

SEMEHOV, M.V.

Balancing the k harmonic curve by means of planetary gears.
Trudy Sem.po teor.mash.13 no.49:69-78 '53. (MLRA 7:12)
(Gearing, Bevel)

Semenov, M. Y.

✓ 2094. Semenov, M. Y., Analysis of a special case of steady periodic motion in mechanisms (in Russian), *Trud Inst. Mashinoved.* 15, 37, 27-37, 1955.

Reciprocating motions in the particular cases where they occur with their moments and forces depending only on the angle of phase, rather than on the rotational speed, are analyzed by the application of an E-I diagram having for coordinates the kinetic energy and the moment of inertia of the system. The method achieves results said to be obtainable by other previously accepted methods, but author claims great reductions in the labor involved and in the errors of approximation. No practical development of the study is given and the exposition is kept on a strictly academic level.

B. Pasoluk, USA

SOV/124-57-5-5230

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 18 (USSR)

AUTHOR: Semenov, M. V.

TITLE: An Investigation of the Motion of Planetary-mechanism Pinions
(Issledovaniye dvizheniya satellitov planetarnykh mekhanizmov)

PERIODICAL: Tr. Seminara po mashin i mekhanizmov In-ta mashinoved.
AN SSSR, 1956, Vol 15, Nr 60, pp 5-27

ABSTRACT: The paper analyses the curves described by various points of the pinions of planetary gears. Methods for the plotting of these curves as well as of the velocity and acceleration hodographs are described. It is shown that the pinion curve of any three-link planetary mechanism with either an internal or an external mesh can be reproduced by a single four-bar mechanism (with a double pinion or satellite member). The author points out the possibility of the application of the pinion curves to various guiding mechanisms and intermittent-action mechanisms, as for example on lathes for the machining of profile shapes.

V. N. Geminov

Card 1/1

SEMENOV, M. V.

SEMENOV, M.V., prof., doktor tekhn. nauk.

Activity of the Leningrad branch of the Seminar on the Theory
of Machines and Mechanisms. Trudy Inst. mash. Sem. po teor. mash.
17 no.65:16-17 '57. (MIRA 10:12)

1. Nauchnyy rukovoditel' Leningrdsckogo filiala seminaro po teorii
mashin i mekhanizmov Instituta mashinovedeniya AN SSSR.
(Leningrad--Mechanical engineering)

SEMENOV, Mikhail Vasil'yevich; MAYNGORD, S.A., red.; KRYUCHKOVA,
V.N., tekhn.red.

[Flat four-link hinged mechanisms (elementary analysis)]
Ploskie chetyrekhzvennye sharnirnye mekhanizmy (v elemen-
tarnom izlozhenii). Moskva, Gos.izd-vo fiziko-matem.lit-ry,
1959. 130 p. (MIRA 12:8)
(Links and link motion)

25(2)

PHASE I BOOK EXPLOTTATION

SOV/3015

Semenov, M.V.

Struktura mekhanizmov (Structure of Mechanisms) Moscow, Fizmatgiz, 1959.
285 p. 7,000 copies printed.

Ed.: S.A. Moyngard; Tech. Ed.: N.Ya. Murashova.

PURPOSE: This book is intended for engineers interested in the structure of mechanisms.

COVERAGE The first part of the book deals with general considerations of the structure of mechanisms. The second part deals with individual basic mechanisms. The topics discussed in the first part include component parts of mechanisms, relative motion of links, movability of a mechanism, and Assur's principle of the formation of mechanisms. The subjects discussed in the second part include the structure of plane linkages, modifications of linkages, the structure of cam mechanisms, mechanisms with tooth gearing, friction mechanisms, flexible-connector mechanisms, and combinations of basic mechanisms. The author thanks his students,

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Structure of Mechanisms

SOV/3015

N.F. Golovanov, N.N. Myasnikov, and A.A. Smirnov (Deceased), for their assistance in reviewing the manuscript, and N.P. Ignatyev for preparing the drawings and diagrams. There are 47 references, all Soviet.

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PART I. STRUCTURE OF MECHANISMS. BASIC CONSIDERATIONS	
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1. Links of mechanisms	14
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Card 2/6

GUZIY, F.Ye.; SEMENOV, M.V.; SOYFER, V.M.

New design of electrode holder heads for arc furnaces. Metallurg 5
no.5:20-21 My '60. (MIRA 14:3)

1. Khar'kovskiy zavod tyazhelogo elektromashinostroyeniya
(Electric furnaces--Equipment and supplies)

S/132/60/000/011/001/002
A054/A130

AUTHORS: Alekseyev, A. M., Ioffe, L. M., Semenov, M. V., Mogil'nikov, V. I.,
Morozov, N. V.

TITLE: Experience with the new $\beta\pi$ (VP)-59 type electric testing equipment
to be used in the induced polarization method

PERIODICAL: Razvedka i okhrana neдр, no. 11, 1960, 47 - 49

TEXT: The VNIIGeofizika Institute has designed in cooperation with the
VITR a new type of electric testing station, (VP-59) to be mainly used in: pros-
pecting electron-conductive (sulfide) impregnated ores by means of induced polari-
zation, vertical electric sounding and dipole sounding. The station is mounted
on two ГАЗ (GAZ)-69 type trucks with increased power for crossing heavy terrain
and consists of a generator and a receiving unit. Current for the feed line in
the generator equipment is supplied by a ПН(PN)-100 type generator (11.5 kw, nomi-
nal voltage 460 v). The generator is driven by the engine of the truck via a
special power take-off gear box. In the measuring instrument the difference of
transmission potentials ΔV_{tr} and induced polarization (ΔV_{ip}) are registered by
an 3П0 (EPO)-7 type oscillograph on photogenic paper. (Abstractor's note. tran-
✓

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S/132/60/000/011/001/002
A054/A130

Experience with the.....

scripts t_r (transmission) and i_p (induced polarization) have been substituted for the original $\pi p = p_r = \text{propusk}$ and $\beta \pi = v_p = \text{vzdvannaya pol'arizatsiya}$). To increase the input voltage in the measuring-registering instrument, ЭДА(EDA)-58 type auto-compensators are mounted which make measuring possible at any kind of earthing of the receiving electrodes. The sensitivity of the measuring channels is 1-1000 mv for the full scale of the oscillograph; the input resistance of the instrument is 2 megaohm, the error in measuring does not exceed 2%; there is no zero-creep at the auto-compensators. The principal measuring operations and the control of the generator are automatic. The equipment was tested in an anticlinal folding containing galenite, sphalerite, in some places also bornite, chalcopyrite, etc. The ores have an impregnated or cocarde texture or are found in massives. The sulfide mineralization is dispersed in nearly all tectonic zones. Some ore bodies are oxidized from the surface, the depth and extent of oxidation is not uniform. The tests with the induced polarization method were carried out in sections through the thickest parts of the ore layer, which were selected in such a way to make it possible to examine the effect of primary mineralization at a depth of 30 m, covered by a superstratum 15 - 20 m thick. The tests were carried out by vertical electrical sounding, following the VITR method. (Ref. I. V. A. Komarov, L. M. Ioffe, M. V. Semenov: The method of induced polarization, ONTI VITR, publ. 20. 1959). When

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Experience with the.....

working with vertical electric sounding the spacing taken for A0 was 500 m, when working with profiling, AB was 1000 m. The spacings were chosen according to the curve of vertical sounding, (Fig. 1). By taking a spacing of 1000 m, it was possible to register anomalies above the mineralized layers in the working area. With a generator voltage of 100 - 600 v and with 4 - 12 a in the feed line, a voltage (ΔV_{tr}) could be obtained in the receiving line which was not lower than some tens of millivolts. As receiving line a thin strip was used provided with a commutator, switching in turn one of the five pairs of non-polarizing receiving electrodes. Based on the calculated values of ΔU_{ip} and ΔV_{tr} and the known current intensity i in line AB, the following values have been determined:

$$\eta_K = \frac{\Delta U_{ip}}{\Delta V_{tr}} \quad 100\%$$

$$\rho_K = K \frac{\Delta V_{tr}}{i}$$

which were plotted in graphs according to the profiles or in vertical electric sounding curves. Figure 1 shows η_K and ρ_K curves obtained when working with the vertical electrical sounding of induced polarization, for determining (at picket 17, profile 50) the optimum length of line AB, for surveying according to the Card 3/5

