:3-18 '60. (MIRA 13:10)

1. Kafedra nebesnoy mekhaniki i gravimetrii Moskovskogo gosudarstvennogo universiteta.

(Problem of two bodies)

22860

3,2200

S/044/60/000/012/004/014
C 111/ C 333

AUTHOR: Duboshin, G. N.

TITLE: On rotary motion of artificial celestial bodies

PERIODICAL: Referativnyy zhurnal, Matematika, no. 12, 1960, 85-86, abstract 13882. (Byul. In-ta teor. astron. AN SSSR, 1960, 7, Nr. 7, 511-520)

TEXT: The author considers the motion of two absolutely rigid bodies, the elementary particles of which mutually attract themselves according to Newton's law. The central solid body is a body of rotation revolving uniformly around its axis. The artificial body is also a body of rotation. There are two different kinds of artificial bodies, an elongated and a contracted one with corresponding central main moments of inertia. The equations of the translation and rotary motion are set up under consideration of the first power of the contraction of the central body. The equations of the translation motion do not depend on the rotary motion and are separately integrated. The integration of the equations of the translation motion is a classical problem which is considered to be solved and well-known. The equations of the rotary motion cannot be integrated with

Card 1/3

On rotary motion of artificial...

22860
S/044/60/000/012/004/014
O 111/ C 333

the aid of known functions. Therefore particular solutions are sought. As it is well-known these equations of the translation motion admit a circular solution which lies in the equatorial plane of the central body. In this case the equations of the rotary motion admit the following particular solutions which are denoted as regular by the author: 1) Motion of the type "arrow". In this case the axis of revolution of the artificial body remains vertical to the radius of the orbit of the center of inertia of this body and forms a constant angle with the direction of speed of this center of inertia. 2) Motion of the type "spoke". In this case the axis of revolution of the artificial body remains vertical to the direction of speed of the center of inertia of this body and forms a constant angle with the local vector of the center of inertia of this body. 3) Motion of the type "swimmer". The axis of revolution of the artificial body remains vertical to the plane of the orbit of the center of inertia of the body. The angular velocity of the autorotation of the body remains constant in all three cases. A stability examination in first approximation is carried out for every regular motion. It is stated that in most cases the elongated and the contracted body show an

Card 2/3

On rotary motion of artificial ...

22860

S/044/60/000/012/004/014
C 111/ C 333

inverse behavior concerning the stability of regular motions. For sufficiently small contraction the equations of the translation motion admit solutions which are little different from Kepler circular solutions. Under certain exactly formulated assumptions the author obtains for the precession and nutation angles the first terms of the expansions relative to the contraction. Here it appears that the nutation angle suffers no perturbations by the contraction of the central body, while the precession angle shows secular perturbations.

[Abstractor's note: Complete translation.]

Card 3/3

24335

S/O35/51/000/007/001/021
A001/A101

3.2200

AUTHOR: Duboshin, G.N.

TITLE: On integrating differential equations of rotating motion of artificial celestial bodies

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 7, 1961, 3, abstract 2446 ("Dokl. In-ta teoret. astron. AN SSSR", 1960, v. 7, no. 10, 1961, p. 804)

TEXT: The author considers the problem of integrating differential equations describing rotating motion of an artificial celestial body which is a body of revolution and possesses dynamic symmetry relative to the rotation axis. It is assumed that the coordinates of the inertial center of the artificial celestial body are some known functions of time. Euler angles, determining the orientation of the artificial celestial body, are sought for in the form of a series in powers of $\bar{\sigma} = 1 - \bar{\sigma}^2$, where \bar{A} and \bar{B} are inertia moments of the body. The method for deriving the asymptotic approximation has been developed. First-order terms in the

Card 1/3

24335

in integrating differential equations...

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A001/4101

expressions of Euler's gamma function Γ have been stated for the case when
the integral number of the order of the function is a positive integer. The
function Γ is defined by the integral

[Apostrophe of the gamma function...]

DUBOSHIN, Georgiy Nikolayevich; MARKUZON, I.A., red.; PETRUCHUK, Z.M.,
tekhn. red.

[Gravitation theory] Teoriia pritiazheniia. Moskva, Gos. izd-vo
fiziko-matem. lit-ry, 1961. 287 p. (MIRA 14:11)
(Gravitation)

DUBOSHIN, G. N.

"General review of work in celestial mechanics at Moscow State University."

report to be submitted for the 13th Intl. Astronautical Congress, IAF,
Varna, Bulgaria, 23-29 Sep 1962.

