

SITNIK, M.D., kand.tekhn.nauk

Complex development of technical means to provide for container
transportation for the future. Trudy MIIT no.146:93-133 '62.
(MIRA 15:12)

(Railroads—Equipment and supplies)

(Railroads—Freight)

SITNIK, M.D., kand.tekhn.nauk

The shipping and common carrier business is an important
connecting link of the unified transportation system. Zhel.
dor.transp. 44 no.8:33-37 Ag '62. (MIRA 15:8)
(Freight and freightage)

POVOROZHENKO, Vladimir Vasil'yevich, prof.; SITNIK, Mikhail Danilovich; SYTSKO, Petr Aleksandrovich, dots.; MIKHAYLOV, G.I., dots., red.; NEKHAY, V.T., red.; KISLYAKOVA, M.N., tekhn. red.

[Problems of the improvement of carrying and forwarding services in the U.S.S.R.] Voprosy sovershenstvovaniia transportno-ekspeditsionnogo obsluzhivaniia v SSSR; materialy. Pod red. V.V.Povorozhenko, G.I.Mikhailova. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR, 1963. 94 p.

(MIRA 17:1)

1. Nauchno-tekhnicheskoye setevoye soveshchaniye v BIIZhT, Gomel', 1962. 2. Zaveduyushchiy sektor Instituta kompleksnykh transportnykh problem Gosplana SSSR (for Sitnik).

KARETNIKOV , A.D., doktor tekhn. nauk, red.; KOMAROV, A.V.,
doktor tekhn. nauk, red.; SITNIK, M.D., kand. tekhn.
nauk, red.; PREDE, V.Yu., inzh., red.

[Coordination of the work of the various types of transporta-
tion] Koordinatsiia raboty razlichnykh vidov transporta. Mo-
skva, Izd-vo "Transport," 1964. 199 p. (MIRA 17:4)

SOV/117-58-12-28/36

AUTHORS: Gavrilov, S.M., and Sytnik, N.A., Engineers

TITLE: I.I. Chikarev, Fitter-Instrumentbuilder (Slesar'-instrumental'shchik I.I. Chikarev)

PERIODICAL: Mashinostroitel', 1958, Nr 12, pp 37 - 38 (USSR)

ABSTRACT: Information is given on the work of Ivan Ivanovich Chikarev, a Soviet machine builder who designed the following devices: 1) an improved design of a diamond polishing machine; 2) a special machine for twisting drills; 3) a centermeter-coordinator for determining the three-dimensional center in parts; 4) a machine tool for the production of single-digit stamps. At present Chikarev is occupied in designing an automatic self-clamping holder and in developing a method for the production of multi-digit hard-alloy stamps. There are 2 photos and 1 set of diagrams.

Card 1/1

HUDNEV, Yuriy Mikhaylovich; SYTNIK, N.A., inzh., red.; GORDEYEVA, L.P.,
tekhn.red.

[Die stamping with the use of electromagnetic blocks] Shtampovka
s primeneniem elektromagnitnykh blokov. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1960. 57 p.

(MIRA 14:1)

(Sheet-metal work)

(Electromagnets)

TAUBER, Boris Abramovich, prof., doktor tekhn.nauk; GORA, V.Ye., inzh.,
retsensent; SYTNIK, N.A., inzh., red.; CHERNOVA, Z.I., tekhn.red.

[Grab mechanisms; theory, design, and construction] Greifernye
mekhanizmy; teoriya, raschet i konstruktsii. Moskva, Gos.nauchno-
tekhn.izd-vo mashinostroit.lit-ry, 1960. 326 p.

(MIRA 13:11)

(Cranes, derricks, etc) (Excavating machinery)

MAKSIMOV, M.V., kand.tekhn.nauk; BORDYUKOV, A.P., inzh., retsenzent;
SYTHNIK, N.A., inzh. red.; UVAROVA, A.F., tekhn. red.

[Boiler units with a large evaporative capacity design and
construction] Kotel'nye agregaty bol'shoi paroproizvoditel'no-
sti; raschet i konstruktirovanie. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit. lit-ry, 1961. 430 p. (MIRA 14:5)
(Boilers)

RADYUCHENKO, Yuriy Sergeyevich; BRYUKHANOV, A.N., kand. tekhn. nauk,
retsenzent; SYTNIK, N.A., inzh., red.; SMIRNOVA, G.V., tekhn.
red.

[Rotary forging; shaping parts on rotary-and radial-forming
machines] Rotatsionnaya kovka; obrabotka detalei na rotatsionno-
i radial'no-~~ob~~ahimnykh mashinakh. Moskva, Mashgiz, 1962. 185 p.
(MIRA 15:3)

(Forging)

GERASIMOV, N.I., inzh.; SITNIK, N.A., slesar'-naladchik universal'no-sbornykh
prisposobleniy

Use of universal assembling devices in ship repair. Biul. tekhn.-ekon.
inform. Tekhn. upr. Min. ~~Mar.~~ flota 7 no.3:57-76 '62. (MIRA 16:5)

1. Kanonerskiy sudoremontnyy zavod (for Gerasimov).
(Ships--Maintenance and repair)

BONDARENKO, B.R., inzhener (g.Novochoerkassk); SITNIK, N.Kh., inzhener (g.Novo-
choerkassk); STEKOL'SHCHIKOV, V.A., inzhener (g.Novochoerkassk).

Single-phase industrial frequency electric locomotives. Zhel.dor.
transp. 37 no.11:8-14 N '55. (MLRA 9:2)
(Electric locomotives)

SOV/112-59-4-6955

8(0)

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, p 76 (USSR)

AUTHOR: Sitnik, N. Kh.

TITLE: Mathematical Simulation of Commutatorless AC Machinery

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Elektromekhanika, 1958, Nr 1, pp 35-49

ABSTRACT: The complexity of physical simulation switches one's attention to a mathematical simulation of electrical machinery. To simulate a physical phenomenon mathematically, an analytical connection between the quantities determining the phenomenon is to be found. Analytical relationships are expressed as a block diagram of a mathematical model which serves as a structural scheme of the latter. The block diagram components represented by computers carry out certain mathematical operations. The mathematical simulation of AC machinery is complicated by the fact that both self-inductance and mutual inductance rotary-machine windings depend on time; as a result,

Card 1/2

SOV/112-59-4-6955

Mathematical Simulation of Commutatorless AC Machinery

variable coefficients appear in the differential equations that describe the electromagnetic phenomena in the machine. Two methods of constructing a mathematical model are possible: (1) a direct use of differential equations; here, the variable coefficients require introduction of special computing components; (2) transformation of the differential equations of all phase windings to the same machine axes (e. g. , stator axes) which permits clearing the equations of variable coefficients; the blocks of components of all quantities along the axes selected are introduced in the model. Both methods are considered for the case of a capacitor-type motor which represents a simple asymmetrical machine. A comparison of the block diagrams reveals the expediency of the second simulation method; it has a lower error.

P. N. P.

Card 2/2

SITNIK, Nikolay Kharitonovich, inzh.

Method for designing asynchronous phase splitters and their parameters. Izv.vys. ucheb. zav.; elektromekh. 1 no.3:75-89 '58.
(MIRA 11:6)

1. Novocherkasskiy elektrozostroitel'nyy zavod.
(Electric machinery--Alternating current)

Sitnik, N.Kh.

110-2-7/22

AUTHORS: Zolotarev, P.A. (Engineer), Kozorezov, M.A. (Engineer) &
Sitnik, N.Kh. (Engineer)

TITLE: The drive of auxiliary equipment in a.c. electric locomotives.
(Privod vspomogatel'nykh mekhanizmov elektrovozov peremennogo toka.)

PERIODICAL: Vestnik Elektromyshlennosti, 1958, No.2, pp.24-28. (USSR)

ABSTRACT: With the increasing development of 50 c/s locomotives, more attention must be paid to the drive of auxiliaries. The main auxiliaries are compressors, fans, pumps and low voltage d.c. generators, all being constant-speed and-torque machines except the compressor. In addition to the usual requirements, such as reliability and simplicity of servicing, they must withstand ambient temperatures ranging between +40 and -50°C. and supply-voltage variations of +10 and -30%. The starting torque required of the driving motor of a compressor type 2-500 and the ambient temperature are related in Fig.1, based on the experimental data by Engineer G.G. Rekus of the Moscow Higher Technical College. Auxiliary equipment is supplied from a special single-phase winding on the locomotive power transformer. The first Soviet main-line a.c. 50 c/s locomotive type OP-22, constructed in 1938, used 3-phase induction motors supplied by a synchronous phase-splitter for auxiliary drive. In 1954 the Novocherkassk Electric Locomotive Works produced 50 c/s locomotives type H0 in which the auxiliaries are driven by capacitor-start induction motors. Abroad, extensive use is

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The drive of auxiliary equipment in a.c. electric locomotives.

