APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLANKIEWICZ, Krzysztof

Carbethoxylation of some derivatives of lepidine and quinaldine. Rocz chemii 36 no.4:625-630 '62.

1. Department of Organic Chemistry, Adam Mickiewicz University, Poznan.

GOLANKIEWICZ, Krzysztof

Reduction of some quinoline derivatives substituted in positions 2 or 4 with lithium aluminum hydride. Mat chemia no. 7:3-14 '63.

Reaction of hydrazine with some lepidine and quinaldine derivatives. Ibid.:15-27.

1. Katedra Chemii Organicznej, Uniwersytet im. Adama Mickiewicza, Poznan.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

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BRATEK-WIEW[illegible], Maria [illegible].; [illegible], M.; [illegible], [illegible].;
GOLANKIEWICZ, K.; NOWACKI, [illegible].; [illegible], [illegible].; [illegible], Maria

Synthesis and degradation of [illegible] in [illegible] [illegible].
Acta Biochim. Pol. [illegible]

1. Institute of Biochemistry and Biophysics, [illegible] Academy of Sciences, [illegible]; Department of Organic Chemistry, [illegible] University, Poznan; Institute of [illegible] Genetics, [illegible] Academy of Sciences, Poznan.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4

Andesite and its utilization in the chemical industry. H. Richart, J. Golanko, and K. Gorczyca. *Przemysł Chem.* 9, 578-81(1953)(English summary).—Mech. and phys. properties, especially resistance to acids and to high temp., make possible its application to replace deficient construction materials in building chem. app. for corrosive acids and gases. The results of expts. are discussed.

Kreile, M. Wozny

24,1500

S/058/62/000/004/035/160
A058/A101

AUTHORS: Orlov, V. V., Golashvili, T. V., Baskin, A. I.

TITLE: Block resonance absorption of neutrons

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 62, abstract 4D467 (V sb. "Neytron. fizika". Moscow, Gosatomizdat, 1961, 116 - 124)

TEXT: The authors derived a general formula for the effective resonance integral I_{ef} which applies to small as well as large blocks and which takes into account scattering and moderation in the block, as well as the possibility of neutron flight through the block. It was assumed that the mean energy loss incident to neutron collision with nuclei in the block is very much greater than resonance width. The formula was derived for single resonance. In the case of small blocks it is reduced to the Gurevich-Pomeranchuk formula, and in the case of large blocks, to the Wigner formula. The authors give an expression for I_{ef} in the case of the Breit-Wigner form of resonance and in particular, for strong resonance. The temperature dependence of volume and surface terms was determined.

[Abstracter's note: Complete translation] B. Levin

Card 1/1

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLANSKI, A.

Value of determination of reduction power of blood serum in malignant neoplasms in diagnosis and determination of dynamics of neoplasms. Polski przegl. chir. 25 no.7:609-613 July 1953. (CIML 25:1)

1. Of the First Surgical Clinic of Krakow Medical Academy.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLANSKI, Antoni

Determination of reduction properties of blood serum in diagnosis and evaluation of dynamics of neoplasms. Polski tygod. lek. 9 no.28:865-870 12 July 54.

1. Z I Kliniki Chirurgicznej A.M. w Krakowie, dyr. prof. dr med. J.Bogusz i z Oddzialu Chirurgicznego Szpitala miejskiego im. E.Biernackiego w Krakowie, ord. dr med. Tadeusz Guschlbauer.

(NEOPLASMS, blood in,
reduction properties)
(BLOOD,
reduction in neoplasms)

GOLAŃSKI, C.

"The Lodz Aviation Club is Fighting for the Challenge Flag of the Main Administration of the Polish Youth League." Aeroklubu. P. 18. (SKRZYDLATA POLSKA, Vol. 10, No. 43, Oct. 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955 Uncl.

GOLANSKI, H.

"From the Plan of the Ministry of Higher Education for the Year 1954." p. 2,
(PROBLEMY, Vol. 10, no. 1, Jan. 1954, Warszawa, Poland)

SO: Monthly Lists of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLANSKI, H.

Development of training centers for engineering cadres in People's Poland, p. 1. (PRZEGLAD ELEKTROTECHNICZNY, Warszawa, Vol. 31, no. 1, Jan. 1955.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jun. 1955, Uncl.

GOLANSKI, Henryk

Education of professional cadres and the national economy.
Przegl techn 81 no.16:9-10 Ap '60.

1. Minister Szkolnictwa Wyzszego, Warszawa

GOLANSKI, Henryk

Obstacles in the development of a young scientific team.
Nauka Pol 9 no.4:47-51 O-D '61.

1. Minister Szkolnictwa Wyższego.

GOLANSKI, H.

The creation of a system of bringing graduate engineers professionally occupied up-to-date on scientific achievements has been an urgent problem. Przegl techn no.10:4-5 11 Mr '62.

1. Minister Szkolnictwa Wyzszego, Warszawa.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

POLAND

GOLANSKI, Kazimierz, Docent, Dr. [Affiliation not given]

"Occurrence of Diseases in Breeding Silkworms in Poland During 1956-1960."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 19, No 4, Apr 63, pp 188-190.

Abstract: Author reviews diseases prevalent among silkworms and analyzes the results of a statistical study of the records (incomplete due to loss or damage) for 1956-1960 of breeders' insurance against losses, compulsory in Poland since 1956. The tabulated results reveal that the overall extend of losses was less than ten percent, which is good by world standards, and that insurance payments exceeded paid-in premia, since losses were more extensive for large-scale breeders than for small-scale ones. There are no references.

