

VVEDENSKAYA, N.A.; IODKO, V.K.; KONDORSKAYA, N.V.; LANDYREVA, N.S.;  
MISHARINA, L.A.; SEMENOV, P.G.; TABULEVICH, V.N.

Bulletin of strong earthquakes in the U.S.S.R. in 1960.  
Trudy Inst. fiz. Zem. 28 Vop. inzh. seism. no.8:61-76 '63.  
(MIRA 16:11)

TABULEVICH, V.N.; SAVARENSKY, E.F. [Savarenskiy, Ye.F.]

The correlation between microseisms, meteorological situation and sea roughness. Studia geophys 6 no.4:331-339 '62.

1. Institute of Physics of the Earth, Academy of Sciences of the U.S.S.R., Moscow G-242, Gruzinskaja 10.

ACCESSION NR: AP4000421

S/0049/63/000/011/1699/1700

AUTHOR: Tabulevich, V. N.

TITLE: Estimation of the focal depth of the 15 October 1960 and 12 February 1961 earthquakes in the Caspian Sea region

SOURCE: AN SSSR. Izvestiya. Seriya geofizicheskaya, no. 11, 1963, 1699-1700

TOPIC TAGS: seismology, earthquake, earthquake foci, earthquake foci determination, focal depth, Caspian earthquake isoseism, earthquake intensity, macroseismic exploration, earthquake intensity depth relationship

ABSTRACT: The author has used the formula

$$I_1 - I_2 = S \lg \frac{\sqrt{\Delta_1^2 + h^2}}{\sqrt{\Delta_2^2 + h^2}}$$

to determine focal depth to the indicated quakes ( $I_1$  and  $I_2$  are intensities at  $\Delta_1$  and  $\Delta_2$ ,  $h$  is the focal depth, and  $S$  is a constant). The distances were measured from epicenter to isoseismal lines. Since these isoseismal lines were

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ACCESSION NR: APL000421

elliptical for the two indicated earthquakes, two computations were made for each: one along the long axis, the other at right angles. For the earthquake of 15 October 1960, the depths (for long and short traverses) proved to be 2.3 and 2 km respectively. The error, however, might be on the order of 1 km. For the earthquake of 12 February 1961, the depth values were computed as  $1 \pm 0.5$  km and  $1 \pm 0.7$  km, for the long and short traverses respectively. It is seen that the foci are shallow. Calculations by other methods gave approximately the same results. Orig. art. has: 2 figures and 6 formulas.

ASSOCIATION: "Akademiya nauk SSSR Institut fiziki Zemli (Academy of Sciences SSSR, Institute of Physics of the Earth)

SUBMITTED: 16Feb63

DATE ACQ: 05Dec63

ENCL: 00

SUB CODE: AS

NO REF SOV: 004

OTHER: 000

Card 2/2

S/2619/64/000/033/0124/0143

ACCESSION NR: AT4045972

AUTHOR: Vvedenskaya, N. A.; Dzhanuzakov, K. D.; Iodko, V. K.; Kondorskaya, N. V.; Landyuzova, N. S.; Misharina, L. A.; Mnatsakanyan, D. M.; Ragimov, Sh. S.; Semenov, P. G.; Tabillevich, V. N.

TITLE: Byulleten' sil'nykh zemletryaseniy SSSR (Bulletin of the Strong Earthquakes of the SSSR) for 1961

SOURCE: AN SSSR. Institut fiziki Zemli. Trudy\*, no. 33(200), 1964. Voprosy\* inzhenernoy seysmologii (Problems of earthquake engineering), no. 9, 124-143

TOPIC TAGS: geophysics, seismology, earthquake, earthquake focus, earthquake epicenter, earthquake intensity, seismicity

ABSTRACT: The "Bulletin of the Strong Earthquakes of the SSSR" is a periodic annual summary which simultaneously summarizes all instrumental and noninstrumental data on the strong earthquakes ( $M \geq 4$ ) occurring in the Soviet Union. The Bulletin contains a catalogue of earthquakes (reproduced in the paper for 1961 in the form of a lengthy table), a map of the epicenters and a brief description of the strongest earthquakes. The catalogue includes instrumental data on the coordinates of the epicenter, focal depth, magnitude  $M$  and the time of occurrence of earthquakes, taken from the Byulleten' seti seismicheskikh stantsiy SSSR (Bulletin of the Network of Seismic Stations of the SSSR) and noninstrumental data -- information on

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ACCESSION NR: AT4045972

the sensed intensity of earthquakes, received from reports submitted by local inhabitants or from investigations devoted to descriptions of the strongest earthquakes. With the exception of the Kurile-Kamchatka zone, in the catalogue there are data for all earthquakes with  $M \geq 4$ , and all earthquakes for which  $M$  was not determined but which were recorded by seismic stations of the general type as having epicentral distances greater than 1,000 km. Data for the Kurile-Kamchatka zone include all earthquakes with  $M \geq 5$ . A map is presented in the paper which shows the location of the epicenters of the earthquakes listed in the catalogue; numbers on the map correspond to the numerical listing in the catalogue. In 1961 there were 272 earthquakes in the SSSR with  $M \geq 4$ . Their distribution by regions and intensities is tabulated in the original text. Fig. 1 of the Enclosure shows the value  $\sum E^{1/2}$  for individual seismically active zones of the SSSR for 1961, computed using the formula  $\lg E = 11.8 + 1.5 M$ . Fig. 2 of the Enclosure shows the change with time of the deviation from the mean annual value  $\sum E^{1/2}$  for four seismically active zones. Along the y-axis of the graph there is plotted the value  $\sum E^{1/2} - (\sum E^{1/2})_{\text{mean}}$  and along the x-axis - time (1946-1961). The value  $(E^{1/2})_{\text{mean}}$  for each zone is indicated at the right of the graph. The authors go on to describe briefly, but individually, the most important seismic phenomena occurring in various regions of the SSSR in 1961. The annual publication of the Bulletin was begun in 1956 and until 1961 it was printed in the Trudy\* Instituta Fiziki Zemli AN SSSR in the collection of articles Voprosy inzhenernoy seysmologii

Zemli AN SSSR  
Card 2/b

ACCESSION NR: AT4045972

(Problems of Earthquake Engineering). Beginning with the Bulletin for 1962, the report will be published in annual numbers of Zemletryaseniya SSSR, which will be a separate publication. Orig. art. has: 11 figures and 1 table.

ASSOCIATION: Institut Fiziki Zemli AN SSSR (Institute of Physics of the Earth, AN SSSR)

SUBMITTED: 00

ENCL: 03

SUB CODE: ES

NO REF SOV: 004

OTHER: 000

Card 3/3

SYOROKHOD, G.R.; TABULCO, M.I.

Sorption of some weak electrolytes and nonelectrolytes on ion exchangers.  
Koll. zhur. 25 no.6:674-678 N-D '63. (MIRA 17:1)

I. belorusskiy universitet imeni Lenina, Minsk.



ACCESSION NR: AP4011312

S/0069/64/026/001/0100/0104

AUTHORS: Skorokhod, O.R.; Tabulo, M.L.; Dorofeyeva, L.I.

TITLE: Effect of thermal treatment on the sorption capacity of sulfonated butadiene-styrene cation exchanger (SBS)

SOURCE: Kolloidny\*y zhurnal, v. 26, no. 1, 1964, 100-104

TOPIC TAGS: sulfonated butadienestyrene cation exchanger, cation exchanger SBS, sorption capacity, thermal treatment

ABSTRACT: A study of the effect of thermal treatment of the sulfonated cation exchanger SBS on its ability to sorb phenol, trinitrophenol, and the o-, m-, and p-isomers of nitrobenzoic and aminobenzoic acids showed that preliminary heating of the SBS in an electric tube furnace in an atmosphere of superheated steam at 200C lowers the sorption of aminobenzoic acids per unit weight of exchanger, and augments its capacity to sorb phenol, trinitrophenol and the nitrobenzoic acids. The sorption of aminobenzoic acids

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ACCESSION NR: AP4011312

parallels the changes in concentration of the sulfo groups in the ionite. A possible sorption mechanism of the above compounds on ion exchangers is discussed. Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Belorusskiy universitet im. V.I. Lenina, Minsk  
(Belorussian University)

SUBMITTED: 12Jul62

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: MA

NO REF SOV: 007

OTHER: 002

Card 2/2

ZILAUTSIS, A. [Zilaucis, A.], PARUN, V.