110-2-7/22

made of induction motors. The use of capacitor-start induction motors is then further considered. The motors may be ordinary 3-phase machines in which the main winding consists of two phases of the three-phase winding connected in series, the third phase forming the capacitor winding. Various special features are then discussed. The torque curve of the pump motor used in locomotive type H0 is given in Fig.2. A trough in the curve, at one-fifth synchronous speed, makes the motor unsuitable for practical purposes. The system has a number of other disadvantages in rolling stock, although it does give a high power-factor. The system using three-phase induction motors supplied by a phase-splitter is then discussed. The latter is described; its circuit is given in Fig.3 and vector diagram in Fig.4. Graphs of the mechanical characteristics of induction-motor type AC81-6 with a number of variants of supply are given in Fig.5. The influence of the leakage reactance of the phase-splitter windings on the starting characteristics of the motor will be noticed. In further discussing characteristics of phase-splitters it is claimed that motors so supplied have better starting characteristics than capacitor motors, and do not involve disconnection of starting capacitances. Operating experience shows that failure to disconnect burns out the motor winding. In capacitor motor schemes the cost of auxiliary drives is about double that obtaining when a phase-splitter is used. The latter is, therefore,

Card 2/3

The drive of auxiliary equipment in a.c. electric locomotives. 110-2-7/22

recommended, particularly for rectifier locomotives in which the power-factor can be improved by installing synchronous compensators on the locomotive and combining the phase-splitter and compensator in one machine. A series d.c. motor supplied through a rectifier or alternatively a single-phase commutator motor is advised for the compressor drive. There are 5 figures, 3 literature references (2 Russian).

SUBMITTED: July, 1, 1957

ASSOCIATION: The NovoCherkassk Electric Locomotive Works (NovoCherkasskiy elektrozostroitel'nyy zavod)

AVAILABLE: Library of Congress.

Card 3/3

SOV/144-58-8-4/18

AUTHOR: Sitnik, N.Kh., Engineer

TITLE: Mathematical Analogues of Unsymmetrical Asynchronous
Machines (Matematicheskoye modelirovaniye nesimmetrichnykh
asinkhronnykh mashin)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika,
1958, Nr 8, pp 28 - 44 (USSR)

ABSTRACT: This is the first of two articles in which only stationary
machines are considered. A single-phase asynchronous
induction motor with an unsymmetrically wound stator is
considered (unsymmetrical star system) in the first
section. The starting conditions in such motors are
considered with the circuits used.
The next section deals with the principles that must be
used in designing electronic analogues, in particular, the
structural schemes that are most suitable. The need to
avoid excessive use of integrators, which drift, is
stressed. The necessary conditions to be ensured in
coupling the analogues for the various windings together
are stressed. The need to avoid inexact cancelling of
positive and negative feedbacks (which can lead to

Card1/2

SOV/144-58-8-4/18
Mathematical Analogues of Unsymmetrical Asynchronous Machines

oscillation) is pointed out. The proper scales that use the facilities of the computer best are then considered (Eqs 3, 4). The third section deals with the equations to be used in operating the analogues; the fourth with a numerical example; it is shown that the error in finding the current by calculation is some 5%, while the starting torque may be in error by 10%. The transients in the starting torque and the optimum parameters for the starting circuits are presented in Figures 10-14. There are 14 figures and 5 Soviet references.

ASSOCIATION: Novocherkasskiy elektrovostroitel'nyy zavod
(Novocherkassk Electric Locomotive Works)

SUBMITTED: July 30, 1958

Card 2/2

SISNIK, N. Kh., Cand Tech Sci — (diss) "Study of ^{AC} non-collector
electric machines of ~~alternating current~~ by means of electronic
computer machines of continuous action." Novochebarkassk, 1959.
32 pp with ~~diagrams~~ ^{diagrams} (Min of Higher Education USSR. Novochebarkassk
Order of Labor Red Banner Polytech Inst in S. Ordzhonikidze).
150 copies (KL, 39-59, 105)

56

SOV/144-59-8-14/14

AUTHOR: Sitnik, N.Kh., Engineer

TITLE: The Manufacture and Application of Silicon Power Rectifiers

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 8, pp 112-114 (USSR)

ABSTRACT: This article is a report by the author on his visit to the three firms of Siemens-Schuckert, Siemens & Halske and Krupp in the Federal German Republic and West Berlin in May, 1959. It is a general description of Siemens practice in the manufacture and use of silicon power rectifiers. There are no figures, tables or literature references.

ASSOCIATION: Novocherkasskiy elektrovostroitel'nyy zavod (Novocherkassk Electric Locomotive Works)

Card 1/1

KUROCHKA, A.L., kand.tekhn.nauk; SITNIK, N.Kh., kand.tekhn.nauk;
POSKROBKO, A.A., inzh. (Poskrobko)

Prospective a.c.locomotive. Zhel.dor.transp. 42 no.7:
13-20 J1 '60. (MIRA 13:7)
(Electric locomotives)

SITNIK, Kh

... electric locomotive produced by the firm "English Electric."
Izv. vys. ucheb. zav.; elektromekh. 4 no.10:120-124 '61.
(MIRA 14:11)

(Great Britain--Electric locomotives)

SITNIK, N.Kh., kand.tekhn.nauk

Electric locomotives with semiconductor rectifiers. Vest.
elektroprom. 32 no. 5:7-13 My '61. (MIRA 15:5)
(Electric locomotives)

KRAVCHENKO, A.I.; SITNIK, N.Kh.

Ways of creating main-line electric locomotives on the basis
of dimensional series and standardization. Sbor. nauch. trud.
EINII 2:72-93 '62. (MIRA 16:8)

(Electric locomotives--Design and construction)

ZOLOTAREV, P.A., inzh. (Novocherkassk); POSKROBKO, A.A., inzh.
(Novocherkassk); SITNIK, N.Kh., kand.tekhn.nauk (Novocherkassk)

Selecting the method of voltage regulation on a.c. electric
locomotives. Zhel.dor.transp. 44 no.1:38-43 Ja '62.
(MIRA 14:12)

(Electric locomotives)
(Voltage regulators)

SITNIK, N.Kh., kand. tekhn. nauk

Autonomous stabilized inverter using p-n-p-n devices. Elektro-
tekhnika 35 no.10:22-23 0 '64.

(MIRA 17:11)

L 04436-67 EWT(1)

ACC NR: AP6014694

SOURCE CODE: UR/0105/66/000/005/0055/0057

AUTHOR: Sitnik, N. Kh. (Candidate of technical sciences); Bogryy, V. S. (Engineer)

ORG: Mordovian Scientific Research Electrotechnical Institute (Mordovskiy nauchno-issledovatel'skiy elektrotekhnicheskiy institut)

TITLE: Switching and control devices designed with symmetrical thyristors

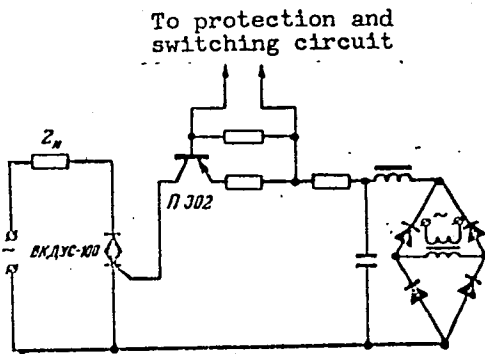
38
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SOURCE: Elektrichestvo, no. 5, 1966, 55-57

TOPIC TAGS: thyristor, semiconductor device

ABSTRACT: New "symmetrical" power thyristors have been developed in the SSSR;

such a thyristor can be turned on at any supply-voltage polarity; it is turned off like a conventional thyristor. A symmetrical-thyristor switching circuit (see figure) using a VKDUS-100 thyristor requires, for its control, only 400 ma at 6 v, i. e., the control-electrode dissipated power is only 2.5 w. An emitter-feedback transistor is used to d-c control the symmetrical-thyristor circuit. Nonlinear distortion inserted by the thyristor switch is negligible; turn-on and turn-off angles are with-



Card 1/2

UDC: 621.382.233

L 04436-67

ACC NR: AP601469-1

in 2° and 6° , respectively. A 3-phase circuit switching 29 kw caused a loss of only 240 w (or 0.8%); the turn-off-state thyristor current was 1 ma. Also, a circuit for the a-c control of a rectifier (described by one of the authors elsewhere) is discussed. This circuit is particularly suitable for the cases when $\alpha > 60^\circ$; it directs the energy toward the load at all times (conventional rectifiers send energy back to the supply source within certain portions of the a-c period) and, hence, has lower ripple and higher efficiency. Orig. art. has: 5 figures.