1/1

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

POLAND

[illegible]OLANSKI, Kazimierz, Department of Silkworm Breeding (Zaklad Hodowli Jedwabnikow), Zootechnical Institute (Instytut Zootechniki) in Krakow

"Polyedrosis, Its Etiology and Incidence in Breeding Silkworms in Poland in [illegible]-[illegible]."

Warsaw-Lublin, Medycyna Weterynaryjna, Vol 1[illegible], No [illegible], Jun 63, pp [illegible]

Abstract: Following their prior report on the general incidence of polyedrosis in silkworm in Poland for 19[illegible]-19[illegible], the authors now discuss the etiology and environmental factors of this disease, give a comparative table of the differences between the nuclear and cytoplasmic types, and describe the various forms of the nuclear type, the only one encountered in Poland. The authors include a tabulation of incidence in Poland by farms and by wojewodztwos, remarking on the difficulty of control, which, in view the absence of therapeutic means, has to rely entirely on prophylactic disinfection and hygiene. The [illegible] references comprise one Soviet, about 5 each Polish and German, and the others to Western sources.

1/1

POLAND

GOLANSKI, Kazimierz; Department of Silkworm Breeding, Zootechnical Institute (Zakład Hodowli Jedwabników Instytutu Zootechniki,) Krakow.

"Effect of Diseases of the Mulberry Silkworm (Bombyx mori L.) on Cocoon Productivity in Poland"

Lublin, Roczniki Nauk Rolniczych, Vol 21, No 10, Oct 63; pp 592-596.

Abstract: [illegible] published Polish data on incidence and severity of various diseases caused by viruses, bacteria and fungi; tables, graphs and maps [illegible] of diseases and production of silk in various regions of Poland during 1956 and 1960. Table, 2 graphs, 2 maps; 2 Sov. and 4 [illegible] unpublished) and 12 Western references.

1/1

GOLANSKIY, M.

In the Bureau of the Department of Economics, Philosophy and law of the U.S.S.R. Academy of Sciences. Vop. ekon. no.12:164-165 D '59. (MIRA 12:12)

(Ural Mountain region--Economics--Study and teaching)

KNORR, KLAUS; LITVIN, Z.V. [translator]; GOLANSKIY, M.M., kand.ekonom.nauk [translator]; KAMUSHER, K.G. [translator]; KAZAKOV, V.M. [translator]; GANTMAN, V.I., kand.yurid.nauk, red.; ZHEREBTSOV, L.P., red.; KONOVALOVA, Ye.K., tekhn.red.

[The war potential of nations] Voennyi potentsial gosudarstv. Moskva, Voen.izd-vo M-va obor.SSSR, 1960. 392 p. (MIRA 13:10)
(Armaments) (War--Economic aspects)

GOLANSKIY, M.

Effect of technological progress on capitalist reproduction of the means of production. Vop.ekon. no.9:128-135 S '61. (MIRA 14:8)

(United States--Technology)
(United States--Capitalism)

SOLODOVNIKOV, V.G., glav. red.; KHRAMELASHVILI, V.N., zam. glav. red.; GOLANSKIY, M.M., red.; DIKANSKIY, M.G., red.; KARUSHEN, K.G., red.; LITVIN, Z.V., red.; FITUNI, L.A., red.; CHERNYSHEV, P.M., red.; SHAFIRO, A.I., red.; SHEVCHENKO, G.N., tekhn. red.; GUSEVA, A.P., tekhn. red.

[International economic organizations; handbook] Mezhdunarodnye ekonomicheskie organizatsii; spravochnik. 2., dop. izd. Moskva, Izd-vo Akad. nauk SSSR, 1962. 1108 p. (MIRA 15:2)

1. Akademiya nauk SSSR. Institut mirovoy ekonomiki i mezhdunarodnykh otnosheniy.
(International agencies--Handbooks, manuals, etc.)

S/119/60/000/0[illegible]/002/[illegible]
B012/B063

AUTHORS Berrshteyn, I. M., Engineer, Golant, A. [illegible], Engineer

TITLE Generation of a Control Pulse According to the First Derivative With the Help of the Mass produced Controllers VP-130 (IR-130)

PERIODICAL Priborostroyeniye, 1960, No. 10, pp. 4 [illegible]

TEXT: At present, PI controllers of the VP-130 (IR-130) type are used in industry to control processes with different dynamic properties. However, if a particularly high quality of control is required, these controllers must be replaced by others. The authors note that these controllers allow to attain a higher quality by generating control pulses according to the first derivative. The principle of the generation of such pulses is explained, and the following is shown. If the static member of the controller is changed into a proportional one, the voltage at the output of the thermal bridge becomes proportional to the current in the corresponding control circuit and, thus, also to the input [illegible]

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Generation of a Control Pulse According to the First Derivative With the Help of the Mass-produced Controller MP-130 (IR-130)

S/119/60/000/010/008/014 X
B012/B063

March 1959. It guarantees a sufficient control quality and is very reliable. The present work was carried out by the author jointly with N I Kabachkov. There are 6 figures and 2 Soviet references

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L 25276-65 EWT(d)/EWP(1) Po-4/Pq-4/Pg-4/Pk-4/Pl-4 IJP(c) BC
ACCESSION NR: AP4045351 S/0103/64/025/009/1384/1389