S/132/60/000/011/001/C02
A054/A130

Experience with the.....

average gradient, to evaluate the obtained η_K values above the mineralization zone and to define the thickness of the overburden and the oxidized zones. The η_K value of vertical electrical sounding remains unchanged at 0.4% until the half-spacing $AO = 15$ m. With an increase in spacing, the value η_K also increases which indicates the presence of primary sulfide minerals in the section. The maximum value for $\eta_K : 3.5\%$ was obtained at a semi-spacing of $AO = 500$ m, where η_K still had not reached its limit. According to the curve η_K of vertical electric sounding the total thickness of overburden and oxidized layers, where no electron-conductive minerals are present, can be assumed to be 30 m. The curve η_K indicates that from $AO = 250$ m the shape of the curve is influenced by the higher conductivity of the oxidized zone and by some screening object. Figure 2 represents the survey of profile 50 by induced polarization at a distance of 700 m. It is pointed out, that the high values of η_K are connected with the presence of dispersed impregnated sulfides in lime stone. When moving away from the mineralization zone, η_K decreases from 3 to 2%. The tests proved that it is possible to reveal on the sections the presence of massive and impregnated minerals, and to determine the distribution of the impregnation of sulfides. There are 2 figures and 1 Soviet reference.

ASSOCIATIONS: VNII Geofizika, VITR, Uz.GITsGFP, Tsentral'naya geofizicheskaya partiya, (VNII of Geophysics, VITR, Uz.GITsGFP, Central Geophysical Party)

Card 4/5

SEMENOV, Mikhail Vasil'yevich, prof.; VOL'PE, L., red.

[Theory of mechanisms and machinery; design and kinematics of flat linkages] Teoriia mekhanizmov i mashin; struktura i kinematika ploskikh sharnirnykh mekhanizmov; pis'mennye lektsii. Leningrad, M-vo vysshego i srednego spets. obrazovaniia RSFSR, 1961. 141 p. (MIRA 14:9)

(Links and link motion)

SEMENOV, Mikhail Vasil'yevich, prof.; MOLOKOVA, Ye., red.

[Theory of mechanisms and machines; friction in mechanisms. Written Lectures] Teoriia mekhanizmov i mashin; trenie v mekhanizmakh. Pis'mennye lektsii. Leningrad, Severo-Zapadnyi zaochnyi politekhn. in-t, 1962.
77 p. (MIRA 17:5)

SEMENOV, M. V., doktor tekhn. nauk, prof.

Some objections to I. P. Sporysh's review of "Structure of mechanisms" by M. V. Semenov. Izv. vys. ucheb. zav.; mashinostr. no. 7:40-49 '62. (MIRA 16:1)

(Mechanical movements)

SEMENOV, M.V.

Determining basic dimensions of cam mechanisms by the given
pressure angle. Teor. mash. i mekh. no.96/97:49-57 '63.
(MIRA 17:1)

SEMENOV, M.Ya.

Characteristics of embryo distribution in some murine rodent species.
Zool. zhur. 40 no.11:1743-1745 N '61. (MIRA 14:11)

1. Rostov Region Sanitary-Epidemiological Station.
(Rostov Province--Rodentia) (Reproduction)

SPIVAK, M.Ya.; ARGUDAYEVA, N.A.; NABIYEV, E.G.; CHISTOVICH, G.N.;
RIVLIN, M.I.; SEMENOV, M.Ya.; KRUGLIKOV, V.M.; SHAL'NEVA, A.M.;
TITROVA, A.I.; RAYKIS, B.N.; MILYAYEVA, Ye.N.; BRUDNAYA, E.I.;
GODINA, I.F.; VOL'FSON, G.I.; SOSONKO, S.M.; KOLESINSKAYA, L.A.;
VYSOTSKIY, B.V.; MALYKH, F.S.; MIROTVORTSEV, Yu.I.; SYCHEVSKIY,
P.T.; GOPACHENKO, I.M.; KARPITSKAYA, V.M.; FETISOVA, I.A.;
MARTYNYUK, Yu.V.; EMDINA, I.A.

Annotations. Zhur. mikrobiol., epid. i immun. 40 no.3:128-131
Mr '63. (MIRA 17:2)

1. Iz Kemerovskogo meditsinskogo instituta i Kemerovskoy
klinicheskoy bol'nitsy No.3 (for Spivak, Argudayeva). 2. Iz
Kazanskogo instituta usovershenstvovaniya vrachey imeni
Lenina (for Nabyev). 3. Iz Leningradskogo kozhnogo dispansera
No. 1 (for Chistovich, Rivlin). 4. Iz Rostovskoy oblastnoy
sanitarno-epidemiologicheskoy stantsii (for Semenov). 5. Iz
Stavropol'skogo instituta vaktsin i syvorotok (for Kruglikov,
Shal'neva, Titrova, Raykis). 6. Iz Kuybyshevskogo instituta
epidemiologii, mikrobiologii i gigiyeny i Tsentral'nogo insti-
tuta usovershenstvovaniya vrachey (for Milyayeva). 7. Iz
Vsesoyuznogo nauchno-issledovatel'skogo instituta zhelezn-
dorozhnoy gigiyeny Glavnogo sanitarnogo upravleniya Minis-
terstva putey soobshcheniya i Detskoy polikliniki st. Lyublino

(Continued on next card)

18(7)

SOV/128-59-5-28/35

AUTHOR:

Semenov, M.Ye., Engineer

TITLE:

Melting Bronze under a Limestone Layer

PERIODICAL:

Liteynoye Proizvodstvo, 1959, Nr 3, pp 43 (USSR)

ABSTRACT:

In the plant imeni Sergo Ordzhonikidze, limestone is used as cover for the preparation of bronze OZ 10-2. This bears the advantage that the cover decomposes under the prevailing temperature of 1200° centigrade. The molten mass is covered by carbonic acid and thus oxydation is prevented. The zinc contents of the slag increases on about 0,1 -015%. Mechanical properties of the types of bronze are given.

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S/137/62/000/003/138/191
A052/A101

AUTHORS: Semenov, M. Ye., Voskoboynikov, D. B., Gol'dshteyn, L. Ya.

TITLE: The effect of aluminum on the strength of bimetallic compound of zinc alloy with steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 60, abstract 3I384 ("Vestn. Vses. n.-i. in-ta z.-d. transp.", no. 6, 1961, 42-43)

TEXT: The effect of Al on the formation of Fe-Zn-phases in the metal used for zinc-plating was investigated, as well as its effect on the formation of the transition zone and on mechanical properties of a bimetallic compound. An addition of 0.2% Al raises the resistance to shearing stress of the bimetallic compound to 27 kg/mm² compared with 23.3 kg/mm² without an Al addition. The presence of 2% Cu reduces the resistance to shearing stress to 14.8 kg/mm². An increase of Al content to 9% has just a slight effect on the resistance to shearing stress. It is recommended to increase the Al content in ЦАМ9-1,5 (TsAM9-1,5) Zn-alloy to 0.5 - 0.7% to prevent the formation of FeZn₄ in the bath and to facilitate the cleaning of the bath from the ferrous components (in this case FeAl₃ is formed which comes to the surface).
[Abstracter's note: Complete translation]

E. Volin

Card 1/1

SEMENOV, M.Ye., inzh.; VOSKOBOYNIKOV, D.B., inzh.; GOL'DSHTEYN, L.Ya.,
inzh.

Effect of aluminum on the strength of bimetallic compounds of
zinc alloys and steel. Vest. TSNII MPS 20 no.6:42-43 '61. (MIRA 14:10)

(Zinc alloys)
(Railroads—Equipment and supplies)

S/128/62/002/002/002/002
A002/A127

AUTHORS: Bushe, N.A.; Semenov, M.Ye.