SUB CODE: 09 / SUBM DATE: 28Apr65 / ORIG REF: 006 / OTH REF: 001

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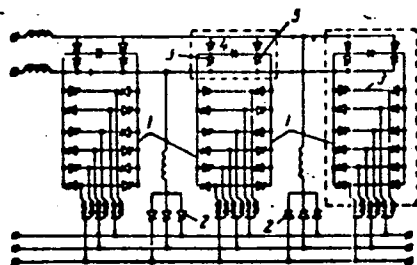
Card 2/2

ACC NR: AP7009073 SOURCE CODE: UR/0413/67/000/003/0049/0049
INVENTOR: Sakovich, A. A.; Sitnik, N. Kh.; Abramovich, M. I.; Antonov, B. M.; Bogryy, V. S.
ORG: None
TITLE: A reversible static converter. Class 21, No. 190974 [announced by the All-Union Electrical Engineering Institute im. V. I. Lenin (Vsesoyuznyy elektrotekhnicheskiy institut)]
SOURCE: Izobreteniye, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 49
TOPIC TAGS: nonrotary electric power converter, voltage regulator, phase shifter
ABSTRACT: This Author's Certificate introduces: 1. A reversible static converter with controllable cutput voltage. The unit contains a phase shifter and controlled rectifier. The output voltage control range is expanded and operational reliability is improved by making the device in the form of individual unified cells connected to operate in parallel depending on the load. 2. A modification of this converter in which each cell is made in the form of a single-phase commutator inverter connected to the input of the corresponding phase shifter. 3. A modification of this converter in which the single-phase commutator inverter is made up of silicon-controlled rectifiers connected in a bridge circuit with two series-connected rectifiers in each arm of the

Card 1/2 UDC: 621.314.58

ACC NR: AP7009073

bridge.



1—phase shifters; 2—controlled rectifier; 3—unified cells;
4—inverter; 5—controlled rectifiers in the inverter

SUB CODE: *89/* SUBM DATE: 26Feb64

Card 2/2

Syt'nik, N.P.
USSR/Cultivated Plants - Fruits and Berries.

M-5

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10998

Author : *Syt'nik, N.P.*

Inst : _____

Title : The Peach in Northern Moldavia.

Orig Pub : Sadovodstvo, vinogradarstvo, i vinodeliye Moldavii,
1956, No 6, 23-25

Abstract : In 1953 in the village of Tsaul', Tyrnovskiy rayon, a variety test plot was set up out of 38 varieties of peach on the following rootstocks: plum (*Prunus divaricata*), almond, and peach. All varieties took root at the rate of 90.4%. The wood did not get frostbitten although the temperatures dropped to -20°- -26° (winter 1953/1954). In 1954 some isolated fruits were noticed, and in 1955 almost all the trees gave fruit. The highest yields were given by Otechestvennyi 2 (89 centners),

Card 1/2

18

IVAKHIN, S.I., kand.tekhn.nauk; GAYDASH, B.I., inzh.; MIRONOV, I.M., inzh.;
SITNIK, N.P., inzh.

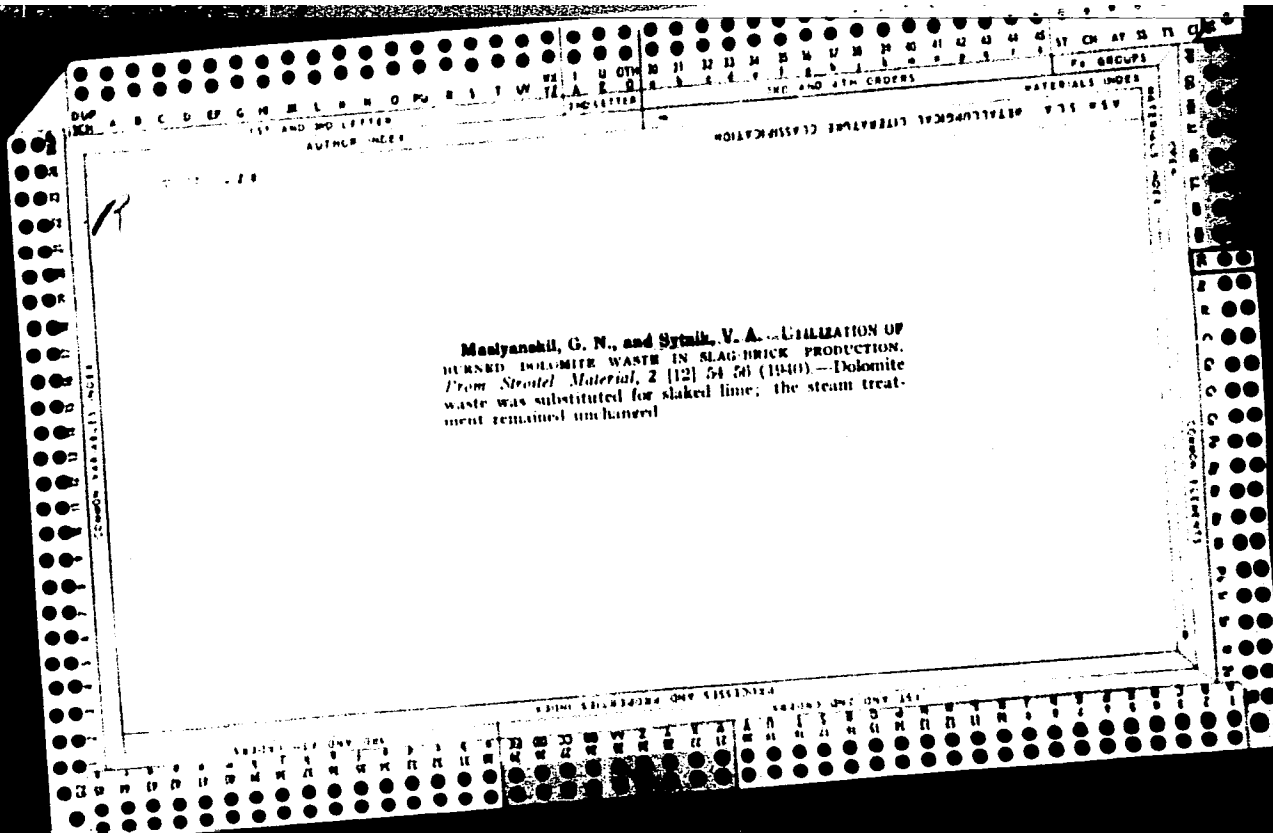
Use of synthetic materials in high-voltage insulators. Energ. i
elektrotekh. prom. no.2:37-38 Ap-Je '65. (MIRA 18:8)

SITNIK, S.Kh. [Sytnyk, S.Kh.]

Protection of electric motors equipped with a magnetic starter. Kharch.
prom. no.4:75 O-D '63. (MIRA 17:1)

SYTNIK, V. A.

C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	o	b	c	d	e	f	g	h	i	j	k	l	m	n	p	q
1ST AND 2ND ORDERS																	3RD AND 4TH ORDERS																										
PROCESSES AND PROPERTIES INDEX																																											
25																																											
<p>Steam treatment of slag brick. G. N. Moskvanski and V. A. Sytnik. <i>Prom. Stroitel. Material.</i> 2, No. 10-11, 95-97 (1947). E. E. Stefanovskv</p>																																											



SYTHIK, V. A.

PROCESSES AND PROPERTIES INDEX

CR

2

Building plates. V. A. Sythik and V. V. Koshchey
U.S.S.R. 68,439, May 31, 1917. Finely ground gypsum
is combined with fillings and the two are treated at 200-
220°. The resulting material is made into sheets for use
in partitions, floors, and the like, in the usual manner.
M. Hosh

CHERNYAVSKIY, N.D., kand.tekhn.nauk; SYTNIK, V.A., inzh.

Panels made of the new "SK" material to be used in building
prefabricated houses. Stroi.prom. 17 no.10:17-18 0 '49.
(MIRA 13:2)

(Building materials) (Buildings, Prefabricated)

S/194/62/000/005/103/157
D230/D308

9.1300

AUTHORS: Starovoytova, R.P., and Sytnik, V.A.

TITLE: Natural oscillations in a metal trough with a laminated filling

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1962, 21 abstract 5zh151 (Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1960, no. 39, 66-71)

TEXT: The authors consider oscillations in a rectangular metal trough of infinite dimensions with two dielectric slabs placed parallel to its bottom. The characteristic equation for determining the wave-number of the surface waves is obtained. It is shown, that in the case of longitudinal magnetic waves, two types of oscillations can take place, owing to the presence of the two slabs. For sufficiently large distances between the slabs ($l \geq 0.5 \lambda$) the wave-numbers of these waves can be calculated using simpler formulas. [Abstractor's note: Complete translation].

Card 1/1

KOROVIN, F.T.; BELOKHVOSTOV, S.D.; SUVOROV, V.S.; YURCHENKO, M.M.; SYTNIK, V.A.

Room disinfection by means of chemical sublimation of formaldehyde
and chlorine. Voен.-med. zhur. no.6:49-51 Je '61. (MIRA 14:8)
(DISINFECTION AND DISINFECTANT) (FORMALDEHYDE)
(CHLORINE)

MOSHKOVSKIY, N.F., inzh.; SYTNIK, V.A., inzh.; YAREMENKO, D.S., inzh.

On the road of mechanization and automation of industrial processes. Stroi. mat. 7 no.10:30-33 0 '61. (MIRA 14:10)

1. Kiyevskiy kombinat asbestotsementnykh izdeliy.
(Kiev--Building materials industry--Technological innovations)

GUTMAN, G.I., inzh.; KOZLOV, V.Sh., inzh.; STNIK, V.I., inzh.