AUTHOR: Golant, A. I. (Moscow); Dudnikov, Ye. Ye. (Moscow) 40 B

TITLE: Method for determining the parameters of a linear system from a h-f segment of its experimental amplitude-phase characteristic

SOURCE: Avtomatika i telemekhanika, v. 25, no. 9, 1964, 1384-1389

TOPIC TAGS: automatic control, industrial automation

ABSTRACT: This is a continuation of an earlier work by Ye. Ye. Dudnikov (Avt. i telemekhanika, v. 20, no. 5, 1959). Some peculiarities of calculating the transfer function coefficients from the amplitude-phase characteristic at frequencies approaching infinity are considered. Formulas for determining the coefficients from the reciprocal amplitude-phase characteristic are given. Their use is illustrated by an example of an industrial plant intended for fluidized-bed firing of molybdenite concentrates. The characteristics of a closed-loop control

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L 25276-65
ACCESSION NR: AP4045351

system of the plant were measured, at five frequencies, in the "quantity of charged concentrate-bed temperature" channel. The delay involved was determined from acceleration curves of the plant and was excluded from the characteristics. Orig. art. has: 4 figures, 20 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 13Jun63

ENCL: 00

SUB CODE: IE NO REF SOV: 003 OTHER: 000

Card 2/2

GOLANT, B.Ya., doktor tekhn. nauk; PETROV, N.A., kand. tekhn. nauk.

Increasing the stability of fats and fat products. Masl.-zhir. prom. 24 no.12:14-16 '58. (MIRA 11:12)
(Oils and fats) (Antioxidants)

GOLANT, B.Ya., doktor tekhn.nauk; PETROV, N.A., kand.tekhn.nauk

Partial esters of fatty acids and polyatomic alcohols as emulsifiers; bibliographic survey. Masl.-zhir.prom. 25 no.2:16-19 '59. (MIRA 12:2)
(Acids, Fatty) (Alcohols) (Emulsifying agents)

GOLANT, B.Ya., doktor tekhn.nauk; PETROV, N.A., kand.tekhn.nauk

Partial esters of fatty acids and polyatomic alcohols as emulsifying agents. Masl.-zhir.prom. 25 no.3:15-18 '59. (MIRA 12:4)

(Emulsyfying agents) (Acids, Fatty) (Alcohols)

GOLANT, B.Ya.; MANVELOVA, Ye.S., tekhn. red.

[Production of shortenings and their use in the manufacture of pastry]Poluchenie shortingov i primenenie ikh pri proizvodstve konditerskikh izdelii. Moskva, 1962. 28 p.
(MIRA 16:4)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii pishchevoy promyshlennosti.
(Oils and fats, Edible) (Pastry)

GOLANT, B.Ya., doktor tekhn.nauk; OSTAPOV, N.I., inzh.

Processing of oilseeds and obtaining from them protein-containing feed and edible products and oils; literary review. Masl.-zhir.prom. 29 no.2: 43-46 F '63. (MIRA 16:4)
(Cottonseed products) (Protein)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLENT, Boris Yakovlevich; KOVALEVSKAYA, A.I., red.

[Enrichment of food products with proteins of vegetable origin with a high content of amino acids] Obogashchenie pishchevykh produktov proteinami rastitel'nogo proiskhozhdeniia s vysokim soderzhaniem nezamenimykh aminokislot. Moskva, Izd-vo "Pishchevaia promyshlennost'," 1964. 96 p. (MIRA 17:6)

GOLANT, B.Ya., doktor tekhn.nauk

New data on the processing of soybeans. Masl.-zhir.prom. 30 no.2: 40-44 F '64. (MIRA 17:3)

GOLANT, D.B.

Differential diagnosis of atherosclerotic feeble-mindedness in Alzheimer's disease. Trudy Gos. nauchno-issl. inst. psikh. 22: 242-262 '60. (MIRA 15:1)

1. Klinicheskaya psikhonevrologicheskaya bol'nitsa imeni P.B. Gannushkina (glavnyy vrach bol'nitsy - V.M.Rybalka) i klinika psikhozov pozdego vozrasta (zav. klinikoy - prof. S.G.Zhislin) Gosudarstvennogo nauchno-issledovatel'skogo instituta psikhiatrii Ministerstva zdravookhraneniya RSFSR.
(MENTAL DEFICIENCY) (CEREBROVASCULAR DISEASE)

GOLANT, D.B.

So-called post-apopletic feeble-mindedness. Trudy Ges. nauchno-issl. inst. psikh. 22:263-272 '60. (MIRA 15:1)

1. Klinicheskaya psikhonevrologicheskaya bol'nitsa imeni P.B. Gannushkina (glavnyy vrach bol'nitsy - V.N.Rybalka) i klinika psikhozov pozdnego vozrasta (zav. klinikoy - prof. S.G.Zhislin) Gosudarstvennogo nauchno-issledovatel'skogo instituta psikhiatrii Ministerstva zdravookhraneniya RSFSR.
(MENTAL DIFICIENCY) (CEREBROVASCULAR DISEASE)

GOLANT, D.B.