TITLE: Cast steel-aluminum bimetal

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1962, 15 - 16

TEXT: The authors report on investigations being carried out by the USSR NPS together with other organizations to develop a sufficiently strong aluminum-cast steel compound to be used as bearing bushes of diesel locomotive engines. They refer in this connection to a metallurgical method of producing bimetallic aluminum-steel compounds according to the Alfaro process and point out that, to obtain a bond between steel and an aluminum alloy, it is necessary to create conditions ensuring that the oxides on the steel and aluminum surfaces do not obstruct the impregnation of iron by the aluminum. The fluxes used contain mostly NaCl, KCl and NaF in various proportions. Moreover, the staining of the steel surface covered with different fluxes by the aluminum was investigated. The tests to analyze the suitability of the K_2ZrF_6 , K_2NbF_7 , K_2TaF_7 and Na_2BeF_4 salts as fluxes proved the superiority of K_2ZrF_6 . The flux can be applied to the steel surface either by immersion of the parts in the molten flux or by deposi-

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S/128/62/000/002/003/007
A004/A127

Cast steel-aluminum bimetal

tion of the flux from an aqueous solution. The latter method yielded better results. The authors describe the successive technological operations, which are included in the process of bonding the aluminum alloy to the steel, i.e., degreasing, fluxing, calorizing and pouring of the aluminum bearing alloy on the calorized steel surface. The bonding of the aluminum bearing alloy to the steel is taking place by the formation of a transitional layer between these two metals. The bonding strength depends on the strength of the transitional diffusion zone between the calorizing alloy and the steel. In this connection, investigations have been carried out to study the effect of various additions to the aluminum on the nature of formation of the transitional zone and the bonding strength. It was found that Ti, Mo, Nb and Ta additions change the acicular shape of the $FeAl_3$ precipitate, while metallographic investigations of specimens calorized in the melt at $730^{\circ}C$ showed that Ti, Zr, Nb, Ta and Mo additions of 0.2% each reduce the transitional zone thickness. The minimum transition zone was obtained when 0.2% Ti and 5% Zn were added to the aluminum, and also 9% Sn and 2% Cu to the aluminum alloy during calorizing. The shearing strength of the bimetallic compound amounts to 60 - 80% of the shearing strength of the aluminum bearing alloy. The investigation results proved that the strength of the bimetallic compound was the higher, the smaller the dimensions of the transitional diffusion

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S/128/62/000/007/001/001
A004/A127

AUTHOR:

Semenov, M. Ye.

TITLE:

The effect of various additives in the hot-calorizing bath on the dimensions of the intermetallic zone

PERIODICAL: Liteynoye proizvodstvo, no. 7, 1962, 26 - 27

TEXT:

The production of bimetallic components (steel-aluminum alloys) by casting requires the calorizing of the steel base prior to casting the Al-alloy. When the steel blank is dipped into the molten bath, the aluminum diffuses in the steel, forming an intermetallic zone. The metallurgical strength of the steel-aluminum compound is the higher, the smaller the dimension of this zone. The addition of Si, Cu, Be, Cr and Ti reduces the dimensions of the intermetallic zone. Investigations were carried out to determine these dimensions, depending on the cooling rate of the calorized part and the effect of various element additions to the alloy used for hot calorizing. The author gives a description of the tests carried out, presents some graphs showing the results of spectral analyses and x-ray diffraction studies of bimetallic specimens and points out

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The effect of various additives in...

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A004/A127

that Sn, Cu and Zn do not participate in the formation of the diffusion zone. Zr, reduced by Al from zirconium potassium fluoride during calorizing, is distributed in the layer in the form of traces only. The phase composition of the intermetallic diffusion zone was determined on special steel specimens with calorized surface by an x-ray diffraction analysis carried out by the X-ray Laboratory of the Plant im. Malyshev. The analysis of the specimens showed that the diffusion zone consists of three intermetallic compositions, viz. Fe_3Al , Fe_2Al_5 and $FeAl_3$. The intermetallic compounds richer in Fe are located nearer to the steel. Zn and Ti-additions do not change the phase composition of the diffusion zone; only their ratio and total amount vary. There are 4 figures.

Card 2/2

SEMENOV, M.Ye.

Effect of various additions to the bath for dip calorizing on
the thickness of the intermetallic zone. Lit.proizv. no.7:
26-27 J1 '62. (MIRA 16:2)
(Aluminum coating) (Laminated metals)

~~SEMENOV, M. Ye.~~; FROLOV, V.K.

Rare case of crystal growth. Lit. proizv. no.1:34 Ja '63.
(MIRA 16:3)

(Crystals—Growth)

SEMENOV, M.Ya.

Unusual migration of *Pelobatida pelobates*. *Priroda* 52 no.7:
117 JI '63. (MIRA 16:8)

1. Rostovskaya oblastnaya sanitarno-epidemiologicheskaya stantsiya.
(No subject headings)

СИМЕНОВ, М.З., преподаватель

Sources of swine erysipelas. Veterinariia 41 no.8:42 Ag '64.
(MIRA 1844)

1. Kashinskiy zooveterinarnyy tekhnikum, Kalininskaya oblast'.

SEMENOV, M.Z., prepodavatel'

Treatment of animals infected with ringworm. Veterinariia 39
no.11:36 N '62. (MIRA 16:10)

1. Kashinskiy zooveterinarnyy tekhnikum, Kalininskoy oblasti.

SHEVTSOV, Aleksandr Alekseyevich; LYSENKO, A.A., prof., retsenzent;
SEMENOV, M.Z., prepod., retsenzent; DREVLANSKAYA, N.I.,
red.

[Veterinary parasitology] Veterinarnaia parazitologiya. Mo-
skva, Kolos, 1965. 414 p. (MIRA 18:6)

1. Donskoy sel'skokhozyaystvennyy institut (for Lysenko).
2. Kashinskiy zooveterinarnyy tekhnikum (for Semenov).

SEMENOV, N.

In the homeland of steam shipping. Rech. transp. 24 no. 10:
13-14 '65. (MIRA 18:12)

1. Nachal'nik Severo-Zapadnogo parokhodstva.

SEMENOV, N.

We shall achieve our goals as planned. Rech. transp. 21 no.8:
7-8 Ag '62. (MIRA 18:9)

1. Nachal'nik Severo-Zapadnogo rechnogo parokhodstva.

SEMENOV, N.

Ship's radial-thrust bearing. Mor.1 rech.flot 14 no.2:30-31
F '54. (MIRA 7:1)

(Bearings (Machinery))

14(1), 24(8)

AUTHOR:

Semenov, N., Engineer

S/029/60/000/02/005/025
B008/B011

TITLE:

The Demon of the Factory "Santekhnika"

PERIODICAL:

Tekhnika molodezhi, 1960, Nr 2, pp 5 - 7 (USSR)

ABSTRACT:

In this scientific-technical section the author reports on a new air-conditioning system. Its principle is based on the Peltier effect. A brief explanation of this effect is given, and the Russian physicist Lents is mentioned in this connection. The possibility of building such a system by the application of semiconductor elements was demonstrated together with its economical aspect both practically and theoretically by a collective of Soviet scientists under the supervision of Academician A. I. Ioffe. The factory "Santekhnika" in Moscow, Second Bab'yegorodskiy pereulok was commissioned with the construction of a model. A scheme thereof is depicted (color insert). The electrical part consists of a semiconductor battery which is connected in series with the step-down transformer and the rectifier. Brass fins (radiators) are soldered onto the poles. The air current is conveyed past them through 2 channels by means of ventilators. It was found

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SEMENOV, N.

Device for injecting starting fuel. Avt. transp. 42 no.11:
21-23 N '64. (MIRA 17:12)

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

SEMENOV, H.

From the Lenin Mine. Sov. profsoiuzy 6 no.6:51-53 Je '58.