Open standard crane trestles. Prom.stroi. 38 no.1:25-27
'60. (MIRA 13:5)

(Cranes, derricks, etc.)
(Trestles)

513. 1. 10.

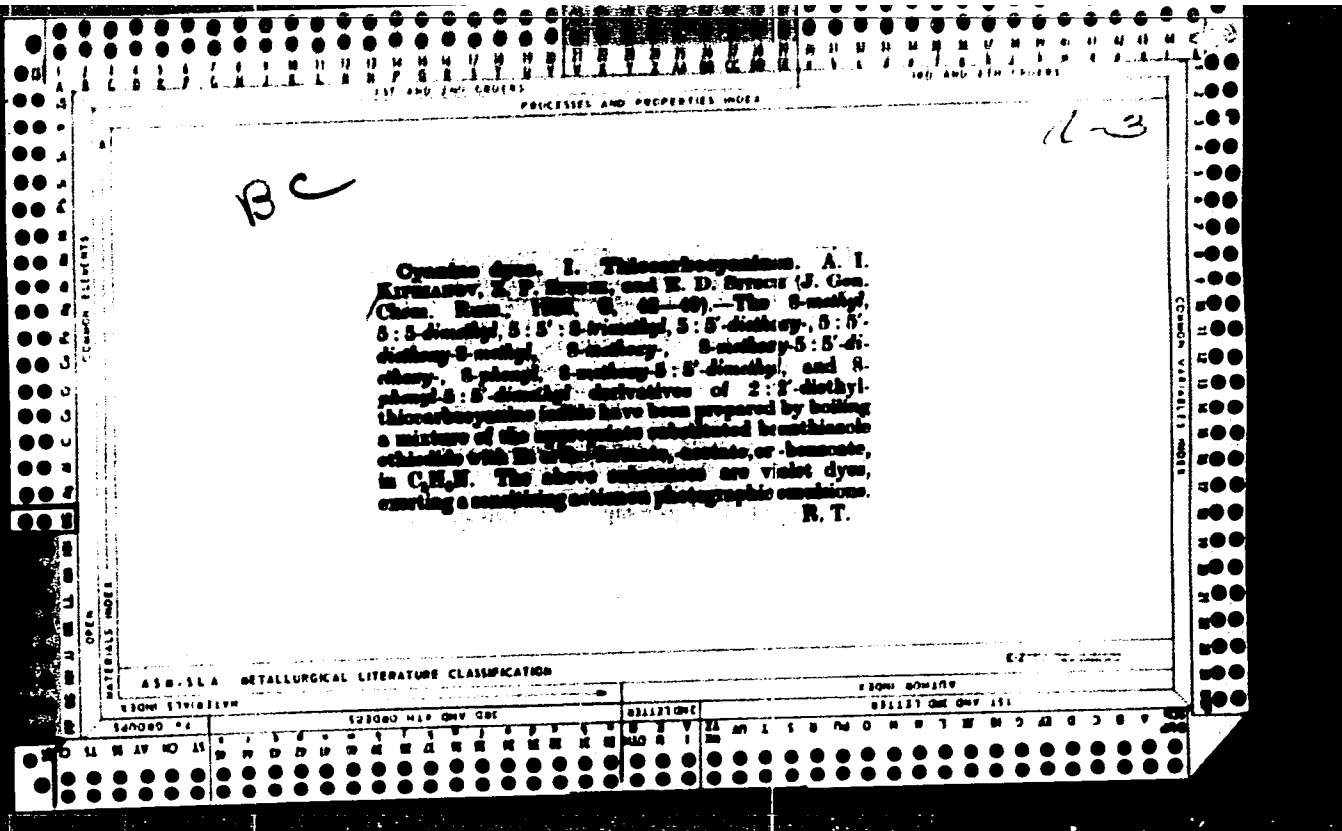
Minakov, A. M. and Orlov, Ye. "On the reaction of sulfur in the flux", Trudy
na avtor. sverkh-svishch (In-t elektrosverkh i. laser), collection 2,
1967, n. 6-71.

See: 513. 1. 10, (Review: Zhurnal Inzh. Stroy, no. 12, 1967).

MONCHAK, P.A., kard.med.nauki: 21111, Yelka

Opusculum Wendig-Hoffmann's Infarctile spinal cord lesions. Study
Tr. med. inst. 51239-241 '65. (MIRA 18:10)

1. Kafedra nervnykh bol'sozh Vsesoyuznogo nauchnoissledovatel'skogo instituta
(for Monchak). 2. Ispet'skaya katedra detskoj nezavisimost'noy
bol'nitsa (for Sitnik).



PROCESSING AND PROPERTY INDEX

a-3

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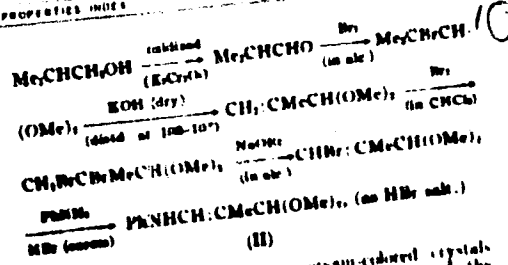
Synthesis of benzothiazole and its p-alkyl-derivatives. A. I. KURBANOV, E. P. BUKHAR, and N. E. GUSEVAYA (*J. Gen. Chem. Russ.*, 1958, 3, 228-233).— HCO_2H in C_6H_6 and (*o*- NH_2 , C_6H_4 , S), Zn (I) (5 hr. at the b.p.) yield benzothiazole (80% yield), Ac_2O in C_6H_6 and (I) (5 hr. at the b.p.) yield 1-methyl-2,3-dihydrobenzothiazole (73% yield), K_2CO_3 and (I) (15 hr. at the b.p.) afford 1-ethyl-, m.p. 164-165° (72% yield), PrCO_2H and (I) (5 hr. at the b.p.) give 1-n-propyl-, m.p. 151° (90% yield), and *n*-valeric acid and (I) (20 hr. at the b.p.) yield 1-n-butyl-benzothiazole, m.p. 160° (30% yield).
K. T.

ASM 51A METALLURGICAL LITERATURE CLASSIFICATION

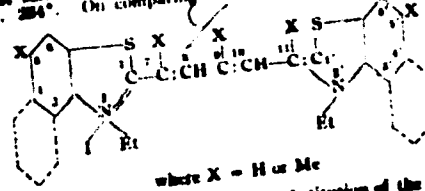
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Diacetylonium with substituents in the chromophore. *Z. Elektrochem. u. N. N. Katchugard. J. Appl. Chem. (U. S. A. N.)* 9, 1042-9 (in German [1955-1]) (1958).—For the purpose of investigating the influence of substituents in the polymethylene chain of diacetylonium dyes of the general formula I were prepd. by means of condensation of quaternary salts of the corresponding heterocyclic base with II or with $K(OCH_2CH_2O)_2$ (III) in dry pyridine or glc. in the presence of picric acid. The following dyes were prepd.: (1) 2,2'-diethylthiazolium dyes (green crystals, m. 280°) by the condensation of 2,2'-diethyl-3,4,3',4'-dithiazolium dyes with II in pyridine; (2) 2,2'-diethyl-3,4,3',4'-dithiazolium dyes (green glossy crystals, m. 210°), by the condensation of 2-methyl-4-methylthiazole-Et with III in pyridine; (3)



The salt of this product forms cream-colored crystals m. 264°. (On comparing the photosensitivities of the



dyes prepd., it was found that a substitution of the Me-

Chem A

/10

Merocyanine dyes of rhodanine derivatives. I. Properties of methylmethosulfate of 2-methylmercapto-5-(3-ethylbenzothiazolin-2-ylideneethylidene)-4(5H)-thiazolone. Z. P. Sytnik, I. I. Levkova, and M. V. Dalkhmetster (All-Union Cine-Photo Inst., Leningrad). *Zhur. Obshchei Khim. (J. Gen. Chem.)* 21, 768-72 (1951). Refluxing 1.33 g. rhodanine and 1.96 g. diphenylformamide in 15 ml. Ac₂O 1 hr. gave 70% 5-(acetamidomethylene)rhodanine, C₁₁H₁₀N₂S₂ (I), yellow needles, m. 230-2° (from EtOH). 3-Methylrhodanine gave the 3-Me deriv. (II), plates, m. 166-8° (from EtOH). Heating 0.56 g. I, 0.67 g. 2-methylbenzothiazole-EtI, and 10 ml. pyridine 15 min. to 130° gave 0.31 g. 3-(3-ethylbenzothiazolin-2-ylideneethylidene)-2-thio-2,4-thiazolidinedione (III), violet, decomp. 276° (from EtOH-pyridine), abs. max. 520 mμ. II gave 50% 3-Me deriv. (IV), red needles, decomp. 268-9° (from EtOH), abs. max. 522 mμ. Heating 0.64 g. III in 10 ml. EtOH 20 min. on a steam bath with 0.16 g. KOH and 0.4 g. p-MeC₆H₄SO₂Me gave 22% 2-methylmercapto-5-(3-ethylbenzothiazolin-2-ylideneethylidene)-4(5H)-thiazolone (V), red-violet needles, decomp. 249-51° (from C₆H₆), abs. max. 520 mμ; the EtOH insol. portion of the prepn. was identical with IV; V forms in 33.7% yield from 0.8 g. III in 7 ml. EtOH contg. 0.17 g. EtONa treated 20 min. at 60° with 0.31 g. Me₂SO₂. Heating 0.31 g. IV and 0.378 g. Me₂SO₂ 15 min. to 130°, cooling, filtering, washing with dry Et₂O, and boiling with C₆H₆ gave 90% 2-methylmercapto-5-(3-ethylbenzothiazolin-2-ylideneethylidene)-4(5H)-thiazolone-Me₂SO₂ (VI), red, decomp. 211-12°, also obtained in 63% yield by heating 0.43 g. V with 0.378 g. Me₂SO₂ 2 hrs. at 110°; VI has absorption max. 530 mμ. Boiling VI in H₂O 2 hrs. gave much MeSH and an orange ppt. of 3-methyl-3-(3-ethylbenzothiazolin-2-ylideneethylidene)-2,4-thiazolidinedione, orange-yellow, decomp. 247-9° (from EtOH), abs. max. 464 mμ. III and IV weakly sensitize AgBr to yellow and green; V is somewhat more effective. VI lowers the sensitivity of the emulsion.