Method of precise expression of local deformation functions.  
Vestis Latv ak SSR no.8:55-60 '62.

1. Institut stroitel'stva i arkhitektury AN Latvyskoy SSR.

KAZMENKO, I.A.; TABUNCHENKO, V.N.

Determination of the zinc oxide content of titanium dioxide of  
the rutile type. Lakokras.mat. i ikh prim. no.1:72 '60.  
(MIRA 14:4)

(Zinc oxide)

(Titanium oxide)

L 17474-63 EPF(c)/EWP(j)/EWT(m)/BDS AFFTC/ASD Pc-4/Pr-4 RM/WW  
ACCESSION NR: AP3004772 S/0191/63/000/008/0024/0026

AUTHORS: Grinevich, K. P.; Nessonova, G. D.; Sokol, V. A.; Tabunchenko, V. N.;  
Bromberg, A. V.

TITLE: Polyorganosiloxane emulsions 69

SOURCE: Plasticheskiye massy\*, no. 8, 1963, 24-26

TOPIC TAGS: F-9 emulsion, polyorganosiloxane emulsion, phenylethoxysilane,  
casein, agar-agar

ABSTRACT: The dispersion characteristics of F-9 emulsions (resin obtained by hydrolysis of mixtures of phenylethoxysilanes) were studied with an electron microscope. Distribution curves of aqueous F-9 emulsions stabilized with casein, agar-agar, sulfanol, and polyvinyl alcohol (PVA) were drawn. PVA (60% toluene solution of F-9, aqueous PVA) gives almost a monodispersion with 60% of the drops being less than 0.5 micron, and all of them less than 1 micron. Each application-waterproofing, adhesion, or material strengthening - requires special treatment for maintaining emulsion stability. With casein, resistance to separation from fabric is increased if Ca, Ba or NH<sub>4</sub> salts are used with PVA; thermal treatment is suitable for binding fabrics. Orig. art. has: 7 figures, 2 formulas.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 28Aug63

ENCL: 00

SUB CODE: MA

NO REF SOV: 000

OTHER: 000

Card 1/1

L 11609-66 EWT(m)/T/EWP(j) RM  
ACC NR: AP6001501 (A) SOURCE CODE: UR/0191/65/000/012/0040/0042

AUTHORS: Tabunchenko, V. N.; Kremnev, L. Ya. (deceased)

ORG: none

TITLE: Highly concentrated emulsions of polymethylsiloxane liquids

15.4.4.35 29 B

SOURCE: Plasticheskiye massy, no. 12, 1965, 40-42

TOPIC TAGS: siloxane, polymer, emulsion

ABSTRACT: Preparation and properties of highly concentrated aqueous emulsions in general and of polymethylsiloxane liquids (I) in particular are described. Such emulsions are highly useful economically because I (which is unusually stable chemically and thermally and possesses desirable dielectric properties) is soluble only in organic solvents but not in water. In contrast to concentrated and dilute emulsions, deformation of liquid spherical droplets does occur in highly concentrated emulsions under strong compression. The droplets are not subject to sedimentation and progressive Brownian motion, and thus the emulsions remain extremely stable for long periods of time. The highly concentrated emulsions retain their structure and properties during long storage and can be diluted with water to produce dilute emulsions. Slight decrease in the dispersion of liquid polydimethylsiloxane emulsions during prolonged aging is probably caused by the molecular distillation of the fine (about 1 micron) droplets. Orig. art. has: 2 figures.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 007/ OTH REF: 001 UDC: 678.84

Card 1/1 ///

L. N. (P. 50) EST (m) / ER (1) / T  
ACC NR: AP6024051

(A)

SOURCE CODE: UR/0191/66/000/005/0048/0049

AUTHOR: Tabunchenko, V. N.; Kremnev, L. Ya. (Deceased) 32  
B

ORG: none

TITLE: Highly concentrated emulsions of organosilicon liquids stabilized with op-10

SOURCE: Plasticheskiye massy, no. 5, 1966, 48-49

TOPIC TAGS: surface active agent, emulsion, polysiloxane

ABSTRACT: Products of condensation of ethylene oxide with alkyl phenols are effective surface-active agents. One such nonionogenic product, containing 10 moles of ethylene oxide (op-10), was used as a stabilizer of highly concentrated emulsions of organosilicon liquids (PMS-50 polymethylsiloxane and GKZh-94 polyethylhydrosiloxane). A measure of the emulsifying power (determined microscopically) of op-10 was the maximum surface area of protective layers  $s_o$  developed by 1 ml of aqueous solutions of the emulsifier in limiting emulsions and the smallest thickness  $\delta_{cr}$  of the adsorbed solvate layers. The thickness of the protective interfacial layers decreased with increasing emulsifier concentration and reached a minimum value. A comparison of  $\delta_{cr}$  and  $s_o$  values showed that the solutions of op-10 had a higher emulsifying power in the case of GKZh-94 than in the case of PMS-50. At substantial op-10 concentrations (50% and higher), completely transparent limiting emulsions were obtained with PMS-50

Card 1/2

UDC: 678.84.048.5

I 14582-66

ACC NR: AP6024051

and BKZ-90, giving equal refractive indices of the dispersed phase and dispersion medium. Orig. art. has: 4 figures and 2 tables.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002

Card

2/2



...ВА. Антонова, Nikolayevna; FANUNINA, M. A., red.; ...  
...Т.Н., tekhn. red.

[Safety manual for glaziers of ceramic and porcelain  
pottery wares] Pamiatka po tekhnike bezopasnosti dlia  
glazurovachnika keramicheskikh i farfiro-faiansovykh  
izdelii. Moskva, Gosstroizdat, 1963. 15 p.

(MIRA 1964)

(...ing. Safety measures)

PETROVA, Antonina Nikolayevna; TABUNINA, M.A., red.; TARKHOVA, K.Ye.,  
tekhn. red.

[Safety manual for pressers of ceramic and pottery-  
porcelain products] Pamiatka po tekhnike bezopasnosti  
dlia pressovshchika keramicheskikh i farforo-faiansovykh  
izdelii. Moskva, Gosstroizdat, 1963. 17 p.  
(MIRA 17:2)

АВТОРАПОВ, Владимир Григорьевич, инж. ТАВННИНА, Н.А., ред.  
ТАРКHOVA, К. Ye., tekhn. ред

[Safety manual for drilling crane operators] Pamiatka p:  
tekhnikke bezopasnosti dlia mashinisto. puzil'no kranovykh  
mashin. Moskva, Gosstroizdat, 1963. 13 p.  
(MIRA 15:10)

(Cranes, derricks, etc.—Safety measures)

PROKOF'YEV, Yu.V., inzh.; TABUNINA, M.A., red.; YAKHONTOVA, T.D.,  
tekhn. red.

[Safety manual for erectors of cableways] Pamiatka po  
tekhnikе bezopasnosti dlia slesaria-montazhnika pod-  
vesnykh kanatnykh dorog, Moskva, Gosstroizdat, 1963. 28 p.  
(MIRA 16:9)

(Cableways--Safety measures)

MAKHMOVICH, Anatoliy Timofeyevich, TABUNINA, M. A., red., MIKHAYEVA,  
A. A., tekhn. red.

[Safety manual for workers repairing equipment in the mold-  
ing shops of reinforced concrete plants.] Pamiatka po tekhnike  
bezopasnosti dlia rabochikh po remontu oborudovaniia formo-  
vochnykh tsekhov zavodov zhelezobetonnykh izdelii. Moskva,  
Gosstroizdat, 1963 31 p (MIRA 16:10)  
(Concrete plants. Safety measures)

PROKOF'YEV, Yuriy Vasil'yevich; TABUNINA, M.A., red.; TARKHOVA,  
K.Ye., tekhn. red.

[Safety manual for pipelayers] Pamiatka po tekhnike bez-  
opasnosti dlia trubokladov. Moskva, Gosstroiizdat, 1963.  
39 p. (MIRA 17:2)

KOSOLAPOV, Vladimir Grigor'yevich, TABUNINA, M.A., red.; GOLBERG,  
T.M., tekhn. red.