Clinical characteristics of atherosclerotic dementia in senility and its delimitation from senile dementia. Trudy Gos.nauch-issl. inst.psikh. 25:105-118 '61. (MIRA 15:12)

1. Klinicheskaya psikhonevrologicheskaya bol'nitsa imeni Gannushkina (glavnyy vrach - V.N.Rybalka), klinika psikhozov pozdnego vozrasta (zav. - prof. S.G.Zhislin) i klinika sosudistykh psikhozov (zav. - prof. V.M.Banshchikov) Gosudarstvennogo nauchno-issledovatel'skogo instituta psikhiatrii Ministerstva zdravookhraneniya RSFSR.

(CEREBRAL ARTERIOSCLEROSIS) (SENILE PSYCHOSIS)

GOLANT, D.B.

Unique speech disorders of fanciful character expressed in atherosclerotic dementia. Trudy Gos.nauch-issl.inst.psikh. 25:119-130 '61. (MIRA 15:12)

1. Bol'nitsa No.4 imeni P.B.Gannushkina (glavnyy vrach - V.N. Rybalka), klinika sosudistykh psikhozov (zav. - prof. V.M. Banshchikov) i klinika psikhozov pozdnego vozrasta (zav. klinikoy - prof. S.G.Zhislin) Gosudarstvennogo nauchno-issledovatel'skogo instituta psikhiatrii Ministerstva zdravookhraneniya RSFSR.
(CEREBRAL ARTERIOSCLEROSIS) (SPEECH, DISORDERS OF) (FANTASY)

SOV-1[illegible]9-3-6-1[illegible]/[illegible]

AUTHOR: Gel[illegible] [illegible] R.

TITLE: Refl[illegible] [illegible] Wide Range of Electronic Tuning (Otr[illegible] [illegible] shirokim diapazonom elektronnoy nas[illegible])

PERIODICAL: [illegible] Nr 6, [illegible] (USSR)

ABSTRACT: [illegible] (Ref.[illegible]) that the tuning width Δ [illegible] klystron can be [illegible] bunching parameter [illegible] bunching parameter at the centre of [illegible] equivalent capacitance of the resonator [illegible] θ [illegible] coefficient [illegible] the cathode current U_0 is the resonator voltage while ϑ_0 and Θ are the transit angles of the electrons in the reflector space and between the grids of the resonator respectively. The limiting value of the klystron current in the reflector

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Reflex Klystron [illegible] Wide Range of Electronic Tuning

region is determined from Eq (1), where λ is the mean wavelength and N is the [illegible]. From Eqs (1) and (2) it follows that the limiting range of electronic tuning of the klystron expressed as a function of the centre frequency, is given by:

$$\delta f_{np} = \frac{k_1 \varphi (\theta_0 - \pi)}{1 + \frac{C_p}{C_T}} \left\{ \left[\frac{J_1(X)}{X} \right]^2 - \left[\frac{J_1(X_0)}{X_0} \right]^2 \right\}^{1/2} , \quad (3)$$

where k_1 is the current transfer coefficient for the upper grid of the resonator and C_p and C_T are the capacitances of the resonator, while the function φ is defined by Eq.(4) The values of φ as a function of θ for various N are plotted in Fig.2. From the curves of Fig.2 it follows that the limiting value of the electronic tuning range, δf_{np} is dependent primarily on the number of the generation mode In klystrons operating at currents in the vicinity of the critical current, the electrons undergo multiple transits

Reflex Klystron having a Wide Range of Electronic Tuning

through the high frequency [illegible]. This phenomenon can be employed [illegible] the range of electronic tuning of klystrons. In a 4-electrode reflex klystron it is possible to control the phase of the third transit of electrons through the high frequency gap by [illegible] the distance between [illegible] (nearest to the cathode) [illegible] for voltage. On the other hand, the 4th and [illegible] successive transits will have arbitrary phases. These, however, will have little effect on the operation of the tube; it is sufficient, therefore, to consider only the first three transits. The effect of the [illegible] on the electronic tuning range can be described [illegible] where γ denotes the ratio of the tuning range δf obtained with three electron transits to the maximum electronic tuning range δf_{MAKC} obtainable with 2 transits; m is the ratio of the maximum power in a given range to the power level determining the limit points of the range; χ_{m} and χ_{c} are

Card 3/4

Reflex Klystron having a Wide Range of Electronic Tuning

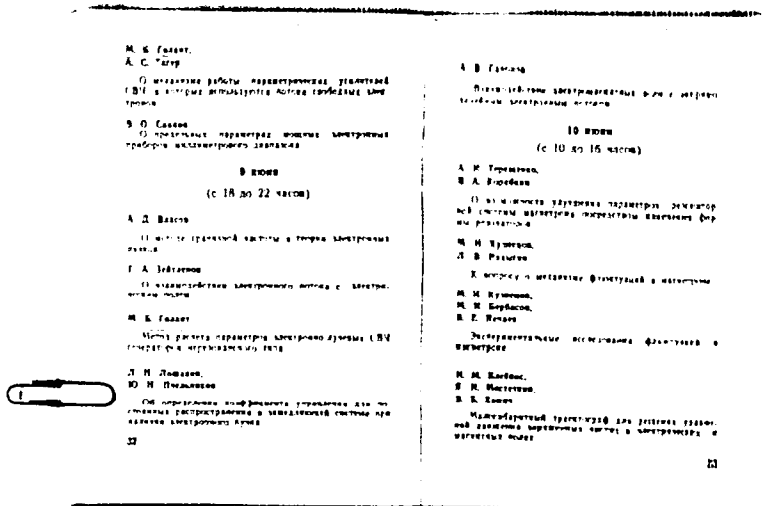
the values of the bunching parameter in the centre of the range for the case of 2 and 3 transits respectively. The quantity α is determined from the formula

$$\alpha = \frac{\theta_2 - 2\theta}{\theta_0 - \theta}$$, where θ_2 is expressed by