G. M. Kosolov

1957

USSR/Chemistry - Photosensitizers

Jan 52

"Merocyanine Dyes - Derivatives of Rhodanine. II. Properties of Dimethinemerocyanines With Different Heterocyclic Nitrogen-Containing Radicals," M. V. Deychmeyster, Z. P. Sytnik, E. B. Lifshits, All-Union Sci Res Cline-Matographic Inst

"Zhur Obshch Khim" Vol XXII, No 1, pp 166-175

Synthesized following derivs of rhodanine and 3-ethylrhodanine: 28 dimethinemerocyanines differing by nature of heterocyclic N-contg radicals and 2 monomethineoxanine dyes. Studied light absorption. Found that hypsochromic displacement

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USSR/Chemistry - Photosensitizers (Contd) Jan 52

depends on nature of heterocyclic N-contg radicals. All merocyanines synthesized are sensitizers for Ag halide emulsions, most effective being dyes with thiazole, thiazoline, and pyridine-(2) groups.

207731

SEITNER, F. P.

SYTNIK, Z.P.

USSR/Chemistry - Photographic Sensitizers Apr 52

"Merocyanine Dyestuffs (Derivatives of Rhodanine). III
Dimethinemerocyanines-Derivatives of 3-Aminorhodanine
and 3-Diacetylamino-rhodanines," Z. P. Sytnik, S. V.
Natanson, M. V. Deychmeyster L. D. Zhilina, All-Union
Sci Res Cine-Photo Inst

Zhur Obshch Khim, Vol XXII, No 4, pp 705-711

Prepd representatives of a new group of dimethine-
merocyanines and tested their optical and photo-
graphic properties.

224T53

SYTNIK, Z.P.

Mercyanine Dyes of Rhodanine Derivatives. IV. Structure of Products of Decomposition of Quaternary Salts of Dimethinemerocyanines. Z. P. SYTNIK, I. I. LEVROEV, M. V. DEICHMEISTER and L. D. ZELINA. *J. Gen. Chem., U.S.S.R.*, 1952, 22, 1228-1234; *Chem. Abs.*, 1953, 47, 1511-1512.—Dyes which are derivatives of 2:4-thiazolidinedione are formed when the quaternary salts of dimethinemerocyanines having the 2-methylmercapto-4-thiazolidone residue are decomposed in water or alcohol. No rupture of the carbonyl-carrying ring takes place. The action of heat on a dimethinemerocyanine with the 2:4-thiazolidinedione residue in alcoholic caustic potash does cause rupture of the carbonyl-carrying ring with a loss of carbon dioxide and the formation of an α -mercaptoamide. The latter is easily oxidized by the passage of air to the disulphide. For example, 3-ethyl-5-(3-ethyl-2-benzothiazolylidene-ethylidene)-thiazolidine-2-thione-4-one was quaternised with dimethyl sulphate and the salt heated in 50 per cent ethyl alcohol in carbon dioxide-free air for two hours until free from carbon dioxide; a yield of 87.6 per cent of 3-ethyl-5-(3-ethyl-2-benzothiazolylidene-ethylidene)-2:4-thiazolidinedione was obtained. When the latter is refluxed for fifteen minutes in ethanolic caustic potash the products include ethylamine and potassium carbonate. The passage of air through the mother liquor gave 66 per cent of α - α -dithio-bis(N:3-diethyl- Δ^2 : γ -benzothiazoline-crotonamide).
A.J.A.

SYTNIK, Z.P.

LEVKOYEV, I.I.; SYTNIK, Z.P.; NATANSON, S.V.

Color motion-picture film photosensitizers. *Usp.nauch.fot.* 2:11-27 '54.
(MLBA 7:5)

(Color cinematography--Films) (Photographic chemistry)

Sytnk, Z.P.

Chem
Photo

Cyanine dyes. IX. Some tetramethoxythiacarbocyanines.
 I. I. Levkoev, Z. P. Sytnik, S. V. Natanson, V. V. Dur-
 mashkina, T. V. Krasnova, and R. S. Sluzer. *J. Gen.
 Chem. U.S.S.R.* 24, 1900-2004 (1951) (Engl. translation).—
 See C.A. 49, 4127g.

6 7

PM

SYTNIK, Z. P.
USSR/Chemistry

Card 1/1

Authors : Deychmeyster, M. V.; Sytnik, Z. P.; Levkoev, I. I.; and Lifshits, E. B.

Title : Merocyanine dyes derivatives of rhodanine. Part 6.- Dimethinemerocyanines having the alkyl or phenyl group in the polymethine chain.

Periodical : Zhur. Ob. Khim. 24, Ed. 5, 898 - 905, May 1954

Abstract : Report describes the synthesis of dimethinemerocyanines, derivatives of 3-ethylrhodanine with different heterocyclic nitrous radicals having the alkyl or phenyl group in alpha-or beta-positions of the polymethine chain. The arrangement of the alkyl or phenyl groups in alpha- or beta-positions of the polymethine chain of dimethinemerocyanines having benzthiazole and benzoxazole radicals causes a bathochrome displacement of the absorption maximum. This bathochrome displacement decreases with the increase in the basicity of the nitrous heterocyclic radical and in the case of a dye with a 4-phenylthiazole radical the displacement becomes hypochromic. Twenty-five references. Tables.

Institution : All-Union Scientific-Research Motion Picture-Photo Institute

Submitted : December 23, 1954

SYTNIK, Z. P.

Cyanine dyes. IX. Some tetramethoxythiacarbocyanines. I. I. Levkoev, Z. P. Sytnik, S. V. Natanson, V. V. Durmashkina, T. V. Krashovskaya, and R. S. Shuser. (Caucasus Photo Research Inst., Leningrad). *Zhur. Obshchei Khim.* 24, 2031-9 (1954); cf. *C.A.* 48, 2499a.—Transition from dimethoxy- to tetramethoxythiacarbocyanines deepens the color of the dyes, probably owing to steric hindrance to the electronic interaction of the MeO and the polymethine chromophores. Treatment of 4.6 g. 3-aminoveratrole with 6.4 ml. Ac₂O overnight gave 95% 3-acetamidoveratrole, m. 82-3°. This (1.95 g.) in hot C₆H₆ was treated with 0.54 g. P₂S₅ and refluxed 25 min. yielding, after extrn. with C₆H₆ and extrn. of the org. layer with 5% NaOH, 34% 3-(4,4'-acetamido-1,2-dimethoxybenzene (I), m. 81° (from EtOAc). Similarly was prepd. 51% 4-thioacetamido-1,3-dimethoxybenzene (II), m. 89-90°. I oxidized in 8% KOH with K₂Fe(CN)₆ at 0-5° overnight gave 01% 2-methyl-4,5-dimethoxybenzothiazole, m. 61.5-2° (from petr. ether). Similarly II gave 31% 2-methyl-4,6-dimethoxybenzothiazole, m. 58-9°, picrate, m. 173-4°. 2-Thioacetamido-1,2-dimethoxybenzene gave similarly 75% 2-methyl-4,7-dimethoxybenzothiazole, m. 100-1°; picrate, m. 155-0°; methiodide, m. 203-10°; ethiodide, m. 221-2°; propiodide, m. 186-7°; Me p-toluenesulfonate, m. 149-50°. Oxidation of 4-thioacetamido-veratrole with K₂Fe(CN)₆ gave 2-methyl-5,6-dimethoxybenzothiazole, m. 75-0°; picrate, m. 204-5°. The dimethoxy-2-methylbenzothiazoles were heated with 5% excess p-Me-C₆H₄SO₃Et 6 hrs. to 140-5° (130-5° for the prepn. of 3,3'-dimethyl derivs.), and the resulting quaternary salts were heated 1 hr. at 130-5° with pyridine and C(OEt)₂. After the usual treatment the thiacyanines were pptd. as