(MIRA 11:7)

(Aldan District--Gold mines and mining)

IGNAT'YEV, G. (Leningrad); SEMENOV, N. (Leningrad); PUPOV, I. (Leningrad)

In support of the Communist way of life. Zhil.-kom. khoz. 11
no.4:13 Ap '61. (MIRA 14:6)
(Leningrad--Housing management)

SEMENOV, N.

Reliability of door control equipment of motorbuses. Avt.
transp. 41 no.12:32-34 D '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut avtomobil'nogo trans-
porta.

SEME NOV, N., akademik

Symbol of the new world. Vest. Vozd. Fl. no. 4857 Ap '61.
(MIRA 1487)

(Astronautics)

SEMENOV, N.

Operational reliability of the pneumatic system of urban
motorbuses. Avt. transp. 42 no.7:20-22 J1 '64.

(MIRA 17:11)

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

SEMENOV, N.

Maintaining normal thermal conditions of motor-vehicle engines in
winter. Avt.transp. 43 no.3:18-21 Mr '65.

(MIRA 18:5)

SEMENTV, N. A.

Cand-Tech-Sci

Dissertation: "Dependence of the Amount of Salt Entered into Fish During Pickling on the Size of Fish and the Method of their Treatment Before Pickling."

14/4/50

Moscow Technical Inst of Fish Industry and Economy imeni A. I. Mikoyan

SO Vecheryaya Moskva
Sum 71

SEMENOV, N.A., kand.tekhn.nauk.

Technological characteristics of inertia type vibrators. Trudy VNIRO
35:84-96 '58. (MIRA 11:11)

1. Nauchno-issledovatel'skiy institut mekhanizatsii rybnoy promyshlen-
nosti.

(Vibrators)

(Fish, Salt--Packaging)

Semenov, N.A.
SEMENOV, N.A., doktor tekhn. nauk, prof.: PODUROVSKIY, N.I., inzh.

Heat-curing of concrete using clean saturated steam. Bet. 1 zhel.-
bet. no.12:480-486 D '57. (MIRA 11:1)
(Concrete) (Autoclaves)

СИМЕНОВ, Н.А.

SEMENOV, N.A., inzh.

Linear expansion coefficient of foam silicate during heating. Bet.
i zhel.-bet. no.12:498-499 D '57. (MIRA 11:1)
(Expansion of solids) (Air-entrained concrete)

SOV/124-58-7-8195 D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 122 (USSR)

AUTHOR: Semenov, N.A.

TITLE:

~~An Investigation of the Structural Properties of "Foam Silicate"~~
(A Foamy Porous Concrete With a Binder of Lime and Ground-up Sand Instead of Cement) and of the Bearing Capacity and Stiffness of Building Elements Made Therefrom Under Compressive and Flexural Stresses (Issledovaniye stroitel'nykh svoystv penosilikata, nesushchey sposobnosti i zhestkosti szhato-izognutykh elementov zdaniy iz etogo materiala)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of the Technical Sciences, presented to the N.-i in-t novykh stroit. materialov otdelki i oborud. zdaniy Akad. str-va i arkhitekt. SSSR (Scientific Research Institute for New Construction Materials, Trimming, and Outfitting of Buildings, Academy of Building and Architecture, USSR), Moscow, 1958

ASSOCIATION: N.-i. in-t novykh stroit. materialov, otdelki i oborud. zdaniy Akad. str-va i arkhitekt. SSSR (Scientific Research Institute for New Construction Materials, Trimming, and Outfitting

Card 1/2

C

SEMENOV, N.A., kand.tekhn.nauk, dots.

Comparative testing of flat and annular specimens of sheet
steel for boilers. Trudy GPI 13 no.8:116-122 '58.
(MIRA 13:2)

(Steel--Testing)

37127

S/108/62/017/005/003/007

D407/D301

9.1000

AUTHOR: Semenov, N. A., Member of the Society (see Association)

TITLE: Directivity diagrams of linear radiators

PERIODICAL: Radiotekhnika, v. 17, no. 5, 1962, 26-33

TEXT: The conditions are ascertained under which the directivity diagrams of similar discrete and continuous linear antenna systems practically coincide; the magnitude of possible differences between the diagrams is estimated. Discrete and continuous systems are considered as similar: 1) if the ratio A/λ is the same in both systems (A being defined by $a = A/N$, where N is the total number of radiators and a the distance between them); 2) if $G(x_k) = G_k$ (where G_k is a coefficient which characterizes the excitation of each antenna of the system, and $G(x)$ is a normalized function which characterizes the distribution of the excitation along the continuous system); and 3) if the modulus and the phase of $G(x)$ vary according

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Directivity diagrams of ...

to a certain rule in the interval between coordinate points. The directivity diagram of the continuous system is determined by means of a Fourier integral-transform, and that of the discrete system by a Fourier series. The directivity function of the discrete system is

$$f_N(u) = \sum_{k=1}^n G_k e^{i\xi_k u} \quad (5)$$

where ξ_k is the coordinate of the center of the k-th antenna. The directivity function of the continuous system is

$$f_1(u) = \int_{-1}^1 G_c(\xi) e^{i\psi_1 \xi} e^{iu\xi} d\xi = f_c(u + \psi_1) \quad (9)$$

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Directivity diagrams of ...

The function $f_N(u)$, defined by series (5) is periodic, whereas the function (9) is not periodic. Evidently, the directivity diagrams of both systems can be identical, only if the periodicity of the function $f_N(u)$ does not appear in the interval $-\pi A/\lambda \leq u \leq \pi A/\lambda$.

This amounts to the condition:

$$a = A/N \frac{1}{k_d + 1} \cdot \frac{\lambda}{2} \quad (11)$$

for the distance between neighboring antennas of the discrete system (k_d is the lag coefficient of the wave). Condition (11) of non-periodicity of the directivity diagram is the necessary condition for equivalent interchangeability of the discrete and continuous systems. The interchangeability of systems can be used (in various cases) for rendering more simple the analysis of directivity characteristics of antennas. The excitation function $G_e(\xi)$ of the

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Directivity diagrams of ...

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continuous system is determined, whose directivity function coincides with that of the discrete system in the interval $-U/2 \leq u \leq U/2$, and vanishes identically outside this interval. The function G_e is well-known from Kotel'nikov's theorem on functions with limited spectrum. One of the possible methods of replacing a discrete system by a continuous one, involves the representation of the excitation function of the latter in the form of a step function, viz.:

$$G_s(\xi) = \sum_{k=1}^N G_k g(\eta) \quad (14)$$

where $\eta = \xi - \xi_k$. The directivity diagrams of a discrete system were compared with those of a similar continuous system $G_s(\xi)$. It was found that the directivity diagrams of a discrete system can

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Directivity diagrams of ...

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be replaced (within a permissible error) by diagrams of continuous systems, provided the curve $G(\xi)$ passes through the points G_k in a certain way. Further, the error is estimated for the converse replacement (continuous system by discrete one). Thereby it was found that the permissible error is

$$\left. \begin{aligned} |\delta| &\leq 5\% \text{ for } N = 2 \frac{A}{\lambda} + 3 \\ |\delta| &\leq 3\% \text{ for } N = 2 \frac{A}{\lambda} + 5 \end{aligned} \right\} \quad (16) \quad +$$

There are 7 figures, 1 table and 1 Soviet-bloc reference.

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A. S. Popova (Scientific and Technical Society of Radio Engineering and Electrical Communications imeni A. S. Popov) / Abstracter's

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Directivity diagrams of ...

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note: Name of Association taken from first page of
journal. 7

SUBMITTED: November 25, 1960

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Card 6/6

KOCHETKOV, N.K.; NESMEYANOV, A.N.; SEMENOV, N.A.

Synthesis of isoxazoles from 2-chlorovinyl ketones. Bull. Acad. Sci.,
Div. Chem. Sci. '52, 97-102 [Engl. translation].
(CA 47 no.19:9964 '53)

Semenov, N. A.