[Safety manual for piling operations] Tekhnika bezopasnosti  
na svainykh robotakh. Moskva, Gosstroizdat, 1963. 50 p.  
(MIRA 16:10)

(Piling (Civil engineering))--Safety measures)

TAEUNINA, P.A., red.; TEMKINA, Ye.L., tekhn. red.

[General regulations for safety engineering and industrial sanitation for enterprises of the building materials industry.... In effect as of January 1, 1964] Obshchie pravila tekhniki bezopasnosti i proizvodstvennoi sanitarii dlia predpriiatii promyshlennosti stroitel'nykh materialov (GKPSM 1-63)... Vvodiatsia v deistvie s 1 ianvaria 1964 g. Moskva, Gosstroizdat, 1963. 106 p. (MIRA 17:3)

1. Profsoyuz rabochikh stroitel'stva i promyshlennosti stroitel'nykh materialov.



PETRYAYEV, Aleksandr Andreyevich; TABUNINA, M.A., red.; PAVLOVA,  
V.D., tekhn. red.; YAKHONTOVA, T.D., tekhn. red.

[Safety manual for operators of centrifuges used in the  
manufacture of reinforced concrete pipes] Pamiatka po  
tekhnikе bezopasnosti dlia mashinista tsentrifugi pri iz-  
gotovlenii zhelezobetonnykh trub. Moskva, Stroiizdat,  
1964. 21 p. (MIRA 17:3)



VOLODIN, Yevgeniy Petrovich; TABUNINA, M.A., red.; SHEVCHENKO,  
T.N., tekhn. red.

[Safety manual for operators of graders and motor graders]  
Pamiatka po tekhnike bezopasnosti dlia mashinistov greiderov  
i avtogleiderov. Moskva, Stroiizdat, 1964. 31 p.  
(MIRA 17:3)

BONDIL, Yuriy Nikolayevich; TABUNINA, N.A., red.

[Safety manual for the operation of straightening rollers, power shears, and punch presses] Pamiatka po tekhnike bezopasnosti pri rabote na pravil'nykh val'nikakh, privodnykh mekhanizмах i drevnykh vyukh pressakh. Moskva, Stroizdat, 1964. 32 p. (MIRA 18:12)

LAPO, Dmitriy Petrovich; TABUNINA, E.A., red.

[Safety engineering manual for operators of asphalt-concrete  
;lacers] Pamiatka po tekhnike bezopasnosti dlia mashinista  
asfal'tobetonoukladchika. Moskva, Stroiizdat, 1964. 34 p.  
(MIRA 17:4)

BOOKMAN, ...; TASHKENT, U.S.S.R., ed.

[Safety manual for electricians engaged in electric  
equipment and electric structure rigging operations]  
Fakul'teta po tekhnike bezopasnosti s'ia elektricheskimi  
prikladami elektrooborudovaniia i elektricheskimi  
strukturnami, stroitel'stvo, 1964. 37 p. (SIRA 17:6)

MONASTYRSKIY, Oleg Vasil'yevich, inzh.; BEREZOVSKIY, B.I., nauchn.  
red.; TABUNINA, M.A., red.; MIKHEYEVA, A.A., tekhn. red.

[Automating the heating up of bitumen and mastic in the  
construction industry] Avtomatizatsiia razogreva bituma i  
mastik v stroitel'stve. Moskva, Stroiizdat, 1964. 75 p.  
(MIRA 17:3)

[The text in this section is extremely faint and illegible. It appears to be a large block of typed or printed text, possibly a document or report, but the characters are too light to be transcribed accurately.]



BARANOV, Lev Aronovich, inzh.; TOROPOV, A.S., kand.tekhn. nauk,  
nauchnyy red.; TABUNINA, M.A., red.; SHEVCHENKO, T.N.,  
tekhn. red.

[Principles of safety engineering and industrial sanitation in construction] Osnovy tekhniki bezopasnosti i proizvodstvennoi sanitarii v stroitel'stve. Moskva, Stroizdat, 1964. 194 p. (MIRA 17:2)

SOLOV, Nikolay Mikhaylovich, doktor tekhn. nauk; SVETINSKIY,  
Yevgeniy Vladimirovich, kand. tekhn. nauk ; LALETIK,  
I.I., doktor tekhn. nauk, nauchn. red.; TABUNINA, M.A.,  
red.

[file operations] Svainye raboty. Moskva, Stroiizdat,  
1964. 227 p. (MIRA 17:6)





MATYUKHIN, Anatoliy Nikolayevich; TASHCHINA, N.A., red.

[Safety manual for packers of steel wool products at enterprises producing insulating materials] Pamiatka po tekhnike bezopasnosti dlia upakovshchikov mineralovatnykh izdelii na predpriatiakh teploizolatsionnykh materialov. Moskva, Stroiizdat, 1965. 18 p.

(MIRA 18:1)

TABUNOV, A.A.

Mechanical broom. Mashinostroitel' no.8:25 Ag '65.  
(MIRA 18:11)

TABUNOV, A.I.

Use of machinery in processing the edge of door leaves and window sashes. Sbor.vnedr.rats.pred. v les. i meb.prom. no.2:28-33 '59.  
(MIRA 13:8)

1. Derevoobrabatyvayushchiy zavod im. Khalturina Upravleniya kapital'-  
nogo remonta zhilykh domov Lengorispolkoma.  
(Doors) (Windows) (Woodworking machinery)

TABUNOV, A.I.

Second chain for the chain mortiser. Sbor.vnedr.rats.pred. v les.  
i meb.prom. no.2:50-52 '59. (MIRA 13:8)

1. Derevoobrabatyvayushchiy zavod im. Khaltarina Upravleniya kapital'nogo remonta zhilykh domov Leningrispolkoma.  
(Woodworking machinery)



TABUNOV, A.I.

Protecting electric motors against two-phase operation by means  
of two relays. Sbor.vnedr.rats.prel. v les. i meb.prom. no.2:  
148-150 '59. (MIRA 13:8)

1. Derevoobrabatyvayushchiy zavod im. Khalturina Upravleniya kapital'-  
nogo remonta zhilykh domov Lengorispolkoma.  
(Electric motors, Induction)

TABUNOV, A.I.

Self-lubricating device for the feed clutch of the SPH-8 four-sided planer. Sbor.vnedr.rats.pred. v les. i mek.prom. no.2:177-178 '59.  
(MIRA 13:8)

1. Derevoobrabatyvayushchiy zavod im. Khalturina Upravleniya kapital'nogo remonta zhilykh domov Leningradskoy oblasti.  
(Planning machines--Lubrication)

PROKHOROV, S., podpolkovnik; TABUNOV, I., podpolkovnik.

Device for night firing at silhouettes and burst of shots. Voenn.  
vest. 37 no.1:79-82 Ja '58. (MIRA 11:2)

(Target practice--Equipment and supplies)

B-I-8

Ural bauxite as a catalyst of the reaction of reduction of sulphur dioxide to sulphur. G. D. Pashurvat and E. A. Tashurov (J. Chem. Ind. Russ., 1958, 12, 489-493).—Ural bauxites in which  $Al_2O_3 : Fe_2O_3 = 73.3 : 26.7$  are satisfactory catalysts of the reaction  $SO_2 + CO \rightarrow CO_2 + S$ , at 400°. R. T.

AS 6-11 A 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
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7/11/57  
 1957-11/21

Author: Smirnov, A. M., Tolstov, N. N. and Lyub, Yu. I.

Title: Organization of production quality control.  
 (On organizational control & selective production).

Periodical: Mosk. Izv., 1957, No. 3, p. 71-73 (USSR).

Abstract: This is a discussion of an article of the same title  
 by B. F. Klementov, Y. I. Solov, I. F. Ryzov,  
 D. A. Kuznetsov and S. I. Kozlov (Mosk. Izv., 1957, No. 9)  
 with which they are in general agreement. They divide  
 the functions of a technical control department into  
 three categories. The first is supervision to insure  
 adherence to the required production technology and it  
 is suggested that this category discipline this  
 category can be increased when the exception being  
 provision of samples for quality-control tests.  
 The second category is essentially record keeping of  
 intermediate operators (e.g., of grain and rice) in the  
 of materials in production processes) and the need for  
 independent control here is admitted since the  
 they are not recorded automatically. The third category  
 is the inspection of incoming materials and the need for  
 this is admitted. The authors go on to describe  
 Card 1/2

Organization of the Metallurgical Control.

