

EXCERPTA MEDICA Sec 2 Vol 12/1 Physiology Jan 59

441. THE EFFECT OF SOME AMINO ACIDS ON THE NEUROTOXIC ACTION OF METHIONINE SULPHOXIMINE - Lodin Z. and Koloušek J. Inst. of Physiol., Czech. Acad. of Scis, Prague - PHYSIOL. BOHEM. 1958, 7/1 (87-94) Graphs 4 Tables 1

The influence of glutamic acid, glutamine, asparagine and methionine on the neurotoxic effects of methionine sulphoximine (I) and on seizure susceptibility were studied (percentage of seizures, neurophysiological disturbances and mortality in mice to which I had been administered). Glutamic acid reduced seizure susceptibility to electroshock in mice to which I had been administered. Its effect was not of long duration, however, and it did not basically affect mortality and other effects of I. Glutamine and asparagine tended rather to potentiate the action of I, as they increased seizure susceptibility and intensified the neurotoxic manifestations of the action of I. Methionine, when administered under the same conditions, had a therapeutic action on the toxic effects of I. When administered together with I it reduced seizure susceptibility, normalized the animals' condition and reduced mortality.

Hahn - Prague

LODIN, Z.

Analysis of changes of the central nervous system induced by MSI. Cesk.
fysiol. 7 no.2:122-128 Mar 58.

1. Fysiologicky ustav CSAV, Praha.
(REFLEX, CONDITIONED,
eff. of MSI (Cz))

EXCERPTA MEDICA Sec 8 Vol 12/4 NEUROLOGY Apr 59

1771. A HISTO AUTORADIOGRAPHIC STUDY OF THE EFFECT OF SECTION OF THE FACIAL NERVE ON THE UPTAKE OF METHIONINE-³⁵S BY THE CELLS OF THE FACIAL NERVE NUCLEUS - Fischer J., Lodin Z. and Koloušek J. Lab. of Neuropathol. II, Prague - NATURE (Lond.) 1958, 181/4605 (341-342)

Damage to the axon (trauma, virus diseases, etc.) may be followed by degeneration of the nerve cells, characterized by swelling of the cells, disintegration of the cytoplasmic granules and displacement of the nucleus to the periphery. These cell changes might, however, also be due to increased metabolic activity associated with increased synthesis of protein molecules. In an attempt to settle this question, use was made of the fact that previous investigations had shown that methionine-³⁵S becomes incorporated chiefly in the grey matter and that the rate of incorporation depends on the activity of protein synthesis. Methionine-³⁵S was injected i.p. in a dose of 500 μ c. in 5 rabbits, 13 days after the facial nerve had been severed on one side. All animals were killed after 24 hr. The histoautoradiographic section method with subsequent haematoxylin-eosin staining showed that the facial nerve nucleus on the severed side had absorbed significantly more methionine-³⁵S, measured planimetrically, than the healthy side. From the increased absorption it is assumed that increased protein synthesis occurs in nerve cells undergoing retrograde degeneration.

Holl - Berlin (1,2,5,8,14)

LODIN, Z.; FISCHER, J.; GUTMANN, E.; KOLOUSEK, J.

Turnover of methionine ^{35}S in the cerebellar, diencephalic and spinal tissues in normal conditions and following nociceptive stimulation in rats. Cesk. fysiол. 8 no.3:221-222 Apr 59.

1. Fysiologicky ustav CSAV, Praha. Predneseno na III. fysiologickych dnech v Brne dne 14, 1. 1959.

(CENTRAL NERVOUS SYSTEM, metab.

methionine, eff. of pain stimulation in rats (Cz))

(METHIONINE, metab.

CNS, eff. of spin stimulation in rats (Cz))

(PAIN, exper.

eff. on CNS methionine metab. in rats (Cz))

EXCERPTA MEDICA Sec 2 Vol 13/5 Physiology May 60

2588. THE EFFECT OF SOME EXTERNAL STIMULI ON SEIZURES PRODUCED BY METHIONINE SULPHOXIMINE - Lohr Z. Inst. of Physiol., Czechoslovak Acad. of Sci., Prague - *PHYSIOL. BOHEM.* 1959, 8/3 (231-237)
Graphs 4 Tables 1

During the paroxysmal period of the effect of methionine sulphoximine (1) a strong acoustic stimulus provoked a seizure of tonic-clonic convulsions or only the locomotor component of the seizure. The picture of seizures provoked by a strong acoustic stimulus in rabbits and dogs is in agreement with the symptomatology of audiogenic epilepsy in rats and mice. In the first phase after administration of 1, which is characterized as the preparoxysmal period, seizure susceptibility to acoustic stimuli in rats, mice, rabbits and dogs does not increase. In the pre-paroxysmal period the seizure susceptibility of mice to electric shock is lowered. Subthreshold doses of 1 increase seizure susceptibility to electric shock during the paroxysmal period. They do not, however, sensitize the animals to the action of strong acoustic stimulus. Pentetrazole increases seizure susceptibility to electric shock within a short interval after i.p. administration, the maximum being reached 5 min. after administration.
Hahn - Prague

HARTMAN, J.; LODIN, Z.; PILNY, J.; JIROUT, M.

A prototype of the Czechoslovak cytophotometer. Jemna mech opt 8
no.3:87-88 Mr '63.

1. Fyziologicky ustav, Ceskoslovenska akademie ved, Praha a Vyzkumny
ustav zvukove techniky Presna mechanika, Brno.

LODIN, Z.; NAVRATIL, E.; PODLAHA, M.

A contribution to the mathematical analysis of the statistical distribution of the DNA content in cellular nuclei. Cesk. morf. 11 no.2:135-144 '63.

1. Physiological Institute, Czechosl. Acad. Sci., Prague and Faculty of Technical and Nuclear Physics, Prague.
(DNA) (STATISTICS) (CELL NUCLEUS)

LODIN, Z.; NAVRATIL, E.; PODLAHA, M.

A study of the statistical distribution of the volumes of cellular nuclei and its relation to the statistical distribution of their projection areas. Cesk. morf. 11 no.2:145-151 '63.

1. Physiological Institute, Czechoslovak Academy of Sciences, Faculty of Technical and Nuclear Physics, Prague.

(CELL NUCLEUS) (DNA) (STATISTICS)

LODIN, Z.; PILNY, J.; HARTMAN, J.

A universal cytophotometer. Construction of apparatus. *Physiol. bohemoslov.* 12 no.2:161-166 '63.

1. Institute of Physiology, Czechoslovak Academy of Sciences, Prague.
(PHOTOMETRY) (EQUIPMENT AND SUPPLIES) (CYTOLOGY)
(SPECTROPHOTOMETRY) (MICROSCOPY) (BIOCHEMISTRY)

~~GR~~

KLEINZELLER, A., Dr. Dr. DSc; KLOTKOVA, A.; VACEK, Z; LODIN, Z.