iodides with addn. of aq. KI. Thus were prepd. the following thiocarbocyanine iodides (substituents shown): 3,2'-diethyl-4,4',5,5'-tetramethoxy, 76%, red, m. 223-4°, abs. max. (in EtOH) 572 m μ ; 3,2'-diethyl-9-methyl-4,4',5,5'-tetramethoxy, 38%, green, m. 217-17°, 550; 3,3',9-triethyl-4,4',5,5'-tetramethoxy, 31%, green, m. 202-3°, 555; 3,3'-dimethyl-9-ethyl-4,4',5,5'-tetramethoxy, 62%, red, m. 206-8°, 552; 3,3'-diethyl-4,4',6,6'-tetramethoxy, 36%, violet, m. 248-50°, 574; 3,3'-diethyl-9-methyl-4,4',6,6'-tetramethoxy, 33%, blue-violet, m. 224-5°, 562; 3,3',9-triethyl-4,4',6,6'-tetramethoxy, 42%, brown-green, m. 222-3°, 566; 3,3'-dimethyl-9-ethyl-4,4',6,6'-tetramethoxy (isolated as chloride), 38%, brown-green, m. 174-6°, 562; 3,3'-diethyl-4,4',7,7'-tetramethoxy, 75%, blue-violet, m. 224-5°, 564; 3,3'-diethyl-9-methyl-4,4',7,7'-tetramethoxy, 35%, brown-red, m. 206-7°, 548; 3,3',9-triethyl-4,4',7,7'-tetramethoxy, 23.5%, green, m. 210-12°, 552; 3,3'-dimethyl-9-ethyl-4,4',7,7'-tetramethoxy, 34%, red-violet, m. 210-11°, 550; 3,3'-diethyl-5,5',6,6'-tetramethoxy, 78%, green, m. 240-50°, 530; 3,3'-diethyl-9-methyl-5,5',6,6'-tetramethoxy, 40%, blue-violet, m. 211-2°, 575; 3,3',9-triethyl-5,5',6,6'-tetramethoxy, 34%, blue, m. 222-3°, 580; 3,3'-dimethyl-9-ethyl-5,5',6,6'-tetramethoxy, 30%, red-brown, m. 236-7°, 576.

G. M. Kondapof...

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- AUTHORS:** Sytnik, Z. P., and Zhilina, L. D.
- TITLE:** About Merocyanine Dyes Derivatives of Rhodanine. Part 7. Reaction Products of 3-Ethyl-5-(3'-Ethyl-6'-Diethylaminobenzthiazolinilidene-2'-Ethylidene)-Thiazolidinthion-(2)-one with dimethyl sulfates and Their Conversions (O merotsianinovykh krasitelyakh proizvodnykh rodanina. VII. O produktakh vzaimodeystviya 3-etil-5-(3'-etil-6'-dietilaminobenzthiazoliniliden-2'-etil-iden)-thiazolidintion-(2)-ona-(4) s dimetilsul'fatom i ikh prevrashcheniyakh)
- PERIODICAL:** Zhurnal Obshchey Khimii, 1957, Vol. 27, No. 1, pp. 215-227 (U.S.S.R.)
- ABSTRACT:** The properties of compounds (quaternary salts of dimethinemerocyanines) with polar substitutes - nitro- or diethylamino groups- in position 6 of the benzthiazole radical were investigated. The reaction of dimethyl sulfate with 3-ethyl-5-(3'-ethyl-6'-diethylaminobenzthiazolinilidene-2'-ethylidene)-thiazolidinthion-(2)-one-'4) is followed by methylation of the thion sulfur and formation of a cation center on the nitrogen ring atom of the rhodanine

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About Merocyanine Dyes Derivatives of Rhodanine

radical as well as the addition of the dimethyl sulfate to the diethylamino group. This results in the formation of a quaternary and double quaternary salt mixture with a prevalence of one of the two depending of course upon the reaction conditions. A study of the optical properties of the synthesized dyes showed that the entry of the methyldiethylammonium group into position 6 of thiadimethinecyanines, derivatives of 3-ethylrhodanine and 3-ethylthiazolidinedion-(2,4) causes considerable displacement of the absorption maximum toward the short wave zone as compared with the nonsubstituted dyes. It was noticed during the hydrolysis of quaternary salts that the reaction occurs at various rates depending upon the nature of the heterocyclic radicals and these dyes and the concentration of the solutions. Bathochromic displacement of the absorption maximum, the magnitude of which decreases with the increase in basicity of the heterocyclic radicals, was observed during the change over from merocyanine derivatives of 3-ethylrhodanine to quaternary salts. Quaternary salts with heterocyclic radicals, the basicity of which is reduced by the introduction of electronegative substitutes, have the highest hydrolysis rate.

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About Merocyanine Dyes Derivatives of Rhodanine

Two tables, 8 graphs. There are 14 references, of which 9 are Slavic.

ASSOCIATION: The All-Union Scientific Research Motion Picture Institute
(Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstitut)

PRESENTED BY:

SUBMITTED: January 4, 1956

AVAILABLE:

Card 3/3

20-2-30/60

AUTHORS: Sytnik, Z. P. , Zhilina, L. D. , Lifshits, E. B.

TITLE: Merocyanine Dyes With Electron-Releasing Substituents in the Polymethine Chain (O merotsianinovykh krasitelyakh s elektrodonornyimi zamestitelyami v plimetinovy tsepi)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 2, pp.343-346 (USSR)

ABSTRACT: Among the merocyanine dyes substituted in the chain only dimethynmerocyanines have been investigated in sufficient detail, i.e. rhodanine derivatives with an alkyl or phenyl group in the polymethynchromophor. Therefore it was of interest to investigate the methods of synthesis and the properties of the di² and tetramethynmerocyanines which contain in an α -position an electropositive substituent, e. g. an alkoxyl, amino, or a substituted amino group. By the interaction of 3-ethyl-5-(α -ethoxyethyliden)-rhodanine ($R=C_2H_5$) with ethyl-p-toluenesulphonate of 2-ethylmercaptobenzthiazol in the alcohol medium and in presence of triethylamine at normal temperature, α -ethoxydimethynmerocyanine was obtained. In

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Merocyanine Dyes With Electron-Releasing Substituents in the Polymethine Chain

analogy hereto, α -ethoxysubstituted dimethynmerocyanines with rests of 6,7-tetramethylbenzthiazol, benzselenazol, chinoline benzoxazol and thiazolin were synthesized. The authors of the present paper furthermore succeeded in obtaining, by condensation of the 3-ethyl-5-(α -ethoxyliden)-rhodanine ($R=C_2H_5$) with quartery salts of the vinyl derivatives of heterocyclic bases in an ethanol solution or in acetic anhydride in presence of triethylamylin, α -ethoxytetramethynmerocyanines with rests of benzthiazol, as well as of benzselenazol and 3,3-dimethylindolenin. It could be expected that the alkoxy group would have considerable mobility, and in particular a capacity of exchange with respect to the amino rest, which would make it possible for the authors to proceed to the α -aminosubstituted mercocyanines which have not been described so far. This was actually the case, and after α -ethoxy- or α -methoxydimethynmerocyanine was heated, through one hour, with abundance of methylamine in alcohol solution, two dyes were insulated that are identical from the point of view of their properties. Their elementary composition shows that they are merocyanines with an ethylamino group in the α -position. The reactions with methyl-

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Merocyanine Dyes With Electron-Releasing Substituents in the Polymethyn Chain

being formed in this context. Here again substitution of the ethoxygroup as compared to the rest of an aliphatic amine leads to a sharp decrease in the reactive capacity of the methyl group. As expected, the acetylation of the amino group in the compound denoted with IV leads to a noticeable increase of the mobility of the hydrogen atoms of the methyl group. Analogous syntheses were carried out, starting from the appropriate ethylidenrhodanines, of the α -phenylacetamino- and α -phenylacetoaminomerocyanines. These can also be obtained by acetylation of appropriate α -amino-, α -ethylamino-, and α -phenylaminomerocyanines. There takes place in merocyanines, which contain rests of 6,7-tetramethylenbenzthiazol, benzselenazol, chinoline, and thiazoline, a shift of the maximum of absorption into the long-wave sphere, if an alkoxy- and ethylamine-group is introduced. Acetylation of the amino group results in a sharp bathochromic shift of the maximum of absorption of the dyes. There are 1 table, and 11 references, 5 of which are Soviet.