130-3-16/81

the metallurgical control organization of the Nizhne-Tagil'skiy Metallurgical Combine. This made it possible to reduce the number in the department by 17%. In addition to the reduction in the number of control points, the number of members of the department was reduced from 14 to 12. In addition, the controllers' working day was reduced from 8 to 7 hours. The authors also note that the metallurgical control recruitment policy needs revision to attract active and better qualified persons and that the retirement age should be reduced from its present value of 60 (compared with 55 for production workers).

ADDRESS : Nizhne-Tagil'skiy metallurgicheskiy kombinat  
(Nizhniy-Tagil Metallurgical Combine)

BY AIR : [illegible]

Card 2/2

TABUNOV, N., podpolkovnik, kand. filosofskikh nauk

The military collective and personality. Kom. Vopr. Sil 46 no. 9:  
42-49 My '65. (MIRA 18:7)

VISHNEVSKIY, A.N.; TABUNOV, S.M.

Mineralogy and petrography of some nodules found in Kimberlites of  
the southern part of the central Olenek area. Trudy NIIGA 107:  
51-59 '59 (MIRA 13:3)  
(Chomurdaakh Valley--Kimberlite)



TABUNOV, S.M.; LOPATIN, B.G.

Kimberlites in the Luchakan Valley. Trudy NIIGA no. 125:135-159  
'61. (MIRA 16:7)

(Luchakan Valley—Kimberlite)

MATSYUK, L.S., otv. red.; VARTICHAN, I.K., red.; GEDEMAN, T.S., red.;  
DIKUSAR, I.G., red.; ZUBKOV, A.A., red.; IVANCHUK, F.K., red.;  
KOVARSKIY, A.Ye., red.; KOLESNIKOV, S.M., red.; KONSTANTINOV,  
M.K., red.; MOKHOV, N.A., red.; SAYANOV, V.S., red.; TABUNSHCHIK,  
F.Z., red.; CHEBOTAR', A.A., red.

[Transactions of the First Conference of Young Moldavian Sci-  
entists] Trudy pervoi nauchnoi konferentsii molodykh uchenykh  
Moldavii, 1958. Kishinev, Gos. izd-vo "Kartia Moldoveniaske,  
1960. 390 p. (MIRA 15:3)

1. Nauchnaya konferentsiya molodykh uchenykh Moldavii, 1st,  
1958. 2. Institut biologii Moldavskogo filiala Akademii nauk  
SSSR (for Kolesnikov, Chebotar'). 3. Institut geologii i po-  
leznykh iskopayemykh Moldavskogo filiala Akademii nauk SSSR  
(for Sayanov).

(Moldavia--Science--Congresses)

1. TABUNSHCHIKOV, M. IA.
2. USSR (600)
4. Screw-cutting machines
7. Mass production machine for thread cutting. Stan. i instr., 23, No. 9, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

*Tabunshchikov, N.P.*

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*Chem*

✓ The distribution of gas velocities in lime shaft kilns.  
 N. P. Tabunshchikov. *Zhur. Priklad. Khim.* 29, 33-40 (1958); *et. Aerov. et al., C.A.* 50, 424. The distribution of gas velocities in vertical kilns was studied in transparent columns of inside diam. ( $D$ ) 60, 160, and 400 mm. and 300, 800, and 2000 mm. high. The velocities at a packing height ( $h$ ) were detd. at the 100-mm. diam. center ( $W_1$ ) and at 200- and 300-mm. diam. circles ( $W_2$  and  $W_3$ ) by the rate of absorption of I vapors from the air stream by the starch-covered chalk packing. The velocities were expressed in percentages of the velocity at the wall of the kiln. The largest diam. ( $d$ ) of the packing particles passing through a given sieve rather than the av. diam. of all the particles was the detg. factor. The distribution of velocities was not affected by the Reynolds no. ( $Re$ ) in the range of  $Re = 3 - 160$ . The values of  $W_1$ ,  $W_2$ , and  $W_3$  for  $D/d = 30.3$  were: for  $h/D = 2$  and  $h/d = 60.6$ : 25.2, 60.0, and 98.5; for  $h/D = 3$  and  $h/d = 90.9$ : 40.5, 68.4, and 87.0; for  $h/D = 4$  and  $h/d = 121.2$ : 61.0, 70.9, and 89.2%. For  $D/d = 15$  the value of  $D$  was not a detg. factor. Thus small particles can be calcined in large-diam. kilns. A truncated cone at the bottom of the kiln lowered the value of  $h$  for uniform distribution of velocities. However, this advantage was insignificant when the gas was admitted into the kiln over its entire cross section.

I. Benecowitz

*PM*

ТАБУНШЕЧИКОВ, Н. П.

3660. SOME FUEL COMBUSTION CHARACTERISTICS IN VERTICAL SHAFT KILNS.  
Tabunshchikov, N.P. (Khim. Prom. (Chem. Ind., Moscow), 1956, 139-141; from  
Abstr. in Chem. Abstr., 1956, vol. 50, 16067). The fuel combustion in a  
vertical shaft kiln was studied during the calcination of limestone on a  
semicommercial size kiln, 280 mm in diameter and 3000 mm high, using coke and  
anthracite as fuel.

TABUNSHCHIKOV, N. P.

Distr: 4E2c

15

Means for increasing the production of lime-shaft kilns.  
 N. P. Tabunshchikov. *Khim. Prom.* 1957, 279-83. — The  
 most promising way of increasing the production in lime  
 kilns consists in widening their cross-section and intensify-  
 ing the process by increasing the blast. The lime production  
 in tall shaft kilns with 1 sq. m. cross-section can in this way  
 be doubled after properly adjusting the feed rate. O-en-  
 riched air can only be justified under especially favorable  
 conditions (availability of cheap O, tall kilns, etc.). The  
 resulting increase in output may reach 20-30%.

W. M. Sternberg

*WMS*

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1

18  
LAEJL

✓ Movement of gases in shaft furnaces. N. P. Tabunshchikov. *Zhiv. Priklad. Khim.* 30, 710-16 (1957); cf. C.A. 50, 10991f. — The gas distribution in a vertical kiln was studied on a model 160 mm. in diam. and 800 mm. high. The coeff. of gas penetration toward the center,  $G = P_{max}/d_p$ , is a function of the ratios  $K = d_t/d_p$ , and  $C = V_t/V_k$ , where  $P_{max}$  is the max. penetration in the kiln,  $d_t$  and  $d_p$  are the diams. of the tuyère and the particles of the charge, and  $V_t$  and  $V_k$  are the linear velocities in the tuyère and in the kiln.  $G = f(K, C)$  characterizes the no. of rows of av.-size particles in the charge "wetted" by the gas. The following functions were derived from exptl. data: (1) for  $1 < C < 20$ ,  $G = (1.2 + \log C)K - 0.7 \log C + 1.2$ ; (2) for  $20 < C < 100$ ,  $G = (1.2 + \log C)K + 0.0156C$ ; (3) for  $100 < C < 300$ ,  $G = 3.2K + 1.4C^{0.25} - 3$ . For practical purposes  $0.75 P_{max}$  is more significant than  $P_{max}$ , and the above relations are expressed as: (1a)  $d_t = [1.33R + (0.7 \log C + 1.3)d_p]/(1.2 + \log C)$ ; (2a)  $d_t = (1.33R - 0.0156Cd_p)/(1.2 + \log C)$ ; (3a)  $d_t = (1.33R + 3d_p - 1.4C^{0.25}d_p)/3.2$ , where  $R$  is the radius of the kiln or, for rectangular kilns, 1.2 the width. An O-enriched gas, to protect the lining, should be admitted in the center and air through the tuyères. For a max. penetration of the gas toward the center 3 tuyères gave better results than did six. But when max. penetration in depth is not desired then the no. of tuyères for uniform distribution along the wall is given by  $n = \pi R/P$ . The gas distribution below the axis of the tuyères  $h_p$  is practically zero for small values of  $C$ , but it increases with  $C$  and as  $C$  increases the distance  $h_p$  from the axis of the tuyères to the plane at which  $P$  is max. changes: for  $C = 10$ ,  $h_p = 0.4d_p$  and  $h_p = 2d_p$  for  $C = 300$ ,  $h_p = 3d_p$  and  $h_p = 2d_p$ . With  $d_p = 7-10$  mm.,  $d_t = 12$  mm. and  $C = 10$ . With 2 different gases the area of stratification is characterized by a width of  $2d_p$ , a height of  $2d_p$ , and a depth of  $1 d_p$  (in reference to the tuyère); the gases are mixed at a height of 15-20  $d_p$ .