Metabolism Laboratory of the Microbiological Institute of the Czechoslovak Academy of Sciences, the Histological Institute of Charles University in Prague, and the Physiological Institute of the Czechoslovak Academy of Sciences (for all)

Berlin, Acta Biologica et Medica Germanica, No. 5/6, 1963, pp 816-828

"Concerning the Localization of Hg in Kidney Cortex Cells and the Mechanism of Mercurial Action on Ionic Transport"

(4)

LODIN, Z.

Problems in quantitative cytochemistry. Cesk. fysiол. 13 no.2:
126-145 Ja'64

1. Fysiologicky ustav CSAV, Praha

*

LODIN, Z.; NOVAKOVA, V.; PILNY, J.; MED, F.; HARTMAN, J.

The use of planimetry in cytology. *Physiol. Bohemoslov.* 12
no.6:590-598 '63.

1. Institute of Physiology, Czechoslovak Academy of Sciences,
Prague.

(HISTOLOGICAL TECHNICS) (MICROSCOPY)
(CYTOLOGY) (LENSES) (EQUIPMENT AND SUPPLIES)

CZECHOSLOVAKIA

CHAUBAL, K.A.; HARTMAN, J.; HOLECKOVA, E.; LODIN, Z.; Institute of Physiology, Czechoslovak Academy of Sciences (Fysiologicky ustav CSAV), Prague.

"Morphologic and Cytochemical Changes During Adaptation of Animal Cells to Cold."

Prague, Ceskoslovenska Fysiologie, Vol 14, No 5, Oct 1965; p 350.

Abstract: Study of cold adaptation in hen fibroblasts and HeLa cells revealed that cold adaptation is accompanied by decrease in total dry weight of both cytoplasm and nucleus. Paper presented at the 15th Physiology Days, Olomouc, 27 May 65.

1/1

L. LODINOVA, R.

ZEMAN, L.; NEJEDLA, Z.; LODINOVA, R.

Use of ACTH & cortisone for infants. Cesk. pediat. 12 no.12:1084-1089
5 Dec 57.

1. Ustav pro peči o matku a dite v Praze, reditel prof. J. Trapl
vedouci pediatrického sektoru prof. K. Kubat.

(ACTH, ther. use
pediatric dis. (Cz))
(CORTISONE, ther. use
pediatric dis. (Cz))
(PEDIATRIC DISEASES, ther.
ACTH & cortisone (Cz))

LODINOVA, R.; MECIR, M.; NEJEDLA, Z.

Influence of the repeated administration of lipopolysaccharides of *Salmonella typhi* murium on some indicators of immunity in infants in their first year. Rev. czech. med. 9 no.1:10-17 '63.

1. Institute for the Care of Mother and Child, Prague-Podoli. Director: Doc. M. Vojta, M.D. Head of the Paediatric Department: Doc. K. Folacek, M.D.

(LIPOPOLYSACCHARIDES)	(SALMONELLA TYPHIMURIIUM)		
(ENDOTOXINS)	(IMMUNITY)	(COMPLEMENT)	(LEUKOCYTE COUNT)
(PROPERDIN)	(ESCHERICHIA COLI)	(ANTIBODIES)	
(IMMUNIZATION)	(BODY TEMPERATURE)	(FECES)	

LODINOVA, R.; MECIR, M.; NEJEDLA, Z.; JGUJA, V.

Effect of repeated administration of lipopolysaccharides on
various factors of immunity in infants. Cas.lek.cesk. 103
no.10:249-255 6 Mr'64.

1. Ustav pro peči o matku a dite v Praze-Podoli; vedoucí
pediatrickeho vyzkumu doc.dr. K.Polacek, CSc.

LODINOVA, Ra ja

Leukergy. Cesk. pediat. 13 no.3:258-261 5 Apr 58.

1. Ustav pro peci o matku a dite v Praze-Podoli, reditel prof. Jiri
Trapl vedouci pediatrickeho vyzkumu prof. Kamil Kubat.

(LEUKOCYTES

leukergy in child. (Cz))

LODINOVA, Raja; CIHLAROVA, Eveta; KOSTKA, Jaromir

The influence of a nonspecific stimulus (lipopolysaccharide) on the properdin level in children under 1 year old. Cesk.pediat. 15 no.9: 800-805 S '60.

1. Ustav pro peci o matku a dite v Praze-Fodoli, reditel ustavu docent dr. Miroslav Vojta, vedouci pediatrieho useku primar dr. Karel Polacek Biologicky ustav CSAV, prednosta akademik MUDr Ivan Malek

(INFANT, NEWBORN physiol.)

(PROPERDIN)

(LIPOPOLYSACCHARIDES pharmacol.)

LODINOVA, Raja

Interaction of rabbit lymph node cells with bacteria
(*Salmonella paratyphi B*). Folia microbiol. 10 no.5:
275-279 s ' 65.

1. Department of Immunology, Institute of Microbiology,
Czechoslovak Academy of Sciences, Prague 4. September 16,
1964.

LODINOVA, R.; CIHLAROVA, K.

The effect of lipopolysaccharides on temperature, leukocytosis and leukergia in children up to 1 year of age. Cesk. pediat. 16 no.9: 798-802 S '61.

1. Ustav pro peci o matku a dite v Praze-Podoli Reditel doc. MUDr. Miroslav Vojta Vedouci pediatrickeho useku prim. MUDr. Karel Polacek.

(LIPOPOLYSACCHARIDES pharmacol)
(BODY TEMPERATURE pharmacol)
(LEUKOCYTES pharmacol)

LODIS, F.A.

Treatment of certain skin diseases at the Taloi spa. Vest. vener.,
Moskva no.3:20-21 May-June 1953. (GLML 25:1)

1. Of Khabarovsk Kray Skin-Venereological Dispensary (Head Physician --
F. A. Lodis).

LODIS, F.A.

Practical advantages of the use fo zinc gelatine caps for treating dermatomycosis. Vest. ven. i derm. no.5:54 S-0 '54. (MLRA 7:11)

1. Iz Khabarovskogo krayevogo kozhno-venerologicheskogo dispansera.
(DERMATOMYCOSIS)
(ZINC--THERAPEUTIC USE)

ICMS, F. A.

ICMS, F. A.: "Acute epithelial hepatitis in syphilis. Based on material from the Khabarovsk regional dermatological-venereological dispensary and the parasitological-therapeutic clinic of the Khabarovsk Institute." Khabarovsk State Medical Inst., Khabarovsk, P.S.S.R. (Dissertation for the degree of Candidate in Medical Sciences).

Source: Kuiznyy letopis' No. 2 1956 Moscow

LODIS, F.A., vrach (Khabarovsk)

In the Far East. Zdorov'ie 2 no.8:25-26 Ag '56. (MLRA 9:9)
(SOVIET FAR EAST--HEALTH RESORTS, WATERING PLACES, ETC.)

LQDIS. F.A.