Eq.(7) in which n is a positive integer. Eq.(8) was used to plot a graph showing the dependence of the electronic tuning range on a parameter $(2n - 2N - 1)$; the full line shows the curve for $N = 1$ while the dashed line corresponds to $N = (n - 1)/2$. From the above it is concluded that in reflex klystrons it is possible to obtain an electronic tuning range amounting to 10 to 15% of the centre frequency. The above conclusions were confirmed experimentally. The paper contains 4 figures and 11 references, 4 of which are Soviet, 6 English and 1 German.

SUBMITTED: December 30, 1957.

1. Klystrons - Theory 2. Klystrons - Properties 3. Mathematics - Applications



report submitted for the Centennial Meeting of the Scientific Technological Society of Radio Engineering and Electrical Communications im. A. S. Popov (NTORES), Moscow, 8-12 June. 1959

L 2526-66 EWT(d)/FSS-2/EWT(1)/EWA(h) JM

ACCESSION NR: AP5021347 UR/0120/65/000/004/0136/0139
621.385.633.2:621.3.029.66

AUTHORS: Golant, M. B.; Vilenskaya, R. L.; Zyulina, Ye. A.; Kaplun, Z. F.; Negirev, A. A.; Parilov, V. A.; Rebrova, T. B.; Savel'yev, V. S. 37 B

TITLE: A series of wide-range low-power generators of millimeter and submillimeter waves

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 136-139

TOPIC TAGS: short wave radiation, backward wave tube, oscillator

ABSTRACT: Backward wave tubes represent the principal type of wide-range low-power generators of waves in the millimeter and submillimeter range. The purpose of this article is to acquaint scientists and technical workers with such devices. The characteristics of seven backward wave tubes are tabulated: OV-612, OV-613, OV-614, OV-622, LOV-0.5, LOV-1.0, and LOV-1.5. Wavelengths range from 0.49 to 8 mm, frequencies from 37.5 to 375 Gc, voltage changes from 2 to 4000 v, current from 30 to 50 mamp, power from 1 to 200 mw, and weight from 5 to 10 kg. Ranges overlap, and it is possible with these tubes to cover the entire range from one-half to eight millimeters. Orig. art. has: 8 figures and 2 tables. [04]

Card 1/1

L 2526-66

ACCESSION NR: AP5021347

ASSOCIATION: none

SUBMITTED: 20Nov64 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4108

Card 2/2

L 10456-67 EWT(1)/EEC(k)-2/EWP(k) IJP(c) WW/JW

ACC NR: AP6023?7 SOURCE CODE: UR/0109/66/011/007/1321/1322

AUTHOR: Golant, M. B.; Savol'yev, V. S.; Korotkova, Z. S.; Alekseyenko, Z. T.; Yermakova, M. I. 45/

ORG: none

TITLE: Laser and BW-tube bands overlap

SOURCE: Radiotekhnika i elektronika, v. 11, no. 7, 1966, 1321-1322

TOPIC TAGS: laser, backward wave tube

ABSTRACT: In 1964, Yeu Ta reported the development of a BW-tube operating at a wavelength of 0.39 mm (Traveaux du 5 congress international, Paris, 14-18 Sept, 1964). In the same year N. A. Gebbie et al. reported the development of a laser operating at 0.337 mm (Nature, v. 202, 4933, 685, 1964). In 1965, Soviet researchers designed a BW-tube operating at 0.296 mm. Thus, the laser band and BW-tube band have become overlapped. "The authors wish to thank N. A. Irisova and Ye. A. Vinogradov for their help in organizing measurements." Orig. art. has: no figure, formula or table.

SUB CODE:20 / SUBM DATE: 21Feb66/ ORIG REF: 002 / OTH REF: 002

Card 1/1 UDC: 621.385.6.029.67+621.379.325

24

Impregnating fabrics with drying oils A Ya Dumbrai, Sh. N. Golant and D. F. Shifman. Russ. 52,892, Nov. 30, 1938. Fabrics are impregnated with a mixt. of polymerized linseed oil, oxidized fish oil, Al and Ca naphthenates, paraffin and an oil diluer with the addn. of a solvent, e.g., kerosene.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

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Substitute for linseed oil. A. Ya. Drinberg and Sh. [illegible] U.S.S.R. 67,018, Dec. 31, 1946. Oils such as sunflower oil are etherified with pentaerythritol in the presence of CaO, and the product is heated at 280° for the purpose of dehydration and polymerization. M. Hosch

[illegible] 1948). The [illegible] of varnishes [illegible] only [illegible] oil and turpentine can be [illegible] by means of the flash point [illegible] A graph of flash point against [illegible] gives a curve [illegible] straight [illegible] M. [illegible] W. [illegible]

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLANT, SH. N.