SUBBOTIN, M.F., *otv. red.*; GREENIKOV, Ye.A., *kand. fiz.-matem. nauk, red.*; DEMIN, V.G., *kand. fiz.-matem. nauk, red.*; DUBOSHIN, G.N., *doktor fiz.-matem. nauk, zam. otv. red.*; OKHOTSIMSKIY, D.Ye., *red.*; YAROV-YAROVY, M.S., *kand. viz.-matem. nauk, red.*; NIKOLAYEVA, L.K., *red. izd-va*; SHEVCHENKO, G.N., *tekhn. red.*

[Problems of the motion of artificial celestial bodies] Problemy dvizheniia iskusstvennykh nebesnykh tel; doklady. Moskva, Izd-vo Akad. nauk SSSR, 1963. 294 p. (MIRA 16:2)

1. Konferentsiya po obshchim i prikladnym voprosam teoreticheskoy astronomii, Moscow, 1961. 2. Chlen-korrespondent Akademii nauk SSSR (for Subbotin, Okhotsimskiy).

(Artificial satellites) (Mechanics, Celestial)
(Spaceships)

DUBOSHIN, G.N., MOISEYEV, N.N., GROZDOVSKIY, G.L.

Utilization of Sputniks for meteorological and television purposes.

Reports of the following Soviet Scientists were presented at the
XIIIth International Congress on Astronautics in Varna, Bulgaria.

P: Tekhnika Molodeshi, #1, 1963, pp. 24-25

DUBOSHIN, G. N., AND OKHOTBIMSKIY, D. Ye.,

"Some problems of astrodynamics and celestial mechanics"

report to be submitted for the 14th Congress Intl. Astronautics Federation,
Paris, France, 25 Sep-1 Oct 1963

DUBOSHIN, Georgiy Nikolayevich; REZNIKOVSKIY, P.T., red.; PLAKSHE, L.Yu.,
tekh. red.

[Celestial mechanics; basic problems and methods] Nebesnaia
mekhanika; osnovnye zadachi i metody. Moskva, Fizmatgiz, 1963.
586 p. (MIRA 16:5)

(Mechanics, Celestial)

DUBOSHIN, G.N.; GABOVSIMSKIY, D.Ye.

Some problems in astrodynamics and celestial mechanics. Kosm.
Issl. 1 no.2:195-202 2-0 '63. (MIRA 17:4)

DUBOSHIN, G.N.; OKHOTSIMSKY, D.Ye. (Moscow):

"Some problems of astrodynamics."

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

DUBOSHIN, Georgiy Nikolayevich; REZNIKOVSKIY, P.T., red.

[Celestial mechanics; analytical and qualitative methods]
Nebesnaia mekhanika; analiticheskie i kachestvennye metody.
Moskva, Izd-vo "Nauka," 1964. 560 p. (MIRA 17:6)

DUBOSHIN, G.N.; OKHOTSIMSKI, D.E. [Okhotsimskiy, D.Ye.]

Some problems of astrodynamics and celestial mechanics. Pt. 1.
Aviats kosmonavt 6 no. 7:6-7 '64.

DUBOSHIN, G.N.; OKHOTSIMSKI, D. [Okhotimskiy, D.Ye.]

Some problems of astrodynamics and celestial mechanics. Pt.2.
Aviats kosmonavt 6 no.8:10-11, 15 '64.

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AUTHOR: Duboshin, G. N.; Okhotsimskiy, D. Ye.

60
BFI

ORG: None

TITLE: Some problems of astrodynamics

SOURCE: Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike. 2d, Moscow, 1964. Analiticheskaya mekhanika. Ustoychivost' dvizheniya. Nebesnaya ballistika (Analytical mechanics. Stability of motion. Celestial ballistics); trudy s"yezda, no. 1, Moscow, Izd-vo Nauka, 1965, 208-213

TOPIC TAGS: satellite orientation, orbit correction, space flight

ABSTRACT: The authors review the history of astrodynamics or the mechanics of space flight and discuss some of the problems involved in planning orbits and studying the motion of uncontrolled satellites near the center of mass. In the discussion of orbit calculation consideration is given to the problem of economizing on power in launching and orbiting as well as to those of accuracy in attaining the desired orbit and selection of the method for orbital corrections. The remarks on motion of uncontrolled space vehicles near the center of mass include discussions of rotational motion and libration. It is pointed out that the gravitational field of the earth may be used for stabilized orientation of artificial satellites.

KH

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AUTHOR: Duboshin, G. N.; Okhotsimskiy, D. Ye.

TITLE: Astrodynamic problems

SOURCE: Ref. zh. Issledovaniye kosmicheskogo prostranstva, Abs. 6.62.163

REF SOURCE: Tr. II Vses. s"yezda po teor. i prikl. mekhan., 1964. Obz. dokl. Vyp. I. M., Nauka, 1965, 208-213

TOPIC TAGS: astronautics, spacecraft, spacecraft entry, spacecraft attitude, orbit calculation, orbit perturbation, aerodynamic force, magnetic coercive force, weightlessness

ABSTRACT: Questions concerned with calculations for orbit and movement of a cosmic vehicle relative to the center of mass are discussed. The significance of the selection of the section for the insertion of the cosmic vehicle, investigation of sensitivity of orbit to error, to perturbations and corrective actions is noted in the first question. The combination of simplified methodology during the first stage of orbit planning, and of more precision in subsequent ones, is suggested. The second question notes the importance of investigating the effects of gravitational, aerodynamic, magnetic, and other forces, on vehicle movement. The use of the results of angular motion calculations, along with sensitive element readings, is suggested