Condensation of 1,1,1-trichloropropane with aromatic compounds. A. N. Semeyanov, R. Kh. Freidlina, and N. A. Semenov (Inst. Heteroorg. Compds., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1955, 99:8; cf. *C.A.* 46, 7034b. To 45 g. $\text{CCl}_3\text{CH}_2\text{CH}_3$ (I) and 1.6 g. PhBr was added 1 g. AlCl_3 ; the vigorous reaction was complete in 5-10 min. and after cooling and aq. treatment, the mixt. gave 76% 3-(*p*-bromophenyl)-1,1-dichloro-1-propene (II), b. 117.5-8°, n_D^{20} 1.5830, d_4^{20} 1.5532; this (20 g.) and 50 g. 93% H_2SO_4 after 1 hr. at 120° was quenched in H_2O yielding 64% *p*-bromohydrocinnamic acid, m. 135°; with ced. H_2SO_4 at 145° this gave 63% *o*-bromohydrindone, m. 111-12°. II (40 g.) chlorinated 8 hrs. at 60° (wt. gain 9.0%) yielded in cooling a ppt. identified as 65% 3-(*p*-bromophenyl)-1,1,1,2-tetrachloropropane, m. 89°. Reaction of 45 g. I with 180 g. PhCl, and 1 g. AlCl_3 , as above, gave 74.5% 3-(*p*-chlorophenyl)-1,1-dichloro-1-propene (III), b. 115-16°, n_D^{20} 1.4630, d_4^{20} 1.3208; this hydrolyzed as above to 82% *p*-chlorohydrocinnamic acid, m. 123°, which with H_2SO_4 at 180° gave *o*-chlorohydrindone, m. 79-80°. Chlorination of III at 90° gave 78% 3-(*p*-chlorophenyl)-1,1,1,2-tetrachloropropane, m. 90°. I (44 g.) and 93 g. MeOPh with 2 g. AlCl_3 heated 3 hrs. at 90° with gradual addn. of 5 g. AlCl_3 gave 74% 3-(*p*-methoxyphenyl)-1,1-dichloro-1-propene (IV), b. 118-19°, n_D^{20} 1.5486, d_4^{20} 1.2307; oxidation with KMnO_4 gave *p*-MeC₆H₄CO₂H, m. 184.5°. Heating 66 g. I, 230 g. NaOH , and 4 g. AlCl_3 4 hrs. on a steam bath, dilg. with H_2O and extg. with CHCl_3 gave 60% 3-(*o*-hydroxyphenyl)-1,1-dichloro-1-propene (V), b. 116-17°, n_D^{20} 1.5727, d_4^{20} 1.3050, and 22% *p*-isomer, b. 130-1°, n_D^{20} 1.5732, d_4^{20} 1.3057, m. 40.4-1° (after long storage); if AlCl_3 is omitted, the same products form in 50% total yield. Methylation of the above *o*-isomer with Me_2SO gave 3-(*o*-

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Nesmeyanov, A. N.

methoxyphenyl-1,1-dichloro-1-propene, b.p. 109°, n_D²⁰ 1.5526, d₄²⁰ 1.2372; methylaton of the p-isomer gave IV. Heating 1 mole PhOH, 1 mole NaOH, and 0.25 mole I in 100 ml. EtOH 6 hrs. at 100° gave 12 g. 3-phenoxy-1,1-dichloro-1-propene, b.p. 103-4°, n_D²⁰ 1.531, d₄²⁰ 1.2718, and 16 g. mixed o-p-isomers of V. Heating IV with 10% H₂SO₄ 20 min. at 100-110° gave 90% HO₂SC₆H₄(OMe)CH₂CH₂CO₂H, isolated as the Ba salt. Heating PhCl₃:CH₂:CCl₄ with 92% H₂SO₄ 20-30 min. at 55-60° followed by standing overnight in the cold, gave 95% sulfophenylpropionic acid; purified through the Ba salt, which was then passed through an ion-exchange resin, yielding the free acid HO₂SC₆H₄CH₂CH₂CO₂H monohydrate, hygroscopic crystals (from H₂O).

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PM

G. M. Kosolapoff

SEMERDOV, N. A.

Reactions of 1,1,1-trichloroethane and 1,1,1-tetrachloroethane with aromatic amines. R. Sh. Freidlin and N. A. Semerov (Inst. Heteroorg. Compds., Moscow). *Izv. Akad. Nauk S.S.S.R., Ucheb.-Khim. Nauk* 1957, 486-70; *C.A.* 50, 12734. Refluxing 75 g. $\text{CCl}_3\text{CH}_2\text{CH}_3$ and 325 g. PhNH_2 1 hr., treating with satd. Na_2CO_3 , and extg. with Et_2O gave 77% $\text{PhNHCH}_2\text{CH}_2\text{CCl}_3$ (I), b. 122-3°, n_D²⁰ 1.5873, d₄²⁰ 1.2822 (HCl salt, m. 144-5°), and 5% $\text{PhNHCH}_2\text{CH}_2\text{CCl}_2$ (II), b. 156-7°, 1.5845, 1.3516 (HCl salt, m. 139-40°). The latter formed in 65% yield on heating the former with excess $\text{CCl}_3\text{CHCH}_2\text{Cl}$. Heating I with excess concd. H_2SO_4 1 hr. at 120-45°, adding 60 ml. EtOH , heating 20 min. at 80-90°, pouring the mixt. into concd. Na_2CO_3 , and extg. with Et_2O gave 80% $\text{PhNHCH}_2\text{CH}_2\text{CO}_2\text{Et}$, b. 141-7°, 1.5313, 1.0679; HCl salt, m. 98-9°. Refluxing 15 ml. I with 30 g. Ac_2O 1 hr. gave $\text{PhNAcCH}_2\text{CH}_2\text{CO}_2\text{Et}$, b. 138-9°, 1.5550, 1.2399, which heated with 94% H_2SO_4 1 hr. at 100° and 0.5 hr. at 110°, quenched in ice, and extd. with CHCl_3 gave 90% $\text{PhAcNCH}_2\text{CH}_2\text{CO}_2\text{H}$, m. 110-11° (from Et_2O). Refluxing $\text{CCl}_3\text{CH}_2\text{CH}_3$ and 107 g. PhNHMe 1 hr., adding satd. Na_2CO_3 , and extg. with CHCl_3 gave 8% $\text{PhNMeCH}_2\text{CH}_2\text{CCl}_3$ (II), b. 120°, b. 135°, 1.5800, 1.2142; HCl salt, m. 128°. Refluxing 58 g. $\text{CCl}_3\text{CH}_2\text{CH}_3$ and 240 g. PhNMe_2 4 hrs. gave 20 g. MeCl and 85% II. Refluxing 112 g. $\text{CCl}_3\text{CH}_2\text{CH}_2\text{Cl}$ and 281 g. PhNH_2 2 hrs. gave 20 g. yellowish substance (III), b. 127-8°, 1.5765, 1.3182, which decompd. violently on attempted distn. with Zn dust; treated with EtONa it gave $\text{PhNHCH}_2\text{CH}_2\text{CCl}_2$. While isolation of III was difficult, its HCl salt, $\text{PhNHCH}_2\text{CH}_2\text{CCl}_2\cdot\text{HCl}$, m. 170-1°, was readily obtained by passage of dry HCl into its soln.; this heated with Ac_2O gave *A. deriv.*, b. 154°, 1.5400, 1.3054; m. 47° (on

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FREIDLIN, R. KH.; SEMENOV, N. A.

standing). The latter treated with an equimolar amt. of EtONa in EtOH gave PhAcNCH₂CH₂CCl₃, identical with that described above. Heated with concd. H₂SO₄ at 100-200° it gave PhAcNCH₂CH₂CO₂H, m. 110-10.5°. Refluxing 36 g. CCl₄CH₂CH₂Cl and 44 g. PhNHMe 2 hrs. gave PhNMeCH₂CH₂CCl₃, b. 125-36°, 1.5720, 1.2393; HCl salt, decomp. 178-9°; the latter with EtONa gave PhNMeCH₂CH₂CCl₃, whose HCl salt, m. 126°, was identical with II.