Treating some skin diseases at the Annenskiye Vody health resort.
Vop.kur., fizioter. i lech.fiz.kul't. 22 no.3:73-74 My-Je '57.
(MIRA 11:1)

1. Iz Khabarovskogo krayevogo kozhno-venerologicheskogo dispansera
(SKIN--DISEASES) (SIKHOTE--ALIN' --MINERAL WATERS)

LODKIN, A.S., inzh., HUSETSKIY, A.A., kand.tekhn.nauk

Hydrodynamic characteristics of controllable pitch propellers.
Sudostroenie no.7:9-11 J1 '60. (MIRA 13:7)
(Propellers) (Hydrodynamics)

LODKINA, M.M.

Komarov Botanical Institute of the Academy of Sciences of the
U.S.S.R. in October, 1955. Bot.zhur. 41 no.1:137-138 Ja '56.
(Botany) (MIRA 9:6)

LODKINA, M.M.

The Botanical Institute of the Academy of Sciences of the U.S.S.R.
during November, 1955. Bot.zhur.41 no.2:305-306 F '56.(MIRA 9:7)
(Botanical societies)

LODKINA, M.M.

The botanical Institut of the Academy of Sciences during December,
1955 and January, 1956. Bot.zhur. 41 no.3:450-451 Mr '56.

(MLRA 9:8)

(Botanical societies)

LODKINA, M.M.

The V.L.Komarov Botanical Institute of the Academy of Sciences of the
U.S.S.R. in March 1956. Bot. zhur.41 no.4:617-618 Ap '56.(MLRA 9:9)
(Botanical research)

LODKINA, M.M.

Work of the V.L.Komarov Botanical Insitutue of the Academy of Sciences
of the U.S.S.R. during April-June 1956. Bot.zhur. 41 no.11:1730-
1731 N '56.

(Botanical research)

(MLRA 10:1)

LODKINA, M.M.

Characteristics of the development of stamens in wheat and lilies
in connection with general floral physiology. Trudy Bot.inst.Ser.
7 no.4:323-377 '57. (MLRA 10:3)
(Inflorescence) (Wheat) (Lilies)

LODKINA, M.M.

Institute of Botany of the Academy of Sciences of the U.S.S.R.;
July - September 1956. Bot.zhur. 42 no.1:153-156 Ja '57.
(Botanical research) (MLRA 10:2)

LODKINA, H.H.

LODKINA, H.H.

V.L. Komarov Botanical Institute of the Academy of Sciences of the
U.S.S.R. during October-December 1956. Bot.zhur. 42 no.3:508-510 M. '57.
(MLRA 10:5)

1. Botanicheskiy institut im. V.L. Komarova Akademii nauk SSSR,
Leningrad.

(Botanical research)

LODKINA, M.M.

The V.L. Komarov Botanical Institute of the Academy of Sciences of the U.S.S.R. in 1957. Bot.zhur. 43 no.10:1515-1519 0 '58.

(MIRA 11:11)

1. Botanicheskiy institut imeni V.L. Komarova AN SSSR, Leningrad.
(Botanical research)

LODKINA, M.M.

V.L.Komarov Botanical Institute of the Academy of Sciences of
the U.S.S.R. during the first half of 1958. Bot.zhur. 43
no.12:1781-1784 D '58. (MIRA 11:12)

1. Botanicheskiy institut imeni V.L.Komarova AN SSSR, Leningrad.
(Botanical research)

L 23666-66 EWT(1)

ACC NR: AP6015277

SOURCE CODE: UR/0292/65/000/011/0024/0026

AUTHOR: Lodochnikov, E. A. (Engineer); Bulin-Sokolov, I. V. (Engineer);
Mozolyako, L. A. (Engineer); Sheminov, V. G. (Engineer)

52
50
8

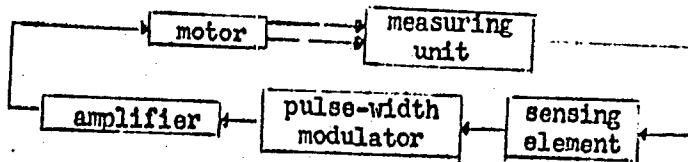
ORG: none

TITLE: Miniature D-C motors with static speed regulators

SOURCE: Elektrotehnika, no. 11, 1965, 24-26

TOPIC TAGS: electric motor, direct current miniature electric equipment, frequency discriminator

ABSTRACT: The authors describe the RS-3 free-running static speed regulator used with miniature d-c motors of the DPR-N6 Series. The regulator affects the voltage in the armature windings of the motor to control the speed. A schematic diagram of the device is given. A block diagram illustrating the operating principle of the automatic control system is shown below:



A d-c speed-voltage generator is rigidly fastened to the shaft of the motor

Card 1/2

UDC: 621.313.13-181.4

L 23666-66

ACC NR: AP6015277

2

as a measuring unit. The functions of the sensing element and the pulse-width modulator are combined in a tuned phase-frequency discriminator. The amplifier is a three-stage transistorized unit with collector feedback. The operation of the circuit is explained in detail. A curve is given showing accuracy of speed stabilization for d-c motors with power up to 6 watts at speeds from 3000 to 6000 rpm with variations in supply voltage by +20% of the rated value, loads from zero to the rated value, and +50°C variations in ambient temperature. The RS-3¹ speed regulator⁰ can be used as a general purpose unit for electric motors with various power ratings and various nominal speeds. Orig. art. has: 5 figures, 9 formulas, and 1 table. [JPRS]

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 002

Card 2/2 *V*

L 39730-66 EWT(1) GD-2
ACC NR: AP6007337

SOURCE CODE: UR/0292/66/000/002/0006/0008

AUTHOR: Lodochnikov, E. A. (Engineer); Sheminov, V. G. (Engineer);
Parkhomenko, G. A. (Engineer); Shalagin, V. M. (Engineer); Ageyev, V. Ye.
(Engineer); Vlasova, V. P. (Engineer); Spannut, V. S. (Engineer)

ORG: none

TITLE: Electric microdrives of the MB series

SOURCE: Elektrotehnika, no. 2, 1966, 6-8

TOPIC TAGS: miniature motor, electric motor, servomotor / MB miniature motor

ABSTRACT: A miniature contactless MB-series d-c motor is briefly described. It comprises the motor proper, a transformer-type transistorized rotor-position sensor, and a transistorized commutator; its principal circuit diagram is shown.

Card 1/2

UDC: 621.313.13 - 181.4

L 39730-66
ACC NR: AP6007337

The motor is actually a synchronous machine with a magnetically hard rotor. The rotor-position sensor inverts dc into 10-30-kc power which is amplitude-modulated with a frequency determined by motor rpm. Three-phase signal envelopes are isolated and used for controlling the commutator. The latter has a 3-phase power-amplifier bridge circuit and is designed for operation within $\pm 50^{\circ}\text{C}$. The motor windings receive a 3-phase square-shaped voltage which does not contain even or 3rd order harmonics. Data on five types of the MB series whose torques vary between 25 and 400 g. cm is tabulated. The motor is in the developmental stage. Its life is claimed to be between 3000 and 10000 hrs, depending on the type. Plots of rpm and efficiency vs. torque are presented. Orig. art. has: 4 figures, 5 formulas, and 1 table.