I. Beaudouin

TABUNSHCHIKOV, N.P., kand. tekhn. nauk

"Production of lime" by G.V. Brusilovskii. Reviewed by N.P.  
Tabunshchikov. Khim. prom. no. 8:503-504 D '58. (MIRA 12:1)  
(Lime) (Brusilovskii, G.V.)



ZELIKIN, M.B.; MITKEVICH, E.M.; NENMO, E.S.; OVECHKIN, Ye.K.; PANOV, V.I.;  
RYDNIK, V.L.; TABUNSHCHIKOV, N.P.; RATMANSKIY, N.S., red.; ZAZUL'-  
SKAYA, V.F., tekhn.red.

[Production of soda ash] Proizvodstvo kal'tainirovannoy sody.  
Pod red. M.B.Zelikina. Moskva, Gos.nauchno-tekhn.izd-vo khim.  
lit-ry, 1959. 421 p. (MIRA 13:5)  
(Sodium carbonate)

TABUNSHCHIKOV, N.P., kand.tekhn.nauk

Using natural gas in firing limekilns. Stroi.mat.5 no.9:  
17-20 S '59. (MIRA 12:12)  
(Limekilns) (Gas as fuel)

TABUNSHCHIKOV, N.P.

Losses of heat with volatile substances in shaft-type limekilns.  
Khim.prom. no.5:425-426 J1-Ag '60. (MIRA 13:9)  
(Limekilns)

TABUNSHCHIKOV, N.P.

Operation of a limekiln on natural gas. Sakh.prom. 35 no.4:39-45  
AF 161. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut osnovnoy khimii.  
(Limekilns)

LABUNSHCHIKOV, N.P.; STRIGUNOV, F.I.

Ways of lowering the cost of line. Kaim.prom. no.9:670-674 S  
'63. (MIRA 16:12)

TABUNSHCHIKOV, N.F., kand. tekhn. nauk, red.; YEGOROVA, L.V.,  
red.

[Study of shaft limestone calcination kilns] Issledovanie  
shakhtnykh izvestkovo-obzhigatel'nykh pechei. Moskva,  
Khimiia, 1964. 226 p. (MIRA 18:7)

REN YAMINOVICH, O.A.; TABUNSHCHIKOVA, O.K.; VELIKOVSKIY, A.S.

Sources of cold for separating the condensate from the gas of  
gas-condensate wells. Gas.prom. 5 no.3:4-9 Mr '60.  
(MIRA 13:6)

(Condensate oil wells)

BEN-YAMINOVICH, O.A.; TABUNSHCHIKOVA, O.K.; VELIKOVSKIY, A.S.

Methods for calculating the process of the low-temperature separation  
of natural gas. Trudy VNIIGAZ no.17:115-124 '62. (MIRA 15:12)  
(Gas, Natural—Separation)



ACCESSION NR: AR4025722

S/0081/64/000/002/D046/D046

SOURCE: RZh. Khimiya, Abs. 2D42

AUTHOR: Tabunshchikov, O. K.; Konenkov, K. S.

TITLE: An apparatus for investigation of the phase equilibria of hydrocarbon systems at low temperatures

CITED SOURCE: Tr. Vses. n.-i. in-ta prirodn. gazov, vyp. 17/25, 1962, 265-269

TOPIC TAGS: hydrocarbon, phase equilibrium, low temperature phase equilibrium, gas liquid equilibrium

TRANSLATION: An apparatus is described which permits the study of the phase equilibria of hydrocarbon systems at a pressure of 300 atmospheres and a temperature up to -100C. The basic part of the instrument is a high pressure bomb, which is placed in a cryostat with an adjustable temperature. The phase equilibrium of a gas-liquid mixture is obtained by mixing the mixture with a TsEN-IM circulating pump. The temperature is measured with a copper-constantan thermocouple. The optical system permits the quantity of the liquid and gaseous phases which are formed in the bomb after obtaining an equilibrium to be determined visually. The bomb is provided with connect-

Card 1/2

ACCESSION NR: AR4025722

ing pipes, through which tubes are passed for sampling the phases during the analysis.  
L. Reznitskiy

DATE ACQ: 03Mar64

SUB CODE: OC

ENCL: 00

Card

2/2

TABURINSKIY, G.S.

Model 285 core sand-blasting machine. Lit.proizv. no.7:12-13 0 '54.  
(Sandblast) (Founding) (MIRA 7:12)

TABURINSKIY, G. S.

Model 288 Core Sand-Blowing Machine. G. S. Taburinskiy.  
(*Litetsnae Proizvodstvo*, 1955, (4), 11-14). [In Russian]. The  
sand-blowing installation described is designed to produce  
cores weighing up to 80 kg. The installation includes a sand-  
blowing machine and automatic auxiliary machines.—S. K.

PABUNINSKIY, G. S. (Engr. )

"Automatic Machines for the Production of Shell Molds and Cores."

report presented at Conference on Construction and Utilization of Casting Equipment.  
Gor'kiy, Dec 1957.

Mashinostroitel'. 1958, No. 5, p. 48.

(1957-1958)

**AUTHOR:** Taburinskii, G.S., Phololeenko, I.I. SOV-178-34-10-7/19

**TITLE:** The Complex Mechanization and Automation of Sandblasting Processes (Kompleksnaya mekhanizatsiya i avtomatizatsiya peshkoduvnykh protsessov)

**PERIODICAL:** Integroye proizvodstvo, 1958, Nr 10, pp 11 - 16 (USSR)

**ABSTRACT:** The Model-287 sandblasting machine (fig. 1) makes cores of up to 15 kg of weight and was designed by TsKB NIITIMASH (USSR NIITIMASH) on the base of the "Champion SV 15" sandblasting machine. Model 285 (fig. 2) makes cores up to 1 kg of weight from special core mixtures with a high viscosity. Model 286 (fig. 3 and 4) is an improved version of model 287. It handles mixtures with a moist strength of up to 0.5 kg/square cm and has a mechanism to break up the mix, a compressed-air conduit, a shotblasting part (fig. 5) and a pneumatic burton control system. Model 288 (fig. 6) is for cores up to 60 kg. All relevant processes are mechanized. Mixtures with an increased moist strength could not be used in this machine, so the Lipetskiy traktornyy zavod (Lipetsk Tractor Plant) corrected this defect by adding a mix-stirring mechanism. Similar to the 5-purpose automatic sandblasting machine of the firm Osborn, the automatic machine NIITIMASH 12 and the automatic machine for cores of

Card 1/2

SOV-128-58-10-7/19  
The Complex Mechanization and Automation of Sandblasting Processes

heating radiators of the same institute, the automatic machines SKB2 models 911 and 928 and the 5-purpose automatic machine model 95287 of NIILITMASH, are more perfectly designed than all former models. TsKB NIILITMASH is designing a special core-making automatic machine, model SMR2 (fig. 6), for cores of heating radiators, which will produce up to 400 cores an hour. For the shell molding process, TsKB NIILITMASH has designed the turret-type automatic core-making models 871 (fig. 8), 872 and 873 (table 1). The turret-type sandblasting machine is used increasingly, especially where mass production of low weight parts is going on. One such automatic machine of NIITavtoprom has been set up in the foundry of the avtozavod imeni Likhacheva (Automobile Plant imeni Likhachev). An improved automatic sandblasting machine model 92271 (figs. 9 - 11, 13) was designed by TsKB NIILITMASH. Its operational characteristics are tabulated in Figure 12. It can handle 300 to 360 half molds an hour. All these new designs are only a beginning to a fast and intensive development in the field of foundry technology. There are 5 photos, 10 diagrams and 2 tables.

1. Sandblasting machines--Design    2. Sandblasting machines--Applications    3. Sandblasting--Performance

Card 2/2

TABURINSKIY, G.S.

The 794-type molding machine. Stan. 1 instr. 29 no.3:21-23 Mr '58.  
(MIRA 12:1)

(Molding machines)



RUSSIA, V. A.

RUSSIA, V. A. — "A Qualitative Investigation of Certain Non-Linear  
Second-Order Differential Equations." Min Higher Education U.S.S.R.  
Ural Polytechnic Institute S. M. Kirov. Sverdlovsk, 1966  
(Dissertation for the Degree of Doctor in Physic-mathematical Sciences).