G. M. Kosolapoff

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5(3) SOV/62-59-4-13/42
AUTHORS: Freydlina, R. Kh., Semenov, N. A., Nesmeyanov, A. N.
TITLE: Synthesis of Aromatic Compounds of the Types $\text{ArCH}_2\text{CH}=\text{CCl}_2$ and $\text{Ar}'(\text{CH}_2\text{CH}=\text{CCl}_2)_2$ (Sintez aromaticheskikh soyedineniy tipa $\text{ArCH}_2\text{CH}=\text{CCl}_2$ i $\text{Ar}'(\text{CH}_2\text{CH}=\text{CCl}_2)_2$)
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 652-656 (USSR)
ABSTRACT: It has already been shown (Refs 1 and 2) that 1,1,1-trichloropropene and 1,1,3-trichloropropene-1 condense with benzene and some other aromatics in the presence of aluminum chloride to form compounds having the structure $\text{ArCH}_2\text{CH}=\text{CCl}_2$. In the present work the synthesis of substances of this type was continued and some of their conversions were investigated. In addition, aromatic compounds containing γ,γ -dichloroallyl groups were synthesized. As the condensation in the presence of aluminum chloride is very violent and accompanied by saponification it was attempted to effect the reaction in the presence of other Friedel-Crafts catalysts (SnCl_4 , ZnCl_2 , SbCl_5). The reaction

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SOV/62-59-4-13/42

Synthesis of Aromatic Compounds of the Types $\text{ArCH}_2\text{CH}=\text{CCl}_2$ and $\text{Ar}'(\text{CH}_2\text{CH}=\text{CCl}_2)_2$

was found to proceed smoothly in the presence of antimony pentachloride. The process can be controlled and the reaction mixture is homogeneous. The condensation of 1,1,3-trichloropropene-1 with toluene in the presence of SbCl_5 gave 3-(p-toluene)-1,1-dichloropropene-1 in a yield of 80%. The introduction of two γ,γ -dichloroallyl groups into the aromatic nucleus takes place in one or two stages. The interaction of equimolar quantities of naphthalene and 1,1,3-trichloropropene-1 in heptane in the presence of aluminum chloride or tin chloride gives mixtures of mono- or dialkylated products. The condensation of 3-(p-chlorophenyl)-1,1-dichloropropene-1 with 1,1,3-trichloropropene-1 in the presence of aluminum chloride gave a compound of the composition $\text{ClC}_6\text{H}_3(\text{CH}_2\text{CH}=\text{CCl}_2)_2$. The interaction of 3-phenyl-1,1,1,2-tetrachloropropane with 1,1,3-trichloropropane in the presence of SbCl_5 gave a compound $\text{p-CCl}_2=\text{CHCH}_2\text{C}_6\text{H}_4\text{CH}_2\text{CHClCCl}_3$. Its structure was proved by oxidation. The interaction of benzene with 1,1,1,3-tetrachloropropane in the presence of SbCl_5 gave 3-phenyl-1,1-dichloro-

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Synthesis of Aromatic Compounds of the Types $\text{ArCH}_2\text{CH}=\text{CCl}_2$ and $\text{Ar}'(\text{CH}_2\text{CH}=\text{CCl}_2)_2$ SOV/62-59-4-13/42

propene-1 and 3-(p-phenylene)-bis-1,1-dichloropropene-1. The oxidation of 3-(p-chlorophenyl)-1,1-dichloropropene-1 with aqueous nitrogenous acid gave p-chlorocinnamic acid. There are 7 references, 6 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 13, 1957 (initially) and April 14, 1958 (after revision)

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5.3600

77065
SOV/62-59-12-9/43AUTHORS: Nesmeyanov, A. N., Semenov, N. A.TITLE: Preparation of α, α, ω -Trichloroalkenes From $\alpha, \alpha, \alpha, \omega$ -Tetrachloroalkanes

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2119-2121 (USSR)

ABSTRACT: Some higher $\alpha, \alpha, \alpha, \omega$ -tetrachloroalkanes, obtained by telomerization of ethylene with carbon tetrachloride, were dehydrochlorinated over $ZnCl_2$, at 135-150°, for 3 hr to form $CCl_2=CH(CH_2)_9Cl$ (yield 74%; bp 122-123° at 2mm, n_D^{20} 1.4820) and $CCl_2=CH(CH_2)_{11}Cl$ (yield 70%; bp 147-148° at 2 mm, n_D^{20} 1.4805). 1,1,1,3-Tetrachloropropane was similarly dehydrochlorinated to 1,1,3-trichloroprop-1-ene (yield 76%; bp 132-132.5°, n_D^{20} 1.4948). The same reaction can be accomplished in 53% yield by using KOH in

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Preparation of α, α, ω -Trichloroalkenes
From $\alpha, \alpha, \alpha, \omega$ -Tetrachloroalkanes

77065
SOV/62-59-12-9/43

ethylcellosolve. There are 4 references, 3 Soviet,
1 U.K. The U.K. reference is: British patent 581901
and 2410541.

ASSOCIATION: Institute of Element-Organic Compounds, Academy of
Sciences, USSR (Institut elementoorganicheskikh
soyedineniy Akademii Nauk SSR)

SUBMITTED: April 14, 1958

Card 2/2

NESMEYANOV, A.N.; FREDLINA, R.Kh.; SEMENOV, N.A.

Synthesis of dicarboxylic acids of the type $\text{HOOC}(\text{CH}_2)_m\text{C}_6\text{H}_4(\text{CH}_2)_n\text{COOH}$.
Izv. AN SSSR. Otd. khim. nauk no. 11: 1969-1973 N 160.

(MIRA 13:11)

1. Institut elementoorganicheskikh sovedineniy AN SSSR.
(Acids, Organic)

SEMENOV, N. A.

Cand Chem Sci - (diss) "Study in the field of aromatic compounds synthesized on the basis of $\alpha,\alpha,\omega,\omega$ -tetrachloroalkanes." Moscow, 1961. 11 pp; (Academy of Sciences USSR, Inst of Organic Chemistry imeni N. D. Zelinskiy); 110 copies; price not given; (KL, 6-61 sup, 199)

KARAPET'YAN, Sh.A.; SEMENOV, N.A.

Preparation of higher ω -chlorocarboxylic acids from
 $\alpha, \alpha, \alpha, \omega$ -tetrachloro alkanes. Zhur. prikl. khim.
37 no.9:2003-2007 S '64.

(MIRA 17:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

SEMENOV, N.A.

Contribution to the proof of partial powers law. Radiotekh. i
elektron. 10 no. 2:1533-1534 Ag '65. (MIRA 13:2)

SEME NOV, N. A.

USSR/Electronics - Condensers

FD-533

Card 1/1 : Pub. 90-9/18

Author : Semenov, N. A., and Gutman, L. N., Active Members, VNORIE

Title : ~~Calculating the plate shape for a continuously rotating condenser~~
Calculating the plate shape for a continuously rotating condenser

Periodical : Radiotekhnika 9, 72-73, May/June 1954

Abstract : Gives formula for determining plate shape (based on number of condenser plates, space between plates, and internal radius of the stator plates) of a continuously rotating condenser for use in application such as sweep circuits.

Institution : All-Union Scientific and Technical Society of Radio Engineering and Electric Communications imeni A. S. Popov (VNORIE)

Submitted : November 27, 1953

SEMENOV, N.A.

Numerical method for investigating transients in linear systems. Nauch.
dokl.vys.shkoly; radiotekh. i elektron. no.2:215-225 ' 58.
(MIRA 12:1)

1. Kafedra teoreticheskikh osnov radiotekhniki Vsesoyuznogo zachnogo
elektrotekhnicheskogo instituta svyazi.
(Transients (Electricity)) (Numerical calculations)

SEMENOV, N.A.