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 004

Card 212 *HS*

L. LODKOVSKAYA, R. G.

USSR/ Medicine - Neurology

Card 1/1 Pub. 22 - 19/53

Authors : Kayushin, L. P., and Lodkovskaya, R. G.

Title : Elastic and electrical phenomena in a nerve during the transmission of an excitation

Periodical : Dok. AN SSSR 102/4, 727-728, Jun 1, 1955

Abstract : Experiments intended to clarify the relationship between elastically - volumetric changes in a nerve receiving an impulse and the transmission of that impulse in the nerve are described. The experiments were conducted with the help of a micro-interferometer of the MII-5 type, a square-wave oscillator for pulse excitations and photographic equipment for recording the results of the experiments. One USSR reference (1954).
Photograms.

Institution : The Acad. of Sci., USSR, Institute of Biological Sciences

Presented by : Academician V. A. Engled'gardt, February 7, 1955

SOLOMIN, N.V., doktor tekhnicheskikh nauk, professor; GALDINA, N.M.;
SULKHANOV, M.B.; IODOCHKIN, P.A.

Manufacture and industrial testing of "bakor." Stek. i ker.
13 no.9:9-14 S '56. (MLRA 9:10)

(Refractory materials)

LODOCHKINA, T.

Expand the dissemination of advanced practices. Stroitel' no.6:
10 Je '60. (MIRA 13:7)

1. Zaveduyushchiy tekhnicheskim kabinetom v treste Bazstroy
(Krasnotur'insk).
(Ural Mountain region--Building trades--Study and teaching)

LODOCHNIKOV, E.A., inzh.; FARKHULLIN, N.N., inzh.; VASIL'CHENKO, I.I., inzh.;
LETUNOVSKAYA, A.V., inzh.; VEGERA, inzh.

New series of commercial frequency micromotors. Elektrotehnika 34 no.
12:23-26 D '63. (MIRA 17:1)

L 15805-65 RAEM(c)/ESD(t)/ASD(a)-5
 ACCESSION NR: APL048209

S/0292/64/000/011/0008/0011

AUTHORS: Lodochnikov, E. A. (Engineer); Luk'yanchuk, V. P. (Candidate of technical sciences); Kufa, V. A. (Engineer)

TITLE: Factors determining the specific power of capacitive generators

SOURCE: Elektrotehnika, ³⁵no. 11, 1964, 6-11

TOPIC TAGS: capacitive generator, power equipment, field intensity, permeability

ABSTRACT: The factors determining the energy characteristics of disk capacitive generators of both the unipolar and bipolar types were investigated. Starting with the general expression for the power maximum of a capacitive generator, the expressions for both types of generator were determined. For the bipolar generator

$$P_{\max} = \frac{1}{15} E^2 \epsilon m (D_1 - D_2) n \pi^2 (p^2 D_1 - D_2)$$

and for the unipolar generator ϕ_u replaced ϕ_b . In this equation E is the excitation voltage, ϵ is the dielectric permeability, m is the number of disks, D_1 and D_2 are the external and internal diameters of the disks, n is the number of revolutions. The complex functions ϕ_b and ϕ_u , of D_1 and D_2 and $p\delta$ (p is the number of pole pairs and δ is the gap between the disks of the rotor and the stator) differ greatly for

Card 1/4

L 15805-65

ACCESSION NR: AP4048309

each type. The effects of the individual variables were considered. For air at atmospheric pressure $F \sim 3$ kv/mm is the maximum, but compressed gases (ii at 37 atm yields $E = 62$ kv/mm) or a vacuum permit a higher E . In vacuums of 10^{-2} mm of Hg an E exceeding 100 kv/mm is theoretically possible, but electrode properties decrease the obtainable value to 25-30 kv/mm. For generators operating at $E = 50$ kv/mm, a capacitive generator has a specific weight $4\frac{1}{2}$ times less than an inductive generator of the same power. For equal weights, the capacitive generator requires an E of only 24 kv/mm for equal power. At atmospheric pressure the capacitive generator is 64 times heavier. The effect of ϵ variation is small because only gases were considered and their ϵ are approximately equal. The dependence of ϕ_b and ϕ_u on the number of pole pairs and gap width is seen in Fig. 1 on the Enclosure. Since there are no windings, the output of a capacitive generator, operating at its maximum, is fixed in the design. All theoretical possibilities for $p\delta$ are not obtainable in practice, as construction is limited by providing stability and form for the disks, the precision of the gaps, and the stability of the insulation. The precision of the gaps is controlled by the hardness of the disks and the minimization of their play. From a construction point of view, the unipolar generator is simpler, but the bipolar type has superior electrical characteristics. For outputs 25-40 kv, the specific power of capacitive generators is considerably larger than for other types. Orig. art. has: 1 table, 5 figures, and 12 equations.

Card 2/4

L 15805
ACCESSION NR: AP4048309

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: EE

NO REF SOV: 002

ENCL: 01

OTHER: 003

0

Card 3/4

L 15805-65
ACCESSION NR: APh048309

ENCLOSURE: 01
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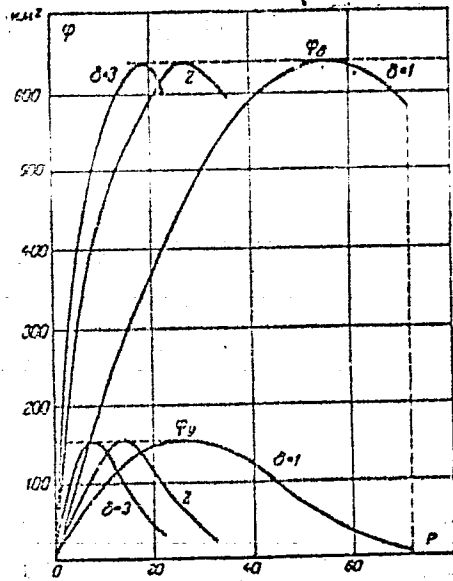


Fig. 1. Dependence of the functions ϕ_b and ϕ_u on the number of pole pairs. $D_1 = 250$ mm; $D_2 = 90$ mm; $a = d = 2\delta$ (a is the distance between stator plates, and d is the plate thickness).

Card 4/4

LODOCHNIKOV, E.A., inzh.; TSYRLIN, I.A., inzh.; SHIROKOV, D.F., inzh.;
SURIN, N.V., inzh.

New series of d.c. micromotors. Elektrotekhnika 35 no.7:40-42 '64.
(MIRA 17:11)

LODOCHNIKOV, E.A., inzh.; PALIY, I.M., inzh.; FARKHULLIN, N.N., inzh.;
OLIFIRENKO, Yu.N., inzh.; CHERNOVA, A.K., inzh.