Transformations of esters of polyatomic alcohols into tridimensional polymers. A. Ya. Drinberg, Sh. S. Golant, and B. M. Fundyler (Lensovet Technol. Inst., Leningrad). *Issledovaniya v Oblasti Vysokomolekul. Soedinenii, Doklady 6-oi Konf. Vysokomolekul. Soedineniyam, Akad. Nauk S.S.S.R.* 1949, 172-81.—Esterification of methacrylic acid with the corresponding polyat. alcs. gave the corresponding esters with: ethylene glycol (b_1 89-7°, d_4^{20} 1.0591), glycerol (b_1 150-60°, d_4^{20} 1.1018), and pentaerythritol (m. 64-5°). The 1st 2 were incapable of polymerization at room temp. with various catalysts; the last ester was able to polymerize to tridimensional polymer at room temp. with special Cp catalyst (the nature not explained), while Bz_2O_2 gave uncertain results. The final polymer was insol. and infusible. A liquid ester of methacrylic acid with polyglycerol polymerized readily with Cp catalyst at 20°, while with Bz_2O_2 no change took place. Films of the pentaerythritol and polyglycerol esters showed very high adhesive properties. Detn. of mol. wt. and peroxide no. during polymerization of these esters showed that peroxides were intermediates in the polymerization. Esters of maleic acid with ethylene glycol were prepd. in the polymeric state; their mol. wt. was related linearly to the acid no. and thus indicated their linear structure. In such an ester with 8 structural repeating units it was possible to attain tridimensional polymer structure by treatment with the Cp catalyst at 20° (9 days) or 110° (2.5 hrs.). The transformation was accompanied by addn. of O which becomes appreciable at higher temp., and at 110° 1 atom of O is attached to each double bond (av. value), possibly acting as an interchain bridge. Polymers with highest mol. wts. also have highest peroxide no. Hydrolysis of the tridimensional ester yielded fumaric acid in 8-9% yields; the remaining acids were infusible and contained more O than fumaric acid. G. M. Kosolapoff

(2)

GOLANT, Sh. N.

Conditions for cross-linking polymers. A. Ya. Drinberg, Sh. N. Golant, and L. I. Gol'dfarb. [illegible] Leningrad. [illegible]

Polybutylmethacrylate (I) (sp. viscosity [illegible] in toluene) was cross-linked by heating with Bz_2O_2 (II) (in form of films obtained by evapg. [illegible]). Extent of insolubilization was detd. by a Soxhlet extn. with C_6H_6. At 100-50° no insol. products are formed in presence of 3% II (time not given); at 180-200° from [illegible] of I [illegible] solubilized (time not given). At 160-[illegible] increasing the amt. of II from 0 to 10% gave [illegible] insolubilization) at 5% II, with [illegible] insolubilization at 0% II (time not given). The per cent insolubilization with 3% II at 170-80° as a function of time (up to 6 hrs.) is given in a curve only. Films of cross-linked I have reduced elasticity. Cross-linking was carried out at 170-80° for 6 hrs.; when II was held at 3% the amts. of insol. products produced in the presence of 10, 15, 20% tritolyl phosphate (III) were 10, 2.1, and 1.0%, resp.; when III was held at 10%, 0, 3, and 10% II gave 1.0, 16, and 62% insol. products, resp. When linear polymers of I were prepd. by heating 80:20, 70:30, and 90:10 mixts. of monomer and solvent (xylene, ?) in presence of 3, 0.3, and 0.3% II at 100-10, 90-5, and 90-5°, for 6 hrs., products had sp. viscosities of 0.12, 0.32, and 0.44 (1% in toluene, ?), resp. On heating these samples to 170-80° (time not given) in presence of II (addnl. amts. added, if any, not given) 30-44, 50-6, and 75-85% insol. products were produced, resp.

James P. Danehy

GOLANT, Sh. N.

USSR/Chemistry - Plastics Nov 51

"Conversion of Polymers in Presence of Pentaerythritol Ester of Methacrylic Acid," A. Ya. Drinberg, Sh. N. Golant, L. I. Gol'dfarb, Leningrad Technol Inst imeni Lensovet

"Zhur Prik Khim" Vol XXIV, No 11, pp 1181-1190

Polymerization of polybutylmethacrylate, perchlorovinyl, and polyethene in presence of pentaerythritol ester of methacrylic acid was found to proceed through formation of peroxides, yielding 3-dimensional polymer. Conversion proceeded only in presence of O_2 "carriers" (cobaltic

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USSR/Chemistry - Plastics (Contd) Nov 51

soaps), not in CO_2 medium. Bromination in dark showed that drop of Br number occurs in parallel with increase of amt of 3-dimensional polymer.

204T6

GOLANT, Sh., MAYSEL, S.

GOLANT, SH., RIVINA, R.

Roofing, iron and steel

Painting steel roofs. Zhil.-kom.khoz. 2, No. 5, 1952

9. Monthly List of Russian Accessions. Library of Congress, September 1952, Unel.

GOLANT, Sh.N., kandidat tekhnicheskikh nauk; RIVINA, R.I., inzhener; ZOLOTNITSKIY, N.D., redaktor; POLIKARPOV, M.P., redaktor; KONYASHINA, A., tekhnicheskiy redaktor

[Painting steel roofing] Okraska stal'nykh krovel'. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1954. 50 p.
(Roofing--Painting) (MLRA 8:6)

BOLOTNYY, V., kandidat tekhnicheskikh nauk; GOLANT, Sh., kandidat tekhnicheskikh nauk.