Error resulting from the use of a peak voltmeter in the measurement of a pulsating voltage. Nauch.dokl.vys.shkoly; radiotekh. i elektron. no.3:151-153 '58. (MIRA 12:11)

1. Kafedra teoreticheskikh osnov radiotekhniki Vsesoyuznogo zaochnogo elektrotekhnicheskogo instituta svyazi.
(Electronic measurements)

SEMENOV, N.A.

Wave classes of dielectric wave guides. Nauch.dokl.vys.shkoly; radio-
tekh.i elektron. no.4:60-71 '58. (MIRA 12:6)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut Ministerstva
svyazi SSSR.

(Wave guides)

SOV/106-58-5-10/13

AUTHOR: Semenov, N.A.

TITLE: Conversion of a Pulse Signal in a Uniform Background of noise by a Linear Detector with Trough Limiting (Prec-brazhvaniye impul'snogo signala na fone gladkoy pomekhi lineynym detektorom s ogranicheniyem po minimumu)

PERIODICAL: Elektrosvyaz', 1958, nr 5, -- 62 - 67 (USSR).

ABSTRACT: Formulae (4.9 - 10) of Rice's 1944 paper in the form of a double series is adapted to the case where the output of the detector is arranged to be zero when the input falls below a certain level. Figure 1 shows the output signal/noise ratio as a function of the input signal/noise ratio for several values of the normalised limiting level. Figure 2 shows the comparison between linear and quadratic detectors for the same parameters. It will be noticed from Eq.(10), which is the final formula, that the denominator goes through a minimum when the normalized limit level (q) has the value 0.8. The numerator is also a function of the input signal/noise ratio, however. The table gives the optimum value of limiting for each input signal/noise ratio and the gain compared with the quadratic case.

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SOV/106-58-5-10/13
Conversion of a Pulse Signal in a Uniform Background of Noise by
a Linear Detector with Trough Limiting

There are 2 figures, 1 table and 5 references, 4 of which
are Soviet and 1 English.

SUBMITTED: September 27, 1957

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66316
SOV/162-59-1-10/27

~~9 (2, 3) 9, 1300~~

AUTHOR: Semenov, N.A.

TITLE: The Attenuation in a Dielectric Waveguide

PERIODICAL: Nauchnyye doklady vysshey shkoly, Radiotekhnika i elektronika, 1959, Nr 1, pp 83-90

ABSTRACT:

The author derives a formula to determine the attenuation coefficient of an electromagnetic wave being propagated along an isotropic rod having a higher optical density than the surrounding medium. The formula accounts for dielectric and magnetic losses of both media. This article is a continuation of the author's work published in a previous paper [Ref 4]. The symbols for the formulas are the same as in the preceding paper and their meaning is not explained in this article. The author refers to papers by W.M. Elsasser [Ref 1] and M. Jouguet [Ref 2] which contain formulas for the attenuation of waves with circular symmetry and basic dipole waves accounting only for dielectric losses of the rod itself. I.A. Dombrovskiy [Ref 3] achieved a

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SOV/162-59-1-10/27

The Attenuation in a Dielectric Waveguide

general solution of the circular waveguide problem accounting for dielectric losses in both media. He considered especially a waveguide with non-ideal metal walls. The author compares the formulas which he derived with analogous formulas of Elsasser's and Jouguet's papers. The review of the available data on the attenuation in dielectric waveguides shows the coincidence of results with those present in this paper for three simple waves, at $\mu = 1$, in the absence of magnetic losses and with losses in the external medium. In an appendix, the functions $f_n(x^1)$ and $\varphi_n(y^1)$ are discussed for the case of a complex argument. There are 3 graphs, and 5 references, 3 of which are Russian, 1 English, and 1 French.

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut
Ministerstva svyazi (State Scientific Research Institute of the Ministry of Communications)

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66316

SOV/162-59-1-10/27

The Attenuation in a Dielectric Waveguide

SUBMITTED: July 9, 1958

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Card 3/3

SEMENOV, N.A.

Wave parameters in a dielectric wave guide. Nauch. dokl. vys. shkoly.
radiotekh. i elektron. no.2:67-76 '59. (MIRA 14:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut Ministerstva
svyazi.

(Wave guides)

SEMENOV, N.A.

Asymptotic formulas for fading in a dielectric wave guide. Nauch.
dokl. vys. shkoly; radiotekh. i elektron. no.2:77-84 '59.
(MIRA 14:5)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut Ministerstva
syyazi.

(Wave guides)

88160

9,1300

S/109/60/005/011/009/014
E140/E483AUTHOR: Semenov, N.A.

TITLE: Calculation of the Wave Parameters in a Dielectric Waveguide

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.11, pp.1828-1836

TEXT: The article applies the results of the author's previous work on this subject (Ref.1 to 4) to the [manual] calculation of the parameters of round dielectric waveguides. The characteristic equation was solved by an iteration method for the waves

Eq.
(1)

$$(\mu/n - \varphi_n)(\epsilon/n - \varphi_n) - n^2 \left(\frac{1}{x^2} + \frac{1}{y^2} \right) \left(\frac{\epsilon\mu}{x^2} + \frac{1}{y^2} \right) = 0 \quad (1)$$

H₀₁; E₀₁; EH₁₀; EH₁₁; EH₂₀; EH₃₀; HE₁₁ and HE₂₁ with $\mu = 1$, $\epsilon = 1.1, 2.5, 10, 100$. Conclusions are drawn from the curves concerning the characteristics and parameters which behave in a manner common to all wave types and the distinguishing
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S/109/60/005/011/009/014
E140/E483

Calculation of the Wave Parameters in a Dielectric Waveguide

characteristics are listed in detail. Acknowledgments are expressed to N.N.Talalayeva, K.I.Kolesnikova, R.V.Landsman, V.A.Semenova and A.M.Bogomolova for their assistance. There are 12 figures, 1 table and 7 references: 6 Soviet and 1 non-Soviet.

SUBMITTED: December 28, 1959

Card 2/2

~~SEMENOV, N.A.~~

Safe operation of autoclaves. Bezop.truda v prom. 5 no.6:11-12 Je
'61. (MIRA 14:6)

(Founding--Safety measures)

SEMENOV, N.A.

Radiation patterns of linear radiators. Radiotekhnika 17
no.5:26-33 My '62. (MIRA 15:5)

1. Deystvitel'nyy chlen Nauchno-tekhnicheskogo obshchestva
radiotekhniki i elektrosvyazi imeni Popova.
(Antennas (Electronics))

SEMENOV, N.A.; SEMENOV, V.V., otv. red.; MAKSAKOVA, A.I., red.

[Matching of balanced vibrators and transmission lines]
Soglasovanie simmetrichnykh vibratorov s fiderom; ucheb-
noe posobie po kursu "Antenny." Moskva. Pt.2., ch.2.
1962. 89 p. (MIRA 16:4)

1. Vsesoyuznyy zaachnyy elektrotekhnicheskii institut
svyazi.
(Radio lines) (Microwaves)

SEMENOV, N.A.; SEMENOV, V.V., otv. red.; MAKSAKOVA, A.I., red.

[Radiation of center-fed dipoles] Izlucheniye simmetrichnykh vibratorov; uchebnoye posobie po kursu "Antenny." Moskva, Pt.2., ch.1. 1962. 61 p. (MIRA 16:4)

1. Vsesoyuznyy zaachnyy elektrotekhnicheskiy institut svyazi.

(Radio--Antennas) (Antennas (Electronics))
(Microwaves)

SEMENOV, N.A.; SEMENOV, V.V., otv. red.; MAKSAKOVA, A.I., red. (3)

[Matching of balanced vibrators and transmission lines]
Soglasovanie simmetrichnykh vibratorov s fiderom; ucheb-
noe posobie po kursu "Antenny." Moskva. Pt.2., ch.2.
1962. 89 p. (MIRA 16:4)

1. Vsesoyuznyy zaachnyy elektrotekhnicheskiy institut
svyazi.
(Radio lines) (Microwaves)

SEMENOV, N.A.; SEMENOV, V.V., otv. red.; MAKSAKOVA, A.I., red. (3)

[Matching of balanced vibrators and transmission lines]
Soglasovanie simmetrichnykh vibratorov s fiderom; ucheb-
noe posobie po kursu "Antenny." Moskva, Pt.2., ch.2.
1962. 89 p. (MIRA 16:4)

1. Vsesoyuznyy zaachnyy elektrotekhnicheskii institut
svyazi.
(Radio lines) (Microwaves)

SEMENOVA, N.A.; MITEL'MAN, L.V.