New types of step-by-step motors. Elektrotehnika 36 no.1:38-40
Ja '65. (MIRA 18:3)

L 52216-65 EWT(1)/EPA(6)-2

ACCESSION NR: AP5609791

UR/0292/65/000/004/0029/0030
621.313.13.101.4

AUTHOR: Lodochnikov, E. A. (Engineer); Tsirlin, E. A. (Engineer-);
Sheminov, V. G. (Engineer)

TITLE: New d-c microdrives with stabilized speed

SOURCE: Elektrotehnika, no. 4, 1965, 29-30

TOPIC TAGS: microdrive, micromotor, dc micromotor

ABSTRACT: The development of new d-c microdrives equipped with centrifugal or static speed regulators is reported. The DPM and DPR microdrives with centrifugal regulators (governors) ensure a speed stability of 2-4%; they are described elsewhere. The microdrives with a frequency-sensor-type electronic speed-control system ensure a speed stability of 0.1-0.8%; a block diagram of the system is briefly explained. The microdrives whose speed is controlled by synchronizing it with an independent source of stable frequency naturally ensure

Card 1/2

L 52216-65

ACCESSION NR: AP5009791

3

the highest speed stability. Data on four types of Soviet-made electronic-control microdrives (14 and 27 v, load torques: 20, 50, 100 g-cm) is supplied.

"Engineers G. P. Mudryy, B. A. Smirnov, and I. V. Bulin-Sokolov took part in the development." Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EE

NO REF SOV: 002

OTHER: 000

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gah
Card 2/2

LODCCHNIKOV, E.A., inzh.; BULIN-SOKOLOV, I.V., inzh.; MOZOLYAKO, L.A., inzh.;
SHEMINOV, V.G., inzh.

D.c. micromotors with static speed control. Elektrotehnika
36 no.11:24-26 N '65. (MIRA 18:11)

LODOCHNIKOV, Vladimir Nikitich, 1887-1943; SOBOLEV, V.S., redaktor;
GUROVA, O.A., tekhnicheskij redaktor.

[Principal rock minerals] Glavneishie porodoobrazuiushchie mi-
neraly . 4-e izd. Moskva, Gos.nauchno-tekhn.izd-vo literatury
po geologii i okhrane neдр, 1955. 247 p. [Microfilm] (MLRA 8:9)
(Mineralogy) (Petrology)

L O D O C H N I K O V A, N V.

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27216.

Author : N.V. Lodochnikova

Inst : All-Union Scientific Research Institute of
Geology.

Title : On The Question of the Determination of Small
Amounts of Cobalt, Nickel and Copper in Rocks.

Orig Pub: Inform. sb. Vses. n.-i. geol. in-ta, 1956, No. 3,
116 - 128.

Abstract: The colorimetric method (with dimethylglyoxime,
nitroso-R-salt, or dithizone respectively) can be
used for the determination of Ni, Co and Cu in
silicate rocks; the checking with the method of
additions showed that in case of a sample of 1 g,

Card 1/3

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27216

ten thousandths of 1% of the above mentioned metals were determined with an error of 5 to 10%. The comparison of results of the colorimetric and polarographic methods showed that the determinations of Ni and Cu agreed well; the method of direct colorimetric determination of Co (without its separation) with the nitroso-R-salt and the method of colorimetric determination of Cu in the solution after polarographing produce agreeing results. Precipitation of Cu, Ni and Co with hydrosulfuric acid can be used for enrichment. If the polarographic method was used, Cu, Ni and Co are determined using one and the same sample; the presence of Zn interferes with the determination of Co, in consequence of which the most expedient way is the

Card 2/3

USSR/ Analytical Chemistry. Analysis of Inorganic
Substances.

G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27216.

polarographic determination of Cu and Ni and the
colorimetric determination of Co in the solution
after the polarographing.

Card 3/3

UNKSOV, V.A.; LODOCHNIKOVA, N.V.

Cobalt and nickel occurrences in igneous rocks and in the
earth's crust. Geokhimiia no.9:732-741 '61. (MIRA 15:2)

1. All-Union Geological Institute of Scientific Research,
Leningrad.

(Cobalt) (Nickel)

ZEMLYANSKIY, N.N.; LODOCHNIKOV V.N.; FANOV, Ye.M.; KOCHESHKOV, K.A.

Synthesis of plumb ~~oxides~~ oxides of the $(\text{RCCOPbAr}_2)_2\text{O}$ type. Zhur. ob.
khim. 35 no.5:843-845 My '65. (MIRA 18:6)

1. Fiziko-khimicheskiy institut imeni Karpova, Moskva.

SOBOLEV, N.V.; LODOCHNIKOVA, N.V.

Mineralogy of garnet peridotites. Geol. i geofiz. no.6:52-59
'62. (MIRA 15:7)

1. Institut geologii i geofiziki Sibirskogo otdeleniya AN
SSSR Novosibirsk, i Vsesoyuznyy nauchno-issledovatel'skiy
geologicheskiiy institut.
(Czechoslovakia--Peridotite) (Yakutia--Peridotite)

PANOV, Ye.M.; LODOCHNIKOVA, V.I.; KOCHESHKOV, K.A.

A new method for the production of ArPbX_3 lead organic compounds.
Dokl.AN SSSR 111 no.5:1042-1044 D '56. (MLRA 10:2)

1. Chlen-korrespondent AN SSSR. (for Kocheshkov) i Fiziko-khimicheskiy institut im. L.Ya. Karpova, Sverdlovskiy gosudarstvennyy meditsinskiy institut.
(Lead organic compounds)

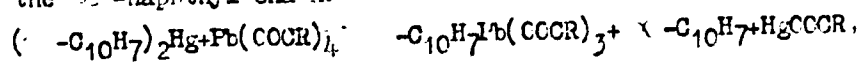
LODOCHNIKOVA, V. I.

AUTHORS: Lodochnikova, V.I., Panov, Ye.I., Kocheshkov, E.A. 62-12-1C/20

TITLE: α -Naphthyl Derivatives of the Class $ArPbX_3$ (α -Naftil'nyye proizvodnyye klassa $ArPbX_3$).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1957, Nr 12, pp. 1484-1486 (USSR)

ABSTRACT: On the basis of investigations already carried out 5,6 by two different methods for the purpose of obtaining lead-organic compounds of the class $ArPbX_3$, the authors, by one of these methods, obtained a number of hitherto not investigated compounds also in the α -naphthyl chain:



where COOR represents a remainder of acetic- or isobutyric acid. With the action of ammonia on the triacetate, α -naphthyl-plumbous acid was obtained, and by overacidification the triacetate was converted into tribenzoate. The α -naphthyl derivatives of the class $ArPbX_3$ are slightly yellow substances, soluble in organic solvents, but not by means of hydrolysis. There are 7 references, 3 of which

Card 1/2

α -Naphthyl Derivatives of the Class $ArFbX_2$
are Slavic.

62-12-1C/2C

ASSOCIATION: Physical-Chemical Institute imeni I. Ya. Karpov and State Medical
Institute Sverdlovsk (Fiziko-khimicheskiy institut im.
L. Ya. Karpova i Sverdlovskiy gosudarstvennyy meditsinskiy institut).