See: Kuiznava Letopis', No 9, 1966

~~ТАБУЄВА, В.А.~~ ТАБУЄВА В.А.  
 SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/2 PG - 606  
 AUTHOR TABUEVA V.A.  
 TITLE The application of successive approximations for the determination  
 of the separatrix.  
 PERIODICAL Doklady Akad.Nauk 111, 301-303 (1956)  
 reviewed 2/1957

The authoress considers the system

$$(1) \quad \dot{x} = y \quad ; \quad \dot{y} = -\varphi(x)y - f(x),$$

where  $\varphi(x) \geq m > 0$ ,  $f(0) = 0$ ,  $xf(x) > 0$  in the neighborhood of  $x = 0$

$$f(x_1) = f(x_2) = 0 \quad f'(x_1) \neq 0 \quad f'(x_2) \neq 0$$

$x = x_1 > 0$ ,  $x = x_2 < 0$  are the smallest zeros of  $f(x)$  according to  
 their absolute value.

It is stated that the successive approximation

$$y_n(x) = \int_x^{x_1} \varphi(x) dx + \int_x^{x_1} \frac{f(x)}{y_{n-1}(x)} dx \quad n=1,2,\dots \quad y_0(x) = \left( 2 \int_x^{x_1} f(x) dx \right)^{1/2}$$

Doklady Akad.Nauk 111, 301-303 (1956)

CARD 2/2

PG - 606

on the interval  $0 \leq x \leq x_1$  converges uniformly to the solution  $y(x) = S(x)$  of  
(1) if  $\varphi(x)$  and  $f(x)$  on  $0 \leq x \leq x_1$  satisfy the condition

$$\int_x^{x_1} \frac{\varphi(x)y_1(x)y_0(x)-f(x)\int_x^{x_1} \varphi(x)dx}{y_1(x)y_0(x)} dx > 0, \text{ where } y_1(x) = \int_x^{x_1} \varphi(x)dx + \varphi_0(x).$$

The curve  $y = S(x)$  is separatrix of (1).

INSTITUTION: Polytechnic Institute, Ural.

AUTHOR: Tabuyeva, V.A.

SOV/140 58 2 20/20

TITLE: Estimation of the Critical Value of the Parameter  $\alpha$  for the  
 Differential Equation  $\frac{d^2x}{dt^2} + \alpha \frac{dx}{dt} + f(x) = 0$  (Otsenka  
 kriticheskogo znacheniya parametra  $\alpha$  dlya differentsial'nogo  
 uravneniya  $\frac{d^2x}{dt^2} + \alpha \frac{dx}{dt} + f(x) = 0$ )

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Ministerstva vysshego  
 obrazovaniya SSSR, Matematika, 1958, Nr 2, pp 227-237 (USSR)

ABSTRACT:

In  
 (1)  $\ddot{x} + \dot{x} + f(x) = 0$

let  $\alpha > 0$ ,  $f(x)$  be continuously differentiable,  $f(0) = 0$ ,  $xf(x) > 0$   
 for  $x_2 \leq x \leq x_1$ ,  $f(x+2\pi) = f(x)$ ,  $f(x_1) = f(x_2) = 0$ ,  $x_1 - x_2 = 2\pi$ .

$x_1 > 0$ ,  $x_2 < 0$  be the zeros of  $f(x)$  lying nearest to  $x = 0$  and let  
 $\int_{x_1}^{x_2} f(x) dx > 0$ . The critical value  $\alpha_{kr}$  of  $\alpha$  is a value which

Card 1/3

Estimation of the Critical Value of the Parameter  $\alpha$  for the Differential Equation

$$\frac{d^2x}{dt^2} + \alpha \frac{dx}{dt} + f(x) = 0$$

implies that (1) has a periodic solution for  $\alpha \leq \alpha_k$ , while for  $\alpha > \alpha_k$  there exists no periodic solution. Under several conditions, in seven theorems the author gives several estimations for  $\alpha_k$ , from which there follow many well-known estimations (Tricomi, Amerio, Böhm etc.) in special cases. There holds e.g.

1. If  $2 \int_{x_1}^{x_2} f(x) dx + \alpha^2 x_1^2 \geq 0$ , then there exists no periodic

solution, thus:  $\alpha^2 < \frac{2}{x_1} \int_{x_1}^{x_2} f(x) dx$ ; 2. There exists no

periodic solution if  $\alpha^2 > N$ , where N is the greater of the numbers

$$N_1 = \frac{1}{2\pi x_1} \int_{x_1}^{x_2} f(x) dx \text{ and } N_2 = \frac{[x_1 - 2(\bar{x}_L - x_L)] \int_{x_1}^{x_2} f(x) dx - 4\pi \int_{x_2}^{x_1} f(x) dx}{4\pi \left( \frac{x_1^2}{2} - \bar{x}_L \cdot x_1 \right)}$$

Card 2/3

Estimation of the Critical Value of the Parameter  $\nu$  for  $\nu \in \mathbb{R}, \nu \neq 0$

the Differential Equation  $\frac{d^2 x}{dt^2} + \nu \frac{dx}{dt} + f(x) = 0$

where  $x_L, \bar{x}_L, x_L < \bar{x}_L < 0$ , are the roots of the equation

$-2\pi f(x) = \int_{x_2}^{x_1} f(x) dx$  lying nearest to the coordinate origin.

where  $x_2 \leq x \leq 0$

There are 10 references, 3 of which are Soviet, 4 Italian, 2 German, and 1 Hungarian.

ASSOCIATION: Ural'skiy politekhnicheskii institut imeni S.M. Kirova (Ural Polytechnical Institute imeni S.M. Kirova)

SUBMITTED: November 10, 1957

AUTHOR: Tabuyeva, V. A. SOV/140-58 4 27/58

TITLE: On the Question on the Form of the Domains of Attraction of the Trivial Solution of the Differential Equation  $\dot{x} = f(x, x)$   
(K voprosu o forme oblasti prityazheniya nulevogo resheniya differentsial'nogo uravneniya  $\dot{x} = f(x, x)$ )

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 4, pp 248-264 (USSR)

ABSTRACT: Under somewhat more special assumptions than Amerio [Ref 1] the author carries out a very detailed investigation of the qualitative course of the solutions of  $\dot{x} = f(x, x)$ . The results of Amerio [Ref 1] are used essentially. Some sufficient conditions for the existence of periodic solutions are given. The criteria are obtained with the comparison method of Chaplygin and base on estimations of the separatrix ordinates. There are 7 figures and 4 references, 3 of which are Soviet, and 1 Italian.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S. M. Kirova (Ural Polytechnical Institute imeni S. M. Kirov)

SUBMITTED: January 27, 1958

Card 1/1

16(1)  
AUTHORS: Barbashin, Ye. A., and Tabuyeva, V. A. 05249  
307/140-59-5-5/25  
TITLE: On the Oscillation of a Pendulum Under Presence of Dry Friction  
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959,  
Nr 5, pp 48-57 (USSR)  
ABSTRACT: Generalizing the pendulum equation with a dry friction the  
authors consider the equation  
(3)  $\ddot{x} + R(x, \dot{x}) + f(x) = 0$ ,  
where  $f(x) = f_1(x)$  for  $\dot{x} > 0$  and  $f(x) = f_2(x)$  for  $\dot{x} \leq 0$ . Under  
numerous assumptions on  $R, f$ , and the zeros of  $f$  the qualitative  
course of the integral lines is discussed in detail. In the case  
 $f_2(x) \leq f_1(x)$  four phase portraits different on principle are  
possible; in this case there exist no limit cycles. The authors  
give sufficient conditions for the existence of limit cycles in  
the general case. For the division into pieces of the integral  
lines the authors use essentially the results of Tabuyeva [Ref 1].  
There are 5 figures, and 2 Soviet references.  
ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S.M. Kirova (Urals  
Polytechnical Institute imeni S.M. Kirov)  
SUBMITTED: April 3, 1959  
Card 1/1



TABUYEVA, V.A.