Card 1/2

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in order to determine the angular motion of the vehicle. The importance of investigating the movement of a body with liquid-filled spaces under conditions of weightlessness is noted. V. Ponomarev. [Translation of abstract]

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Card 2/2

GONCHAROV, Yu.G., inshener; ~~DUBOSHIN, L.N., inshener.~~

Installation of the traction network of electric railroad transportation in the Bakal mines. Gor.shur. no.6:40-44 Jo '56.(MLRA 9:8)

1. Bakal'skoye rudoupravleniye (for Goncharov);
2. GPI Tyashprom-elektroyekt (for Duboshin)
(Bakal--Electric railroads)

DUBOSHIN, V.N.

Anglo-russkii aviatsionnyi slovar'. [English-Russian aeronautical dictionary].
Sostavili; V.N. Duboshin, V.S. Kotov i B. I. Shifrin. Moskva, Gostekhizdat Ogis
RFSFR, 1941. 316 p. "Ispol'zovannaia literatura": p. 8-10. DLC: TL509,D8

Anglo-russkii aviatsionnyi slovar'. [English Russian aeronautical dictionary].
2. perer. i dop. V.P. Butusova i M. N. Chauskogo. Moskva, Gos. izd-vo
tekhniko-teoret. lit-ry, 1950. 456 p. Added t.p. in English.
MH DLC: TL509, M3

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress
Reference Department, Washington, 1952, Unclassified.

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Anglo-russkii aviatsionnyi slovar'. 2. perer. i dop. izd.
Sostavili B. N. Duboshin i V. S. Kotov, pod red. V. P. Butusova i
M. N. Chausskogo. Moskva, Gostekhizdat, 1950. 456 p.
Title tr.: English-Russian aeronautical dictionary.

TL509.D8 1950

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

BURYAKOV, Yu.F.; DREMICHEV, I.D.; DDEOSHIN, V.N.; LOPATIN, R.N.;
MAKSIMOV, M.I.; TUROV, A.A.; VASIL'YEV, A.A., red.;
NIKOLAYEV, N.I., red.; KUROCHKIN, V.D., red.; BALASHOVA,
M.V., red.-leksikograf; KUZ'MIN, I.F., tekhn. red.

[Anglo-Russian aeronautical dictionary] Anglo-russkii avi-
atsionnyi slovar'. Moskva, Voen.izd-vo MOva obor. SSSR,
1963. 544 p. (MIRA 16:8)
(English language--Dictionaries--Russian)
(Aeronautics--Dictionaries)

DUBOSHINA, Z.N.; PROSKURNINA, N.F.

Alkaloids from *Oxytropis muricata*. Zhur.ob.khim. 33 no.6:
2071-2073 Ja '63. (MIRA 16:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevti-
cheskiy institut imeni S.Ordzhonikidze.
(Alkaloids) (Oxytropis)

DUBOSSARSKAYA, M.T.

Correct evaluation of the productive capacity. Tekst.prom.
20 no.1:78-79 Ja '60. (MIRA 13:5)

1. Nachal'nik planovo-proizvodstvennogo otdela Kiyevskoy
khlopkopryadil'noy fabriki.
(Textile industry)

L 10575-66 EWT(1)/EWT(m)/ENP(e) IJP(c) WH

ACC NR: AP5025401

SOURCE CODE: UR/0181/65/007/010/3120/3123

AUTHOR: Dubossarskaya, V. Ya.

ORG: none

H2
B

TITLE: Investigation of the law of approach to saturation in polycrystalline specimens of yttrium garnet

SOURCE: Fizika tverdogo tela, v. 7, no. 10, 1965, 3120-3123

TOPIC TAGS: garnet, yttrium compound, magnetic anisotropy, polycrystal, magnetic saturation

ABSTRACT: Data are given on differential susceptibility as a function of magnetic field intensity in two specimens of yttrium garnet^{21,44,55}. The specimens were sintered at different temperatures, and consequently had densities of 93 and 89% of the x-ray density. It was found that χH^3 is a linear function of $H^{3/2}$ for fields up to 1000 oersteds at a frequency of 425 cps. The law for approach to saturation is

$$I = I_s - \frac{2A}{H^{1/2}} - \frac{B}{2H^2} = I_s \left(1 - \frac{a}{H^{1/2}} - \frac{b}{H^2} \right)$$

Card 1/2

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where

$$a = \frac{2A}{I_s}, \quad b = \frac{B}{2I_s}.$$

The values of the constants appearing in this formula are tabulated. A comparison of experimental and theoretical data shows good agreement. The microstructure of the specimen, which is a function of the method used in preparation, may have a considerable effect on the results when studying the law of approach to saturation in porous polycrystalline materials with a low constant of anisotropy. Orig. art. has: 2 figures, 1 table, 3 formulas.

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