SUBMITTED: July 5, 1957

AVAILABLE: Library of Congress

Card 2/2 1. α -Naphthyl derivatives

"APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000930410004-0

APPROVED FOR RELEASE: 06/20/2000

CIA-RDP86-00513R000930410004-0"

5 (3)

AUTHORS: Lodochnikova, V. I., Panov, Ye. M., SOV/79-29-7-52/85
Kocheshkov, K. A.

TITLE: β -Naphthyl Derivatives of the Class $ArPbX_3$ (β -Naftil'nyye
proizvodnyye klassa $ArPbX_3$)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2253-2255 (USSR)

ABSTRACT: As was proved by M. M. Nad' and K. A. Kocheshkov (Ref 1),
organo-lead compounds of the class Ar_2PbX_2 are formed according
to the scheme $2 Ar_2Hg + Pb(OOCCH_3)_4 \longrightarrow Ar_2Pb(OOCCH_3)_2 +$
 $+ 2 ArHgOOCCH_3$. Among the compounds synthesized by this method
only di- β -naphthyl-lead diacetate which contained a β -naphthyl
group were described in publications. Recently (Ref 2) the
authors found that the same initial reagents, of a molar ratio,
lead to the compounds $ArPbX_3$, which were identical with the
representatives of this class (Ref 3) obtained by another
method. It was of interest to synthesize the salts
 β -C₁₀H₇Pb(OOCR)₃ according to di- β -naphthyl mercury in order

Card 1/3

β -Naphthyl Derivatives of the Class ArPbX_3

SOY/19-29-1-32/85

to obtain more complete data on the β -naphthyl compounds of lead. In the present paper the triacetate and tripropionate of β -naphthyl lead as well as β -naphthyl plumbic acid were synthesized. It was shown that the latter may serve as an intermediate in the substitution of an organic acid residue by another one. The compounds ArPbX_3 are the first stage of arylation of the salts of organic acids of tetravalent lead according to the above scheme; further they are bound to enter the reaction with Ar_2Hg under the formation of Ar_2PbX_2 . Ar_2PbX_2 is thus formed in two stages. The triacetate of β -naphthyl lead with di- β -naphthyl mercury yields the diacetate of di- β -naphthyl lead. The same reaction was observed by R. Crigee, P. Dimroth, R. Schempf (Ref 4) in the formation of the diacetate of diphenyl lead. The compounds $\beta\text{-C}_{10}\text{H}_7\text{Pb}(\text{OOCR})_2$ are formed more slowly. They form crystals more difficultly than the corresponding α -naphthyl derivatives which were described earlier by the authors (Ref 5). Acetates are the most convenient lead salts. There are 7 references, 5 of which are

Card 2/3

β -Naphthyl Derivatives of the Class $ArPbX_3$

SOV/19-29-7-32/85

Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut imeni L. Ya. Karpova i
Sverdlovskiy gosudarstvennyy meditsinskiy institut.
(Physicochemical Institute imeni L. Ya. Karpov and Sverdlovsk
State Medical Institute)

SUBMITTED: June 12, 1958

Card 3/3

LODOCHNIKOVA, 7.I.; PANOV, Ye.M.; KOCHESHKOV, K.A.

Para-anisil derivatives of the $ArPbX_3$ class. Zhur.ob.khim. 33 no.4:
1199-1201 Ap '63. (MIRA 16:5)
(Anisil) (Lead organic compounds)

LODOCHNIKOVA, V.I.; PANOV, Ye.M.; KOCHESHKOV, K.A.

Reactivity of $ArPbX_3$ compounds. Reaction with $(C_6H_5)Sb$.
Zhur. ob. khim. 34 no. 3:946-949 Mr '64. (MIRA 17:6)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova i Sverdlovskiy
gosudarstvennyy meditsinskiy institut.

LODOCHNIKOVA, V.I.; PANDV, Ye.M.; KOCHESHKOV, K.A.

Para-ic^ophenyl derivatives of the aryl lead triester type.
Zhur. ob. khim. 34 no.12:4022-4024 D '64 (MIRA 18:1)

1. Fiziko-khimicheskiy institut imeni L. Ya. Karpova i Sverdlovskiy gosudarstvennyy meditsinskiy institut.

L 49765-55 EPF(c)/ENT(m)/EWP(j)/EWP(b)/EWP(t) Pc-4/PF-4 IJP(c) RM/JD
ACCESSION NR: AR5012248 UR/0058/65/000/003/DO30/DO30

SOURCE: Ref. zh. Fizika, Abs. 3D218

AUTHORS: Bogomolov, S. G.; Veselkova, I. A.; Lodochnikova, V. I.

TITLE: Manifestation of carbon-lead bond in infrared spectra

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 475-482

TOPIC TAGS: carbon lead bond, infrared spectrum

TRANSLATION: Infrared spectra were obtained for 19 compounds with structure $ArPb(OOCR)_3$ and $Ar_2Pb(OOCR)_2$ in the $\sim 3-25 \mu$ region (14 of these compounds were investigated for the first time). It is established that the C-Pb bond appears in the region $430-460 \text{ cm}^{-1}$.

SUB CODE: OP

ENCL: 00

Card 1/1

HERMANSKY, F.; LODROVA, V.

On the problem of sudanophilia and lipids in the blood and bone marrow cells. Cas. lek. Cesk. 104, no. 41:1122-1124 15 G '65.

1. Laborator pro patofyziologii krvetvorby a jater pr: I. interni klinice fakulty vseobecneho lekarstvi Karlovy University v Praze (reditel prof. dr. V. Hoenig, DrSc.).

LODSHIN, E.

Promyshlennost' SSR i Yeye Otrazlevaya Struktura (Industry of the USSR
and its Branch Structure) Moskva, 1954.

N/5
11/.42
.L3

31 p.

At Head of Title: Vysshaya Partiyaya Shkola pri TsK KPSS.

BLAGOVESHCHENSKIY, N.I.; LODVIKOVA, A.S., red.; NABIULLINA, R.S.,
tekhn.red.

[Advanced vegetable growing practices in the Tatar A.S.S.R.]
Peredovoi opyt vozdeleyvaniya ovoashchnykh kul'tur v Tatarskoi
ASSR. Kazan', Tatarskoe knizhnoe izd-vo, 1959. 75 p.

(MIRA 14:1)

(Tatar A.S.S.R.--Vegetable gardening)

VOSKRESENSKAYA, I.R.; LODVIKOVA, A.S., red.; GALKINA, V.N., tekhn. red.

[Currants] Smrodina. Kazan' Tatarskoe knizhnoe izd-vo, 1960.
20 p. (MIRA 14:9)

(Currants)

SPIRIDONOV, M.V.; NAZAROVA, M.V., red.; LODVIKOVA, A.S., red.;
TROFIMOVA, A.S., tekhn.red.