Evaluating the separatrices by the method of successive approximations. Izv. vys. ucheb. zav.; mat. no.2:178-189 '60.  
(MIRA 13:7)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.  
(Differential equations)

16(1)

AUTHOR:

Tabuyeva, V.A. (Sverdlovsk)

SOV/39-47-2-3/6

TITLE:

On the Question Concerning the Form of the Domain of Attraction of the Zero Solution of a Certain Differential Equation of Second Order (K voprosu o forme oblasti prityazheniya nulevogo resheniya nekotorogo differentsial'nogo uravneniya vtorogo poriyadka)

PERIODICAL:

Matematicheskii sbornik, 1959, Vol 47, Nr 2, pp 209-220 (USSR)

ABSTRACT:

The author considers the equation

$$(1) \quad \frac{d^2x}{dt^2} + \varphi(x) \frac{dx}{dt} + f(x) = 0$$

where  $\varphi(x)$  and  $f(x)$  satisfy the following conditions and are continuously differentiable a.)  $0 < m < \varphi(x)$  for all  $x$ ,  $f(0) = 0$ ,  $xf(x) > 0$  in the neighborhood of  $x = 0$  b.)  $f(x+2\omega) = f(x)$ ,  $-\omega < x < \omega$  c.)  $f(x_1) = f(x_2) = 0$ ,  $f'(x_1) \neq 0$ ,  $f'(x_2) \neq 0$ . Here  $x_1 > 0$  and  $x_2 < 0$  are the zeros of  $f(x)$  next to  $x = 0$  and  $x_1 - x_2 = 2\omega$ . Furthermore it is supposed that  $k^2 + \varphi(x_i)k + f'(x_i) = 0$ , where  $x_i$  are zeros of  $f(x)$ , has

Card 1/3

On the question Concerning the Form of the Domain SOV/39-47-2-3/6  
of Attraction of the Zero Solution of a Certain Differential Equation of  
Second Order

There are 12 references. 8 of which are Soviet, 3 Italian, and  
1 German.

SUBMITTED: June 21, 1957

Card 3/3

TABUYEVA, V.A. (Sverdlovsk)

Circular movements of a Froude pendulum. Prikl. mat. i mekh.  
25 no.3: 576-578 My-Je '61. (MIRA 14:7)

(Pendulum)

On the existence of a periodic solution of a certain

differential equation of the third order. (Ukr. mat. zhurn.)

25:1101-1102, 1951. (Ukr. 14:10)  
(Differential equations)

S/103/62/023/010/001/008  
D201/D308

16.7000  
AUTHORS:

Barbashin, Ye. A. and Tabuyeva, V. A. (Sverdlovsk)

TITLE:

A method of stabilizing a third-order control system with high gain. I

PERIODICAL:

Avtomatika i telemekhanika, v. 23, no. 10, 1962,  
1290-1297

TEXT: The authors analyze a linear switching condition for a third-order positive-negative feedback control system. An expression for the linear switching condition is derived which, provided the gain is large enough, results in an asymptotic stability of the general solution of the third-order differential equation describing the system, all motion being changed into slip. The analysis shows that after going over into slip the rate of attenuation of the process is proportional to the coefficient B of the first derivative of the equation determining the law of change of the variable gain element. It is shown that when the coefficient B has its optimum value the

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A method of stabilizing ...

S/103/62/023/010/001/008  
D201/D308

switching plane coincides with the integral plane of the system.  
There are 2 figures.

SUBMITTED: April 11, 1962

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S/199/63/004/002/007/013  
B112/B 234

AUTHOR: Tabuyeva, V. A.

TITLE: Investigation of the oscillations of the Froud-Zhukovskiy pendulum, taking into account the Goulomb friction forces

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 4, no. 2, 1963, 377-390

TEXT: The differential equation  $\ddot{x} + \alpha \dot{x} + f(x) = N \text{sign}(\Omega - \dot{x})$  (1) is considered.  $\alpha, N, \Omega$  are positive parameters,  $f(x)$  is a  $2\pi$ -periodic odd function satisfying the conditions  $xf(x) > 0$  near  $x = 0$ ,  $f(0) = f(\pi) = 0$ , (2) and having an everywhere continuous derivative  $f'(x)$  with two zeros on the interval  $[-\pi, \pi]$ . The course of the trajectories of Eq. (1) is investigated qualitatively as a function of the parameter  $\Omega$  for fixed values of  $\alpha$  and  $N$ . There are 9 figures.

SUBMITTED: July 22, 1961



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BDS

ACCESSION NR: AP3000464

s/0103/63/024/005/0608/0614

AUTHOR: Barbashin, Ye. A.; Tabuyeva, V. A. (Sverdlovsk) 46

TITLE: Method for stabilizing a third-order high-amplification control system - 2

SOURCE: Avtomatika i telemekhnika, v. 24, no. 5, 1963, 608-614

TOPIC TAGS: stabilizing control systems, automatic control

ABSTRACT: It was shown by the same authors (the same title, part 1, Avtomatika i telemekhnika, vol. 23, no 10, 1962) that a certain rule for changing the sign of the amplification factor, in a third-order control system, secures the system-operation stability. The present article tries to prove that the same rule can also be used for increasing the dynamic accuracy of a follow-up system. The amplification-factor sign depends on the magnitude of error and on its first and second derivatives. Experimental verification, on a model, done by R. M. Eydinov showed good performance for both a sudden and a gradually varying signals. Orig. art. has: 14 equations and 2 figures.

Card 1/2/

BAREASHIN, Ye.A.; TABUYEVA, V.A.; EYDINOV, R.M. (Sverdlovsk)

"Stability of the variable automatic control systems"

report presented at the 2nd All-Union Congress on Theoretical and Applied  
Mechanics, Moscow, 29 January - 5 February 1964

16(1)

AUTHOR:

Tabuyeva, V.A.

SOV/140-59-6-21/29

TITLE:

Successive Approximations According to Tricomi for the  
Determination of the Solution of the Differential Equation  
 $\dot{x} = f(x, x)$  Periodic in  $x$

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959,  
Nr 6, pp 169-173 (USSR)

ABSTRACT:

Let the function  $f(x, y)$  with the partial derivatives be  
continuous in the whole plane;  $f(x+2\pi, y) = f(x, y)$ ; let  $f(x, y)$   
be decreasing in  $y$ ;  $f(x_1, 0) = f(x_2, 0) = f(0, 0) = 0$ , where  $x_1 > 0$ ,  
 $x_2 < 0$  are the zeros of  $f(x, 0)$  nearest to  $x=0$ , where  $x_1 - x_2 = 2\pi$ .  
Furthermore let  $x \cdot f(x, 0) < 0$  in the neighborhood of  $x = 0$ ;

$\int_0^{2\pi} f(x, 0) dx > 0$ ;  $\lim_{y \rightarrow +\infty} f(x, y) < 0$ ,  $\lim_{y \rightarrow -\infty} f(x, y) > 0$  for all  $x$ .

From the system

$$(2) \quad \frac{dx}{dt} = y, \quad \frac{dy}{dt} = f(x, y)$$

the equation

$$(4) \quad \frac{dy}{dx} = \frac{f(x, y)}{y}$$

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Successive Approximations According to Tricomi for the <sup>6326</sup> SOV/140-59-6-21/29  
 Determination of the Solution of the Differential  
 Equation  $\ddot{x} = f(x, \dot{x})$  Periodic in  $x$

is obtained.

Theorem: If (4) has a periodic solution  $\bar{y}(x)$  and if the initial approximations  $y_0(x)$  and  $y_1(x)$  are chosen so that

$$(8) \quad \eta_1 > \xi_1, \quad 4\pi L < (\sqrt{\eta_1} - \sqrt{\xi_1})^2,$$

where  $\xi_1 = \max |y_1(x) - y_0(x)|$  and  $\eta_1 = \min |y_1(x)|$  for  $x_0 \leq x \leq x_0 + 2\pi$ , while  $L = \max |f'y|$  for  $x, y$  is out of the strip  $x_0 \leq x \leq x_0 + 2\pi$ ,  $-\infty < y < +\infty$ , then the successive approximations  $\{y_{n+1}(x)\}$ :

$$(6) \quad y_{n+1}(x) - y_n(x) = \frac{1}{2y_n(x)} \left[ k_{n+1} + 2 \int_{x_0}^x [f(x, y_n(x)) - f(x, y_{n-1}(x))] dx \right]$$

converge uniformly to  $\bar{y}(x)$  in the strip  $x_0 \leq x \leq x_0 + 2\pi$ . The

Successive Approximations According to Tricomi for the <sup>06320</sup> SOV/140-59-6-21/29  
Determination of the Solution of the Differential  
Equation  $\dot{x} = f(x, \dot{x})$  Periodic in  $x$

constants  $k_{n+1}$  are obtained from the condition

$$(7) \int_{x_0}^{x_0+2\pi} f(x, y_{n+1}(x)) dx = 0 .$$

There are 2 references, 1 of which is Soviet, and 1 Italian.