Use of durable paints on building facades and roofs. Zhil.-kom.khoz. 4 no.2:11-15 '54. (MLRA 7:5)
(Roofing paint)

GOLANT, Sh.N., kandidat tekhnicheskikh nauk; DUBITSKIY, A.V., inzhener.

From practical experience in the use of weatherproof building facade paints in Leningrad. Gor.khoz.Mosk. 28 no.9:13-15 S '54. (MLRA 7:10)
(Leningrad--Facades) (Facades--Leningrad) (Paint)

GOLANT, Sh., kandidat tekhnicheskikh nauk; RIVINA, R., inzhener.

Painting interior room surfaces with synthol paints. Zhil.-kom. khoz. 5 no.7:13-14 '55. (MLRA 9:1)

(Paint)

GOLANT, Sh., kandidat tekhnicheskikh nauk; RIVINA, R., inzhener.

Coating sheet iron roofing. Zhil.-kom. khoz. 5 no.8:12-13 '55.
(Roofing, Iron and steel) (MLRA 8:6)

DRINBERG, Anatoliy Yakovlevich, doktor tekhnicheskikh nauk; GOLANT, Shaya Nakhimovich, kandidat tekhnicheskikh nauk; POLYAKOV, Ye.F., redaktor; BASHKIROV, L.G., redaktor izdatel'stva; KONYASHINA, A., tekhnicheskiy redaktor

[Painting building facades] Okraska fasadov zdanii. Izd. 2-oe, ispr. i perer. Moskva, Izd-vo Ministerstva kommunal'nogo khozyaistva RSFSR, 1956. 127 p. (MLRA 10:1)
(House painting)

GOLANDT, Sh.M., kandidat tekhnicheskikh nauk; RIVINA, N.I., inzhener.

Substitute for oil paints used in interior finishing of apartment houses. Biul.stroi.tekh.13 no.3:21-22 Mr '56. (MLRA 9:7)
(Paint)

GOLANT, Sh.N.; RABINOVICH, G.M.; SPIRIDONOVA, O.M., kand.tekhn.nauk, nauchnyy red.; ROTENBERG, A.S., red.izdatel'stva; PUL'KINA, Ye.A., tekhn.red.

[Spray painting of buildings, using a paint without an oil base] Mekhanizirovannaia okraska zdanii bezmaslianymi sostavami; opyt raboty novatora-maliara A.P.Farutina. Leningrad, Gos.izd-vo lit-ry po stroit.i arkhit., 1957. 40 p. (MIRA 10:12)
(Spray painting)

GOLANT, Sh., kandidat tekhnicheskikh nauk.

Cleaning facades painted with vinylperchlorate paints. Zhil.-kom. khoz. 7 no.2:5-6 '57. (MLRA 10:4)
(Facades--Maintenance and repair)
(Cleaning machinery and appliances)

GOLANT, Sh., kandidat tekhnicheskikh nauk.

How to improve the painting of facades with perchlorvinyl paints.
Zhil.-kom.khoz. 7 no.9:30 '57. (MIRA 10:10)
(Paint) (House painting)

GOLANT, Sh., kand.tekhn.nauk; RIVINA, R., inzh.

What's new in cleaning house façades. Zhil.-kom. khoz. 8 no.3:28 '58. (MIRA 11:4)

(Leningrad--Façades)

SHEMYAKOV, V., kand.tekhn.nauk; GOLANT, Sh., kand.tekhn.nauk; RIVINA, R., inzh. (Leningrad)

Using synthetic water paints in painting facades of buildings. Zhil.-kom.khoz. 9 no.6:18 '59. (MIRA 12:10)
(Leningrad--House painting)

GOLANT, Sh.N., kand.tekhn.nauk; SHEMYAKOV, V.P., kand.tekhn.nauk; SHOROKHOV, N.V., inzh.; RIVINA, R.I., inzh.; SHISTER, G.M., red.; CHURINOV, A.I., red.izd-va; NAZAROVA, A.S., tekhn.red.

[Provisional technical instruction for making and using polystyrene, polyvinylacetate, and mastic-lime compositions for finishing building façades] Vremennye tekhnicheskie ukazaniia na izgotovlenie i primenenie polistirol'nykh, polivinilatsetatnykh i izvestkovo-mastichnykh sostavov dlia otdelki fasadov zhilykh zdanii. Moskva, Izd-vo M-va kommun.khoz.RSFSR, 1960. 49 p. (MIRA 14:1)

1. Akademiya kommunal'nogo khozyaystva. Leningradskiy nauchno-issledovatel'skiy institut.
(Façades) (Paint)

LYSOVA, A.I., kand. tekhn. nauk; GOLANT, Zh.N., kand. tekhn. nauk; POLUBNEVA, V.I., inzh., red.

[Roofs of glass reinforced plastics; according to materials of the Leningrad Research Institute of the Academy of Communal Economics] Krovlia iz stekloplastik; po materialam Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khoziaistva im. K.D.Pamfilova. Moskva, Gosstroiizdat, 1961. 21 p. (MIRA 17:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. 2. Starshiy nauchnyy sotrudnik Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Lysova). 3. Rukovoditel' laboratoriyey sinteticheskikh materialov Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva im. K.D.Pamfilova (for Golant).