[What the vegetable growers have to say; vegetable growing
practices on the Vakhitov Collective Farm in Nurlaty District]
Govoriat ovoshchevody; iz opyta vyrashchivaniia ovoshchei v kolkhoze
imeni Vakhitova Nurlatskogo raiona. Kazan', Tatarskoe knizhnoe
inzd-vo, 1960. 40 p. (MIRA 14:1)
(Nurlaty District--Vegetable gardening)

SAMUILOV, F.D.; LODVIKOVA, A.S., red.; GOLKINA, V.N., tekhn. red.

[Apple tree] IAbionia. Kazan', Tatarskoe knizhnoe izd-vo, 1960.
53 p. (MIRA 14:9)

(Apple)

TEREGULOV, G.R., zootekhnik; ZAKIR'YANOV, Sh.Kh., zootekhnik; MENDELEVICH, M.M., red.; LODVIKOVA, A.S., red.; SAGITOVA, S.G., tekhn.red.

[Experience of leading swine breeders of the Tatar A.S.S.R.; based on materials of the Conference of the Swine Breeders of the Tatar A.S.S.R.] Opyt peredovykh svinovodov Tatarii; po materialam respublikanskogo soveshchaniia svinovodov. Kazan', Tatarskoe knizhnoe izd-vo, 1960. 68 p.
(Tatar A.S.S.R.--Swine)

(MIRA 14:1)

BUTAKOV, Yu., kand. sel'khoz. nauk; LODVIKOVA, A.S., red.; SAGITOVA, S.G.,
tekh. red.

[Improvement of pastures and meadows] Uluchshenie senokosov i past-
bishch. Kazan', Tatarskoe knizhnoe izd-vo, 1960. 75 p.

(MIRA 14:9)

(Pastures and meadows)

SHELKOVSKIY, M.F., zootekhnik; MUZHIPOV, R.G., zootekhnik; MENDELEVICH,
M.M., kand.veterin.nauk, red.; LODVIKOVA, A.S., red.; GALKINA,
V.N., tekhn.red.

[What the leading poultry breeders of the Tatar A.S.S.R. have to
say] Govoriat peredoviki ptitsevodstva Tatarii. Kazan',
Tatarskoe knizhnoe izd-vo, 1960. 85 p. (MIRA 14:1)
(Tatar A.S.S.R.--Poultry)

BIKCHENTAYEV, Akhmed Gadiyevich; LODVIKOVA, A.S., red.

[Housing construction in rural areas of the Tatar A.S.S.R.]
Zhilishchnoe stroitel'stvo v sel'skoi mestnosti Tatarskoi
ASSR. Kazan', Tatarskoe knizhnoe izd-vo, 1961. 159 p.
(MIRA 18:5)

LODY, Laszlo, Dr.; KROMPECHER, Istvan, Dr.; LEIKS, Gyorgy, Dr.; MESZAROS, Iajos, Dr.; KERNER, Aurelne

Effect of eggshell feeding on blood formation in children. Orv. hetil. 99 no.6:192-194 9 Feb 58.

1. A Nyirbatori Allami Csacsemotthon (vezeto-foorvos: Lody Laszlo dr.) es a Debreceni Orvostudomanyi Egyetem Anatomiai, Szövet- es Fejlodestani Intezetének (igazgato: Krompecher Istvan dr. egyet. tanar) kozlemenye.

(EGGS

eggshell feeding inducing increased erythropoiesis in child. (Hun))

(ERYTHROCYTES

form., increase induced by eggshell feeding of child. (Hun))

BORISOVICH, Yu.F.; YPPIFANOV, G.F.; MEL'NIKOV, P.; SERGIYENKO, Ye.S.;
SHEVCHENKO, R.; FROLOV, L.; LODYANOV, V.; NIKOL'SKIY, Ya.D.;
LUZYANIN, D.; AZIMOV, D.

Information and brief news. Veterinariia 40 no.2:91-96 F '63.
(MIRA 17:2)

LODYANOV, V.M.

Semiautomatic chill casting machine for molding parts. *Biul.tekh.-
ekon.inform.Gos.nauch.issl.inst.nauch.a tekh.inform.* no.12:24-25
'63. (MIRA 17:3)

BURKALEV, A.M.; LODYANOV, V.S.; ROGOZHKIN, A.G., red.

[Veterinary manual on drugs] Veterinarnyi spravochnik
lekarstvennykh veshchestv. Moskva, Kolos, 1965. 285 p.
(MIRA 18:5)

1. LODYANOV, N. I.
2. USSR (600)
4. Phosphates - Krasnoyarsk Territory
7. Prospecting for phosphorites among the Cambrian and Proterozoic (?) deposits found in the southern part of Krasnoyarsk Territory. [Abstract.] Izv. Glav. upr. geol. fon. no. 2: 1947.

9. Monthly List of Russian Accessions. Library of Congress. March 1953. Unclassified.

Grubisina, Maria J., (MIGUEL), latwiny 1911, Mosk, Irwa.

Hereditary in diabetes. Pol. Tyg. Lek. 20 no. 8: 271-273 1954.

1. Z Zakładu Jego Ojca i Kuzna-Biadażczego w Uzdrawisku
Kolebrowe (kierownik doc. dr. med. Artur Gyzek).

LODYGIN, G., mayor zapasa

The cause is irresponsibility. Komm. Vooruzh. Sil 46
no.6:57 Mr '65. (MIRA 18:11)

LODYSEVA, M.S.; BUROVOY, I.A.

Mathematical description of the dynamic properties of a certain
class of furnaces with a fluidized bed for the purpose of
automation. Zhur.VKHO 6 no.5:553-556 '61. (MIRA 14:10)
(Fluidization) (Automatic control)

BUROVOY, I.A.; YEMEL'YANOV, S.V.; LODYSEVA, M.S.

Synthesis of automatic control systems with a variable structure
for regulating heterogenous thermochemical processes when the
constant of the speed of reaction depends on temperature.
Sbor. nauch. trud. Gintsvetmeta no.21:359-372 '64.

(MIRA 18:8)

BUROVOY, I.A.; YEMEL'YANOV, S.V.; LODYSEVA, M.S.; LUNKIN, B.V.

Static regulator with variable structure. Sbor. nauch. trud.
Gintsvetmeta no.21:400-408 '64. (MIRA 18:8)

BUROVOY, I.A.; YEMEL'YANOV, B.V.; LOMYSEVA, M.S.; RASSMOTROV, A.A.

Integral discrete regulator with variable structure. *Sbor. nauch. trud. Gintsvetmeta no.21:418-428 '64.*

Regulator of the quality of transient processes. *Ibid.:429-440 (MIRA 18:8)*

L 11780-65 EWT(m)/EWP(t)/EWP(b) ASD(m)-3 JD

ACCESSION NR: AP4048542

S/0286/64/000/019/0025/0025

AUTHORS: Burovoy, I. A.; Yemel'yanov, S. V.; Lodyseva, M. S.; Lunkin, B. V.;
Kabachkov, N. I.