ASSOCIATION: Ural'skiy politekhnicheskii institut imeni S.M.Kirova (Ural  
Polytechnical Institute imeni S.M.Kirov)

SUBMITTED: June 12, 1958

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S/140/61/000/005/005/007  
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AUTHOR: Tabuyeva, V. A.

TITLE: Conditions for the existence of circular motions of the pendulum of Froud

PERIODICAL: Izvestiya vysshikh uchebnykh zavadeniy. Matematika, no. 5, 1961, 61-68

TEXT: Let a pendulum of Froud be described by  
 $\ddot{x} + \alpha \dot{x} + f(x) = N(\Omega - \dot{x}),$  (2)

where  $\alpha$  and  $N$  are positive constants

$f(x + 2\pi) = f(x)$  for all  $x$ ;

$xf(x) > 0$  in the neighborhood of  $x = 0$ ;

$f(x_1) = f(x_2) = f(0) = 0$ , where  $x_1 > 0$  and  $x_2 < 0$  are the roots of  $f(x)$  being nearest to  $x = 0$ , where  $x_1 - x_2 = 2\pi$ ;

Card 1/5 0  $\int_0^{x_1} f(x)dx = \int_0^{x_2} f(x)dx = I;$

(3)

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Conditions for the existence of . . .

$f'(x)$  is a continuous function having two zeros on  $[x_1, x_2]$ .

} (3)

If  $f(x) - N\Omega = \Psi(x)$  then (2) changes to

$$\ddot{x} + (\alpha + N) \dot{x} + \Psi(x) = 0 \tag{4}$$

where  $\alpha + N > 0$  and

$$\Psi(x+2\pi) = \Psi(x) \text{ for all } x : \tag{5}$$

$$\int_0^{2\pi} \Psi(x) dx < 0.$$

Let  $\Omega > 0$  and for  $0 < \Omega < \frac{\max f(x)}{N}$  let:

$\Psi(\eta_1) = \Psi(\eta_2) = \Psi'(\eta_0) = 0$ , where  $\eta_1 > 0$  and  $\eta_2 < 0$  are the roots of  $\Psi(x)$  being nearest to  $x = \eta_0 > 0$ ,  $\eta_1 - \eta_2 = 2\pi$  (6)

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Conditions for the existence of . . .

$$(x - \eta_0) \Psi(x) > 0 \text{ in the neighborhood of } x = \eta_0 \quad \} \quad (6)$$

(4) is equivalent to the system

$$\dot{x} = y, \dot{y} = -(\alpha + N) y - \Psi(x) \quad (7)$$

or to the equation

$$\frac{dy}{dx} = -(\alpha + N) - \frac{\Psi(x)}{y} \quad (8)$$

Theorem 1: For the existence of a solution of (8) being periodic in x which satisfies (5) and (6) it is sufficient that

$$\Omega \gg \frac{2\pi(\alpha + N)}{N(-x_2)} [\pi(\alpha + N) + \sqrt{31}] \quad (16)$$

is satisfied.

Theorem 2: If for (8) beside of the assumptions (5), (6) still the relation

$$I \gg 2\pi^2(\alpha + N)^2$$

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Conditions for the existence of . . .  
is satisfied then

$$\Omega \gg \frac{1}{2N x_1} \left\{ 2x_1 \max f(x) - \left[ \sqrt{2I} - 2\pi(\alpha + N) \right]^2 \right\} > 0. \quad (21)$$

is sufficient for the existence of a solution periodic in  $x$ .

Theorem 3: For the existence of a solution of (8) being periodic in  $x$ , which satisfies (5) and (6), it is sufficient that

$$\Omega \gg \frac{\alpha + N}{2N(-x_2)} \left[ (\alpha + N) x_1^2 + 2x_1 \sqrt{2I + 4\pi} \right] \quad (22)$$

is satisfied.

Theorem 4: If for (8) beside of the assumptions (5), (6) the relation

$$2I \gg 4\pi(\alpha + N) + (\alpha + N)^2 x_1^2,$$

is satisfied then for the existence of a solution periodic in  $x$  it is sufficient:

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Conditions for the existence of . . .

$$\Omega \geq \frac{1}{2x_1 N} \left\{ 2x_1 \max f(x) - \left[ \sqrt{2I - 4(\alpha+N)\pi \cdot (\alpha+N)x_1} \right]^2 \right\} > 0. \quad (26)$$

Theorem 5: In order that (8) has no solution periodic in x which satisfies (5), (6) it is sufficient that

$$0 < \Omega \leq \frac{1}{2x_1 N} \left[ 2I - \left( \frac{M - m}{\alpha + N} \right)^2 \right] \quad (27)$$

or

$$0 < \Omega \leq m - (\alpha + N)^2 x_1 + \left[ (\alpha + N)^2 x_1^2 - 2mx_1 + 2I \right]^{1/2} (\alpha + N), \quad (28)$$

is satisfied, where  $m = \min f(x)$ ,  $M = \max f(x)$ .

There are 2 figures and 5 Soviet-bloc references.

ASSOCIATION: Ural'skiy politekhnicheskii institut (Ural Polytechnical Institute)

SUBMITTED: June 2, 1960

Card 5/5

L 18093-63

EWT(d)/FCC(w)/BDS AFFTC/IJP(C)

S/0040/63/027/004/0664/0671

ACCESSION NR: AF3007112

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53

AUTHORS: Barbashin, Ye. A.; Tebuyeva, V. A. (Sverdlovsk)

TITLE: Theorem on stability of the solution of a third order differential equation with discontinuous characteristic

SOURCE: Prikladnaya matematika i mekhanika, v. 27, no. 4, 1963, 664-671

TOPIC TAGS: differential equation, stability, control system

ABSTRACT: The author considers the differential equation (1)

$$\ddot{x} + F(x, \dot{x}, \ddot{x}, t) + Kx \operatorname{sign} [x(\ddot{x} - \varphi(x, \dot{x}))] = 0 \quad (1)$$

where k is a positive constant, the function F is continuous in all arguments so long as  $t \geq 0$ , is bounded in t for the other arguments fixed, and has all first partials continuous in all arguments. The function  $\varphi$  is continuous with first and second partial derivatives piecewise continuous in all arguments. It is also assumed that (a)

$$(a) \quad |\rho^2 F(x, y / \rho, z / \rho^2, t\rho)| < A(x, y, z); \quad |\rho\varphi(x, y / \rho)| < B(x, y)$$

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ACCESSION NR: AP3004112

for sufficiently small values of the parameter  $\rho$  where A and B are assumed to be continuous functions of their arguments, and (b)

$$(b) \begin{cases} \varphi(0, 0) = 0, \varphi(x, 0)x < 0 \text{ for } x \neq 0, \\ |\varphi(x, y) - \varphi(x, 0)|y < 0 \text{ for } y \neq 0, \end{cases} \int_{-\infty}^{\infty} \varphi(x, 0) dx = \infty$$

The basic result of this article is the following:

Theorem. Let (a) and (b) be satisfied and  $\epsilon > 0$  be given. Then for any given bounded region G of the phase space, of points  $(x(t), \dot{x}(t), \ddot{x}(t))$ , it is possible to find  $k_0 > 0$  such that when  $k \geq k_0$  and solution of (1) defined by the initial data from G will satisfy from some time on the condition  $|x(t)| < \epsilon, |\dot{x}(t)| < \epsilon, |\ddot{x}(t)| < \epsilon$ . Orig. art. has: 17 formulas and 1 diagram.

ASSOCIATION: Sverdlovskoye otdeleniye Matematicheskogo in-ta AN SSSR (Sverdlovsk Branch of Mathematics Institute, Academy of Sciences, SSSR)

SUBMITTED: 18Mar63	DATE ACQ: 15Aug63	ENCL: 00
SUB CODE: MM	NO REF SOV: 009	OTHER: 000
Card 2/2		