Card 4/5

11 15

Dipole moments of some merocyanine dyes, derivatives

of rhodanine. E. A. Shott-L'vovs, Ya. K. Syrkin, I. I. Levkocv, and Z. P. Sytnik (M. V. Lomonosov Inst. Fine Chem. Technol., Moscow); *Doklady Akad. Nauk U.S.S.R.* 116, 804-7(1957).—Dipole moments were detd. in CCl₄ at 25° for 13 merocyanine dyes. The following values were found in Debyes for the following 8-substituted derivs. of rhodanine: 2-(1-ethyl-3,3-dimethyl-2-indolinylidene)ethylidene, 6.27; 2-(3-butyl-2-benzothiazolinylidene)ethylidene, 7.68; 2-(3-isobutyl-2-benzoxazolinylidene)ethylidene, 2.22; 2-(3-ethyl-2-benzoxazolinylidene)ethylidene, 8.37; 2-(1-ethyl-3-methyl-2-benzimidazolinylidene)ethylidene, 6.9; 2-(3-ethyl-2-thiazolidinylidene)ethylidene, 8.6; 2-(1-ethyl-2-pyrrolidinylidene)ethylidene, 8.51; 2-(3-ethyl-4-thiazolin-2-ylidene)ethylidene, 9.18; 2-(1-ethyl-2(1H)-pyridylidene)ethylidene, 9.15; 2-(1-ethyl-3(1H)-quinolylidene)ethylidene, 7.85; as well as for 3-ethyl-5-[(3-ethyl-2,4-dioxo-6-thiazolidinylidene)methyl]-4-hydroxy-2-(methylthio)thiazolium betaine, 7.11; 3-ethylrhodanine, 1.75; and 1-ethyl-3,3-dimethyl-2-methylencindoline, 1.13. G. M. K.

SITNIKA, G. F. Card. Physicomath. Sci.

"Realization of a Model of a Black Body at High Temperatures," a report presented at a session held from 19 to 23 April 1955 at Alma-Ata by the Astronomical Council of the Academy of Sciences USSR jointly with the Astrophysical Institute of the Academy of Sciences Kazakh SSR, Izvestiya Astrofiz. Inst., No.4, 1956

SITNIKOV, A.

Status of communications workers in capitalistic countries.
Sov.sviаз 2 no.11:23-24 N '52. (MLRA 7:8)

1. Starshiy referent po mezhdunarodnomu rabochemu dvizheniyu
TsK profsoyuza rabotnikov svyazi SSSR.
(Telecommunication--Employees)

SITNIKOV, A.

China - Telecommunication

Communication workers of the people's republic of China. Sov. sviaz. 3 No. 3, 1953.

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

SITNIKOV, A. (g.Berezniki)

Electrotechnical practicum in the schools in Berezniki. Fiz. v shkole
16 no.4:92 J1-Ag '56. (MLRA 9:9)

1.Srednyaya shkola imeni S.M.Kireva.
(Berezniki--Electric engineering--Study and teaching)

ARDASHEV, Gavriil Romanovich; BAZAROV, I.V.; MIKHAYLOV, I.N.; MORSHIN,
A.V.; POLOTSKIY, I.V.; HUDENKO, A.I.; SITNIKOV, A.P.; SPERANOV, N.N.;
KRYUKOV, V.L., red.; DEYEVA, V.M., tekhn.red.

[Maintenance of tractors and agricultural machinery] Tekhnicheskoe
obsluzhivanie traktorov i sel'skokhoziaistvennykh mashin. Moskva,
Gos.izd-vo sel'khoz.lit-ry, 1961. 470 p.

(MIRA 14:4)

(Tractors--Maintenance and repair)
(Agricultural machinery--Maintenance and repair)

SITNIKOV, G.; SITNIKOV, D.; ZARIPOV, M.

Every trailer should be in operation. Avt.transp. 38 no.7:6
J1 '60. (MIRA 13:7)

1. Nahal'nik Avtotransportnoy kontory No.2 Sverdlovskogo goravtotresta (for Sitnikov). 2. Sekretar' partbyuro Avtotransportnoy kontory No.2 Sverdlovskogo goravtotresta (for Sitnikov, D.) 3. Predsedatel' mestkoma Avtotransportnoy kontory No.2 Sverdlovskogo goravtotresta (for Zaripov).
(Transportation, Automotive)

GORODNICHYEV, V.M., kand.tekhn.nauk; SITNIKOV, D.V., inzh.

Improve research and planning in mine surface building. Shakht.
stroitel'stvo. no.11:4-6 N '59. (MIRA 13:3)

1. Donetskii nauchno-issledovatel'skiy institut nadshakhtnogo
stroitel'stva.
(Mining engineering)

SITNIKOV, D.V., inzh.

Coordination conference of research, designing and planning, and
production organizations. Shakht.stroi. 5 no.12:29-30 D '61.
(MIRA 14:12)

(Mine buildings)

L 17848-65 EWT(1)/EEC(t)/EEC(b)-2 ASD(a)-5/AFWL/SSD(a)/SSD/ESD(gs)/ESD(t)
ACCESSION NR: AP5000445 S/0109/64/009/012/2071/2077

AUTHOR: Masalov, S. A.; Repa, Yu. T.; Sitnikov, E. D.

TITLE: Diffraction of an H-polarized plane electromagnetic wave by a plane grating with a dielectric

SOURCE: Radiotekhnika i elektronika, v. 9, no. 12, 2071-2077

TOPIC TAGS: diffraction, diffraction grating, plane wave diffraction

ABSTRACT: Diffraction by perfect-conductance rectangular cross-section bars forming a grating or grill, with a dielectric material between them, is theoretically considered. A general solution in the form of two infinite sets of an algebraic equation is given; their unknowns are numerical coefficients in Fourier series. Finite-order sets are isolated and their approximate solutions, obtained on a digital computer, are reported. The problem is solved for a normal-incidence case; vector \vec{H} is oriented along the bars; no limitation is imposed on

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ACCESSION NR: AP5000445

the grill parameters or ratio of the wavelength to the grill period. Transmission coefficients plotted against $k = 2\pi/\lambda$ are presented. "The authors wish to thank V. P. Shestopalov for his direction of the work." Orig. art. has: 5 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 30Sep63

ENCL: 00

SUB CODE: OP, DP, EM

NO REF SOV: 001

OTHER: 000

Card 2/2

SITNIKOV, G.A.

Second Scientific Conference on Practice of Doctors of Sanatorium and Health Resort Institutes and Rest Homes of the Trade-Unions under Krasnoyarsk Health Resort Administration. Vop.kur., fizioter. i lech. fiz. kul't. 26 no.6:567-568 N-D '61. (MIRA 15:1)

1. Zamestitel' nachal'nika Krasnoyarskogo territorial'nogo kurortnogo upravleniya. (HEALTH RESORTS, WATERING PLACES, ETC.....CONGRESSES)

KOTSYUBINSKIY, O.Yu.; SITNIKOV, G.D.; SYSOYEV, S.I.; SEMENOV, V.W.; GERCHIKOV, A.M.

Residual stresses and the warping of iron castings. Lit. proizv. no.4:
28-31 Ap '63. (MIRA 16:4)

(Iron founding---Defects)

(Thermal stresses)

SITNIKOV, Gennadiy Dmitriyevich; DOBROZRACOV, Oleg Ivanovich;
SAZONTOV, Vitaliy Ivanovich; GURNOV, S., red.; KUZNETSOVA, A.,
tekh. red.

[The plant was helped by the foundry section] Zavodu pomog-
la seksiaa liteishchikov. Moskva, Mosk. rabochii, 1963. 71 p.
(MIRA 17:3)

SITNIKOV, G. G.

PA 78T77

USSR/Radio Receivers
Vacuum Tubes

Feb 1948

"What Do the Customers Want?" G. G. Sitnikov, 1 p

"Radio" No 2

Imp, p sent in Kozitaken

Recently the Central Union of the GlavOsobTorg organized radio consultation setup to determine the desires of consumers, and to air their complaints. Discusses methods for the selection of radio receivers, the effects of various industrial interference, the lack of sufficient voltage in various power circuits, and the possibility of replacing some tubes with others.

ID

78T77

STNIKOV, G.G.

[Radio listener's manual in questions and answers] Spravochnik
radioslushatelia v voprosakh i otvetakh. Moskva, Gos. energ.
izd-vo, 1949. (Massovaia radiobiblioteka, vyp.54) 135 p.
(Radio--Receivers and reception) (MLRA 8:11)

SITNIKOV, G. S.

Fedenko, I. I.

Moscow to Ufa; along the course of five rivers Moskva, Gos. izd-vo geogr.
lit-ry, 1954. 196 p. maps. (55-25201)

DK28.S55

SITNIKOV, I., neshtatnyy korrespondent (g.Ardatov, Mordovskoy SSR);
PERTSOV, V. (Baku); KARASIK, L. (Baku); AKHMETOV, A.

Unfolding of the struggle for the achievement of the yearly plan.
Mest.prom.i khud.promys. 4 no 2:1 F '63. (MIRA 16:2)

1. Direktor fabriki bumazhno-belovykh tovarov, Alma-Ata (for Akh-
metov).

SITNIKOV, I., mayor

Our soldiers have extended their military and technological studies.
Komm.Vooruzh.Sil 1 no.6:41-43 Mr '61. (MIRA 14:8)
(Radio, Military)

SITNIKOV, I.

Important task of trade-union organizations. Zhil.-kom. khoz. 8
no.9:12-13 '58. (MIRA 11:10)

1. Predsedatel' Tambovskogo obkoma profsoyuza rabochikh mestnoy
promyshlennosti i kommunal'nogo khozyaystva.
(Tambov--Municipal services)

SITNIKOV, I.