TITLE: A regulator for controlling nonlinear objects. Class G, No. 165495 B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1964, 25

TOPIC TAGS: metal, nonferrous metal, metal forming 4

ABSTRACT: This Author Certificate presents a regulating device for controlling nonlinear objects having a few places of equilibrium, one of which is always unstable. The apparatus contains a measuring device, a static member, and an actuating mechanism. To enlarge the domain of stability by initial conditions and to achieve a high accuracy in sustaining the regulating parameter, the apparatus incorporates a supplementary loop to the measuring device. Both the terminals of the supplementary loop and the measuring device are in the logical network switched to the static member.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh metallov (State Scientific Research Institute of Nonferrous Metals)

Card 1/2

L 14780-65

ACCESSION NR: AP4048542

SUBMITTED: 10Jul63

SUB CODE: MM

NO REF SOV: 000

ENCL: 00

OTHER: 000

Card 2/2

L 11071-65 EMT(m)/KPF(o)/EPR/EWP(j) Pc-L/Pr-L/PS-L/PI-L RPL/S3D(a)/
AFHDS/ASD(a)-5/ESD/AFRTR/ESD(dp) RM/WW/JW/JD

ACCESSION NR: AT4047301

S/3115/64/000/021/0359/0372

AUTHOR: Burovoy, I. A.; Yemel'yanov, S. V.; Lodykseva, M. S. (E)

TITLE: Synthesis of variable structure feedback systems for the control of thermochemical heterogeneous processes in which the reaction velocity constant is a function of temperature

SOURCE: Moscow. Gosudarstvennyy institut tsvetnykh metallov. Sbornik nauchnykh trudov, no. 21, 1964. Matematicheskiye modeli tekhnologicheskikh protsessov i razrabotka sistem avtomaticheskogo regulirovaniya s peremennoy strukturoy (Mathematical models of technological processes and development of variable structure feedback systems), 359-372

TOPIC TAGS: variable parameter control system, automatic regulation, heterogeneous process, thermochemical process, reaction kinetics

ABSTRACT: The nonlinear differential equation which describes this type of system was derived by the authors in a previous section of this volume (Russian p. 221). From this equation, two nonlinear differential equations are derived which describe the desired control system and which are identical except that the sign of the static gain coefficient K_p is reversed. The control system phase-plane plot (y - x versus x) shows two unstable singularities, normally a saddle point and an unstable
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L 11071-65

ACCESSION NR: AT4047301

focus or node, and exhibits large regions of initial conditions for which the system is unstable. The stability is improved by changing the regulator equation $\mu = U(x,y)x$ so that $U(x,y)$ is either $+K_p$ or $-K_p$ on either side of a curve drawn in the phase plane. Five specific cases are considered. In the first case, the system has an unstable focus and a saddle point and the dividing curve is the line $c_1x + c_2y = 0$. The regulator function is $+K_p x$ for $c_1x + c_2y > 0$ and $-K_p x$ for $c_1x + c_2y < 0$. The resultant system is stable for all initial conditions and has only one equilibrium point, but also has a limit cycle whose amplitude is very large if the saddle point is far away from the origin. In the second case, the regulator function is $+K_p x$ for $(c_1x + c_2y)x > 0$ and $-K_p x$ for $(c_1x + c_2y)x < 0$, which in the case of a saddle point and an unstable node results in a system which is unstable at the origin. This condition is corrected by breaking the feedback loop for $c_3x - c_4y > 0$, in which case the regulator function becomes $+K_p x$ for $(c_1x + c_2y)(c_3x - c_4y) > 0$, 0 for $c_3x - c_4y \geq 0$ and $-K_p x$ for $(c_1x + c_2y)x < 0$. In a similar way, when the variation of the dynamic characteristics of the process are taken into account, a system is designed, using an additional dividing line $c_5x + c_6y + A = 0$, which is stable for all initial conditions but has a variable equilibrium point. When one of the singularities is an unstable focus, the open-loop structure ($c_3x - c_4y = 0$) may be omitted, in which case the equilibrium point also varies with the initial conditions. It is concluded that these results can

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I 11071-65

ACCESSION NR: AT4047301

also be used for processes in which the velocity of chemical reaction is determined by gas (oxygen) concentration, with the weight of the solid component remaining constant. Orig. art. has: 10 equations and 9 figures.

ASSOCIATION: Gosudarstvennyy Institut tsvetnykh metallov, Moscow (State Institute of Non-Ferrous Metals)

SUBMITTED: 00

ENCL: 00

SUB CODE: 1E, MM

NO REF SOV: 002

OTHER: 000

Card 3/3

L 11273-65 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) PF-4 AMD/AFGC(t)/AFETR/ASD(d)/
RAEM(i)/ASD(a)-5/ESD(sp) JX1(CZ) S/3115/64/000/021/040/0408

ACCESSION NR: AT4047304

AUTHOR: Burovoy, I. A.; Yemel'yanov, S. V.; Lody'seva, M. S.; Lunkin, B. V. B

TITLE: A static regulator with variable structure

SOURCE: Moscow, Gosudarstvennyy Institut tsvetnykh metallov, Sbornik nauchnykh
trudov, no. 21, 1964. Matematicheskiye modeli tekhnologicheskikh protsessov i
razrabotka sistem avtomaticheskogo regulirovaniya s peremennoy strukturoy (Mathe-
matical models of technological processes and development of variable structure
feedback systems), 400-408

TOPIC TAGS: variable parameter control system, automatic regulation, static
regulator, temperature regulation 14

ABSTRACT: A new static regulator with variable structure is described, which can
be used to control processes having at least two equilibrium points, one of which
is unstable. Block diagrams of the regulator and of an automatic control system
based on the regulator are shown, as well as a wiring diagram of the regulator.
When a perturbation $f(t)$ appears, an error signal x is produced and acts on a slave
mechanism whose gain coefficient is k . When $x > \epsilon/2 + \Delta$, the servo loop relay is
switched on. The coordinate θ is given the value $+1$ and is delivered to the logic
system. At the same time, the logic system receives the coordinate $x^* = \text{sign } x$.

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ACCESSION NR: AT4047304

The logic system changes the regulator gain coefficient from k to K . The gain K is maintained until the coordinatu difference $x - \omega$ at the input to the servo loop becomes smaller than $\epsilon/2$. After the relay is disconnected, the magnitude of the gain coefficient returns to k . The next change of the gain coefficient from k to K will take place when the difference between the coordinates x and ω again becomes greater than $\epsilon/2 + \Delta$. The change in gain coefficient from k to K will continue until the error signal reaches some maximum value. After this, due to change in sign of the servo loop coordinate η , the logic system will start changing the regulator gain coefficient from k to $-K$. Tests of the new regulator have shown that it will maintain a 555C temperature with a ± 1.50 accuracy. Orig. art. has: 11 equations and 6 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: 1E, MM

NO REF SOV: 000

OTHER: 000

Card' 2/2