Dynamic magnetization loops of 65NP and 79NM alloys at frequencies
up to 10 c.p.s. Elektrichestvo no.9:67-69 S '63. (MIRA 16:10)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii.

SEMENOV, N.A.; POLYKOVSKIY, A.M.; SEMENOV, V.V., otv. red.;
VRONSKAYA, L.S., red.

[Surface-wave lines for television transmission] Linii
poverkhnostnoi volny dlia peredachi televideniia. Moskva,
Red.-izd. otdel VZEIS, 1963. 71 p. (MIRA 18:3)

ACCESSION NR: AP4042517

S/0109/64/009/007/1198/1205

AUTHOR: Semenov, N. A.

TITLE: Modes in a surface-wave line

SOURCE: Radiotekhnika i elektronika, v. 9, no. 7, 1964, 1198-1205

TOPIC TAGS: wave mode, surface wave, surface wave line

ABSTRACT: The propagation of electromagnetic waves along a circular perfect-conductivity metal rod coated with a layer of a magnetodielectric ("surface-wave line") is theoretically considered. The general case, a thin-dielectric-layer case, and a thin-conductor case are treated. The boundary problem solved elsewhere results in this characteristic equation: $E_n M_n - \Gamma_n^2 = 0$ and this equation of parameters: $x^2 + y^2 = F^2$, which are similar to the dielectric-waveguide equations; the distribution of longitudinal field components and upper boundary frequency is considered. The functions that constitute the above characteristic equation are

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ACCESSION NR: AP4042517

analyzed. The regions of existence and relations between the field components for each possible solution of the above equations are determined. Electric and magnetic circularly-symmetrical modes are tabulated, as well as some hybrid modes. As a result of the above analysis, all surface-wave modes of practical interest are classified. Orig. art. has: 4 figures, 22 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 27Apr63

ENCL: 00

SUB CODE: EC

NO REF SOV: 003

OTHER: 005

Card 2/2

L 12962-65

ACCESSION NR: AP4045486

S/0109/64/009/009/1634/1641

AUTHOR: Semenov, N. A.

B

TITLE: Parameters of E_{00} mode in a surface-wave line

SOURCE: Radiotekhnika i elektronika, v. 9, no. 9, 1964, 1634-1641

TOPIC TAGS: surface wave line, mode E_{00}

ABSTRACT: Generalized formulas for the phase constant, attenuation factor, phase and group velocities of the circularly symmetrical fundamental mode E_{00} are developed. The imperfect conductivity of the metal rod and a dielectric loss in the magnetodielectric coating are allowed for. The formulas hold true for any thickness of the coating, so that the Sommerfeld wave propagating along a bare rod represents a particular case. The formulas also agree with those developed by G. Piefke (Arch. elektr. Übertrag., 1955, 9, 2, 81). Curves are presented of phase and group velocities vs. normalized frequency for a dielectric constant

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L 12962-65

ACCESSION NR: AP4045486

of the coating 2.5 and for dielectric-to-conductor diameter ratios of 1.5, 2.5, 8,
and 30. Orig. art. has: 5 figures and 30 formulas.

ASSOCIATION: none

SUBMITTED: 03Jul63

ENCL: 00

SUB CODE: EC

NO REF SOV: 004

OTHER: 003

Card 2/2

44405-06 FWT/1

ACC NR: AP6021914

SOURCE CODE: UR/3108/66/021/003/0025/0030

AUTHOR: Semenov, N. A. (Active member)

36

ORG: Scientific and Technical Society of Radio Engineering and Telecommunications in
A. S. Popov (Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi)

TITLE: Transmitting power of a dielectric waveguide /

B

SOURCE: Radiotekhnika, v. 21, no. 3, 1966, 25-30

TOPIC TAGS: dielectric waveguide, waveguide

ABSTRACT: Equations have been derived for calculating the distribution of powers between a dielectric rod and an outer medium, the boundary radius of the field and the group velocity of a wave. The existence of a relationship between the distribution of powers and the wave velocities in a waveguide has been shown. Relationships have been found for determining the limiting transmitted power under thermal operating conditions and the maximum disruptive power of a waveguide. Orig. art. has: 3 figures and 17 formulas. [Based on author's abstract] [NT]

SUB CODE: ⁰⁹ ~~21~~ / SUBM DATE: 02Apr64/ ORIG REF: 007/

Card 1/1 *egj*

UDC: 621.372.826

ACC NR: AP7012395

SOURCE CODE: UR/0187/67/000'001 0046/0049

AUTHOR: Semenov, N. A.; Gul'karov, P. S.

ORG: none

TITLE: Surface wave line for television transmission

SOURCE: Tekhnika kino i televedeniye, no. 1, 1967, 46-49

TOPIC TAGS: transmission line, frequency modulation, signal distortion, TV system

SUB CODE: 09

ABSTRACT: The characteristics and specific features of an experimental surface wave television transmission line using frequency modulation set up between Maloyaroslavets and Obninsk are described. An evaluation of the results of measurements using the experimental line is presented. The experiments showed that the wave guide and apparatus of the surface wave line have quality indicators within the established norms with the exception of periodic distortion caused by double reflections from the points of connection of the wave guide to the overhead cable posts. The voltage reflection coefficient from one post is 3%. Improvements in the method of suspending the wire will permit, the authors believe, a reduction in reflection by a factor of 1.5-2, which will eliminate the signal distortion for lines up to 50 km long. Orig. art. has: 6 figures and 1 formula. JPRS: 40,450

Card 1/1

UDC: 621.395.4:621.397

0932 1317

^E
SEMANOV, N. A.

25940. Kolebaniya urovnya vody v podkhodnykh Kanalakh pri napolnenii i oporozhnenii kamer shlyuzov. Trudy Leningr. in-ta inzhenerov vod. transporta, vyp. 15, 1949, s. 33-57.

SO: Knizhnaya Letopis', Vol. 1, 1955

1. SEM^ENOV, N. A.
2. USSR (600)
4. Locks (Hydraulic Engineering)
7. Investigating the operation of floating mooring rings, Trudy LIIVT, no. 18, 1951.

9. Monthly List of Russian Accessions, Library of Congress, _____ 1953, Uncl.

^E
SEMANOV, N.A., kandidat tekhnicheskikh nauk; LYAKHNITSKIY, V.Ye.,
doktor tekhnicheskikh nauk, redaktor.

[Lock waterways in the U.S.S.R.; transcript of a public lecture.
Shliuzovannye vodnye puti SSSR. Leningrad, 1953. 42 p.

(MIRA 7:8)

(Canals)

LEVI, I.I., professor; SEMANOV, N.A., kandidat. tekhnicheskikh nauk,
redaktor.

[Hydraulic engineering construction on lowland rivers] Gidro-
tekhnicheskie sooruzhenia na ravninnykh rekakh. Leningrad,
1955. 30 p. [Microfilm] (MLRA 9:1)
(Hydraulic engineering)

124-57-1-535

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 67 (USSR)

AUTHOR: Semānov, N.A.

TITLE: Water Losses in Navigation Locks and Their Prevention (Utechka vody v shlyuzakh i bor'ba s neyu)

PERIODICAL: Tr. Leningr. in-ta inzh. vod. transp., 1955, Nr 22, pp 17-32

ABSTRACT: The sources of water leakage in navigation locks are pinpointed. A calculation of the motion of the water through cracks is adduced, also an estimate of the magnitude of the leakage loss, methods for its determination, and means for its minimization.

V.V. Fandeyev

1. Canals--Navigational locks
2. Water--Losses--Applications
3. Water--Losses--Prevention

Card 1/1