Very important matter. Mest.prom.i khud.promys. 2 no.2:16
F '61. (MIRA 14:4)

1. Predsedatel' obkoma profsoyuza rabochikh mestnoy promyshlennosti
i kommunal'nogo khozyaystva, Tambov.

(Clothing industry--Labor productivity)

SITNIKOV, A.M.

Leveling and compacting of fall-plowed fields. Zemledelie 26 no.8:
25-27 Ag '64. (MIFA 17:11)

1. Tarskaya sel'skokhozyaystvennaya opytnaya stantsiya Sibirskogo
nauchno-issledovatel'skogo instituta sel'skogo khozyaystva.

MASALOV, S.A.; REPA, Yu.I.; SITNIKOV, E.D.

Diffraction of H-polarized plane electromagnetic wave on a plane
grid with a dielectric. Radiotekh. i elektron. 9 no.12:2071-2077
D '64 (MIRA 18:1)

SITNIKOV (Mayor) I.

Mayor

It became the rule to do outstanding work. Voen. vest. 42 no.5:
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(Communications, Military)

SITNIKOV, I. A.

Onions

Cultivation of perennial multishoot onions in Kuznetsk Basin., Sad i og., no. 1,
1952.

9. Monthly List of Russian Accessions, Library of Congress, _____ May _____ 1952, Uncl.

SITNIKOV, I.G.

Some results of hydrodynamic investigation of breezes. Trudy TSIP
no.93:65-79 '60. (MIRA 13:11)

(Winds)

SITNIKOV, I.G.

Practice of using a finite difference system in a numerical
prediction of the geopotential at mean sea level. Trudy TSIP
no.102:34-46 '62. (MIRA 15:9)
(Numerical weather forecasting)

SITNIKOV, I.G.

Numerical forecasting of the geopotential on the mean level.
Trudy TSIP no.126:28-37 '63. (MIRA 16:11)

SITNIKOV, I.G.

Analysis of tropical cyclones and forecasting their movement by
numerical methods. Meteor. i gidrol. no.10:1-10 0 '64.

(MIRA 17:10)

L 16611-65 EWT(1)/FCC ESD(t)/RAEM(a) GW
ACCESSION NR: AT4048458

S/3118/64/000/003/0082/0089

AUTHOR: Sitnikov, I.G.

B+1

TITLE: Results of operational testing of a method of numerical forecasting of geopotential at the mean level of the troposphere ✓

SOURCE: Mirovoy meteorologicheskii tsentr. Trudy*, no. 3, 1964. Voprosy* gidrodinamicheskogo kratkosrochnogo prognoza pogody* i mezometeorologii (Problems in hydrodynamic short-range weather forecasting and mesometeorology), 82-89

TOPIC TAGS: weather forecasting, short-range weather forecasting, hydrodynamic weather forecasting, atmospheric geopotential, troposphere

ABSTRACT: From May through December, 1962 the Vy*chislitel'ny*y meteorologicheskii tsentr GUGMS (Meteorological Computation Center of the Main Administration of the Hydrometeorological Service) tested a finite-differences method of forecasting geopotential at the mean level of the troposphere for up to three days in advance. The results of the computations — AT₅₀₀ prognostic charts for 48 and 72 hours in advance — were communicated to the Long-Range Weather Forecasting Division of the Tsentral'ny*y institut prognozov (Central Institute of Forecasts) where they were used in day-to-day work. The forecast

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was prepared for a considerable part of the North Atlantic and the Arctic Ocean, Western Europe and the European part of the SSR, northwestern Siberia and Kazakhstan. The preliminary testing of this method was reported earlier (Sitnikov, I. G., Trudy* TsIP, No. 102, 1962). This paper describes the modified method as used during the above-mentioned period; a specific case is cited as an illustration. The results of 48- and 72-hour forecasts are analyzed. Among the shortcomings of the method at present is that the forecasts are more successful when the actual change of the geopotential field is relatively weak and therefore the quality of forecasts for the warm part of the year with less active atmospheric processes are generally better than for winter. It was also found that there was excessive smoothing of the prognostic charts. A specific case of a 72-hour forecast is cited as an illustration of the degree of success of such a forecast. It was concluded from this experience that at least with respect to the sign of changes in the geopotential field the forecasting method is quite good. The pattern of predicted and actual isohypses was usually close. Specific improvements in the method are suggested. Orig. art. has: 2 formulas, 4 figures and 1 table.

ASSOCIATION: Mirovoy meteorologicheskii tsentr (World Meteorological Center)

SUBMITTED: 00

ENCL: 00

SUB CODE: ES

NO REF SOV: 005

OTHER: 001

Card 2/2

L 9986-65 EWT(1)/FCC AFETR GW
ACCESSION NR: APh047450

S/0050/64/000/010/003/0010

AUTHOR: Sitnikov, I. G.

TITLE: On the analysis of tropical cyclones and forecasting their movement by numerical methods ⁵

SOURCE: Meteorologiya i gidrologiya, no. 10, 1964, 3-10

TOPIC TAGS: storm, cyclone, hurricane tracking, meteorology, wind

ABSTRACT: The author discusses numerical means of analyzing and forecasting movements of tropical storms. The question of determining the wind field was considered first, with the assumption that information of geopotential distribution is available. An expression for the wind gradient was developed and a plot made of wind gradient distribution based upon data from Hurricane Edith in 1955. Consideration of a stream function and vortex movement in polar coordinates with given boundary conditions led to a numerical tracking prediction mechanism based upon successive parameter observations. A table is presented showing errors corresponding to observation frequencies for approximate solving of the vortex translation motion. The method was tested by means of applying the approximate tracking

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ACCESSION NR: AP4047450

solution to data collected on tropical storms Helen (1958), Nancy (1961), Shirley (1963), and Violet (1961). Note was made of deviations of predicted trajectories from actual trajectories. An octagonal geographic division was used for tracking purposes. The author discusses the errors encountered in using the method and expresses satisfaction with the results of forecasting in some cases. Orig. art. has: 2 figures, 2 tables, and 13 equations.

ASSOCIATION: Mirovoy meteorologicheskij tsentr (World Meteorological Center)

SUBMITTED: 31Mar64

ENCL: 00

SUB CODE: ES

NO REF SOV: 007

OTHER: 009

Card 2/2

SITNIKOV, I.G.

Use of accurate solutions of the vorticity equation at the mean level for the analysis of tropical cyclones. Trudy MITS no.7:44-60 '65. (MIRA 18:7)

I. 43065-00 ENT(1) 17

ACC NR: AT6014301

(N)

SOURCE CODE: UR/3118/65/000/010/0075/0086

AUTHORS: Sitnikov, I. G.; Fuks-Rabinovich, M. S.2.0
B+1

ORG: none

TITLE: Filling in missing information in the geopotential area for vast, poorly covered regions of the northern hemisphere

SOURCE: Mirovoy meteorologicheskij tsentr. Trudy, no. 10, 1965. Ob'yektivnyy analiz i obrabotka meteorologicheskikh dannykh (Objective analysis and processing of meteorological data, 75-86)

TOPIC TAGS: weather forecasting, synoptic meteorology, meteorologic observation, atmospheric wind field, weather map

ABSTRACT: Results of numerical experiments in the method of dynamic analysis are offered, correlating prognostic with diagnostic areas, thus improving the weather prognosis especially in the poorly covered regions with sparse networks of meteorological observatories. This work is an expansion of one published earlier by I. G. Sitnikov (Rezultaty operativnogo ispytaniya skhemy chislennogo prognoza geopotentsiala na srednem urovne troposfery. Tr. MMTs, vyp. 3, 1964). The method of dynamic analysis and its application were described by M. S. Fuks-Rabinovich (Rezultaty chislennykh eksperimentov po metodu dinamicheskogo analiza. Tr. MMTs,

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ACC NR: AT6014301

vyp. 4, 1964). It consists mainly of: 1) determination of the absolute wind field from the prognostic data inside a poorly covered area; 2) introducing the actual data for the same period in the same area; 3) solving Poisson's equation. Using this method, maps AT₅₀₀ for the area covering the North Atlantic Ocean and a portion of North America and Greenland have been drawn. Comparison of the actual (from synoptic analysis), prognostic, and statistically corrected AT₅₀₀ maps is given.

Calculations for processing of the area correlation method for a portion of Eurasia were performed by I. A. Tararina. Orig. art. has: 4 tables, 6 figures, and 2 equations.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 003

Card 2/2 hs

DOLMATOV, Ye.G.; SITNIKOV, I.I.

Method for measuring the speed of plastic flow of steel during
explosion elongation. Zav. lab. 24 no.5:629-631 '58. (MIRA 11:6)
(Steel--Testing)

SITNIKOV, I.S.; KOROTKOV, S.V.; MYASNIKOV, V.A.; PIVOVAROV, V.T.

Automatic meter of the volume of round logs for long conveyors.
Biul. tekhn.-ekon. inform. Gos. nauch.-issl. inst. nauch. i
tekhn. inform. 17 no.2:53-55 '64. (MIRA 17:6)