GOLANT, Sh., kand.tekhn.nauk (Leningrad); USVYATSEVA, B., inzh. (Leningrad)

Seamless mastic floors. Zhil.-kom. khoz.11 no.7:27 Jl '61.
(MIRA 14:7)

(Floors)

GOLANT, Sh.N., kand. tekhn. nauk; DUBITSKIY, A.V., inzh.,; BESPALOV, I.V., inzh., nauchnyy red.; PENOVA, Ye.M., red. izd-va; PUL'KINA, Ye.A., tekhn. red.

[Synthetic paints in housing construction] Sinteticheskie kraski v zhilishchnom stroitel'stve; iz opyta Leningrada. Leningrad, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 138 p. (MIRA 14:8)

(Paint)

GOLANT, Sh., kand.tekhn.nauk; RIVINA, R., inzh.; USVYATSOVA, B., inzh.

Use of plastics in the major repair of buildings. Na stroi. Ros. 3 no.1:20 Ja '62. (MIRA 16:5)
(Apartment houses--Maintenance and repair) (Plastics)

GOLANT, Sh.N., kand. tekhn. nauk; RABINOVICH, G.M., inzh.

Use of plastics and synthetic materials in housing construction. Transp. stroi. 12 no.1:29-32 Ja '62. (MIRA 17:2)

1. Rukovoditel' laboratorii plastmass i sinteticheskikh materialov Leningradskogo nauchno-issledovatel'skogo instituta Akademii kommunal'nogo khozyaystva (for Golant).
2. Nachal'nik otdela novoy tekhniki Lenzhilproyekta (for Rabinovich).

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GOLANT, Sh., kand.tekhn.nauk (Leningrad)

Introduce plastic products into housing management. Zhil.-kom. [illegible]
13 no.2:12-13 '63. (MIRA 16:5)
(Plastics) (Apartment houses--Maintenance and repair)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R000515610009-4"

GOLANT, Sh., kand. tekhn. nauk (Leningrad)

New oilless paints. Zhil.-kom. khoz. 12 no.5:16 My '62.
(MIRA 15:10)

(Paint)

GOLANT, Sh.N., kand. tekhn. nauk; L'VOVA, Ye.D.

[Using water-resistant materials in indoor repair work] Primenenie gidrofobizuiushchikh veshchestv pri vnutrennikh remontnykh rabotakh; rekomendatsii. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1963. 13 p. (MIRA 17:9)

1. Akademiya kommunal'nogo khozyaystva. Leningradskiy nauchno-issledovatel'skiy institut.

GOLANT, Shaya Nakhimovich, kand. tekhn. nauk; L'VOVA, Evgeniya Dmitriyevna, inzh.; AMMOSOV, N.G., red.; FREGER, D.F., red.izd-va; GVIRTS, V.L., tekhn. red.

[Increasing the durability of the finish (plastering and painting) of interior rooms by means of waterproofing] Povyshenie dolgovechnosti otdelki (shtukaturki i okraski) vnutrennikh pomeshchenii sposobom gidrofobizatsii. Leningrad, 1963. [illegible] p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'nye materialy i konstruktsii, no.6) (MIRA 17:1)

PREDTECHENSKIY, A.V.; GOLANT, V.Ya.; BESSMERTNYY, A.S., red.; LEVONEVSKAYA, L.G., tekhn.red.

[The cradle of Russian science; historical studies on the scientific institutions of the Strelka, Vasil'yevskiy Island in Leningrad] Kulybel' russkoi nauki; istoricheskii ocherk o nauchnykh uchrezhdeniiakh Strelki Vasil'evskogo ostrova v Leningrade. Leningrad, Lenizdat, 1959. 253 p. (MIRA 13:5)
(Leningrad--Science)

GOLANT, Veniamin Yakovlevich

[Nation of sages] Narod mudrets. Leningrad, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1959. 133 p. (MIRA 14:12)

(Inventions) (Inventors, Chinese)

USSR/Nuclear Physics - Gamma Rays Jul 51

"Oscillational-Rotational Spectrum of Atomic Nuclei," V. Ye. Golant

"Zhur Eksper i Teoret Fiz" Vol XXI, No 7, pp 780-787

On basis of liquid drop model, gamma-radiation of heavy nuclei is studied for small energies of excitation. Probabilities of gamma transitions connected to simultaneous variation in state of surface oscillations and rotational state of nucleus are computed. Golant finds that

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USSR/Nuclear Physics - Gamma Rays (Contd) Jul 51

interaction of oscillation and rotation of nucleus may be neglected. He was assisted by Prof Ya. I. Frenkel. Submitted 19 May 50.

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FRENKEL', Ya.I.; SEMENOV, N.N., akademik, redaktor; SOKOLOV, A.A., doktor fiziko-matematicheskikh nauk, redaktor; BOGOLYUBOV, N.N., akademik, redaktor; TAMM, I.Ye., akademik, otvetstvennyy redaktor; ANSEL'M, A.I., doktor fiziko-matematicheskikh nauk, redaktor; BLOKHINTSEV, D.I., doktor fiziko-matematicheskikh nauk, redaktor; KONTOROVA, T.A., kandidat fiziko-matematicheskikh nauk, redaktor; GOLANT, V.Ye., redaktor izdatel'stva; SMIRNOVA, A.V., tekhnicheskiy redaktor

[Selected works] Sobranie izbrannykh trudov. Moskva, Izd-vo Akademii nauk SSSR. Vol.1. [Electrodynamics; general theory of electricity] Elektrodinamika; obshchaia teoriia elektrichestva. 1956. 370 p. (MLRA 9:11)

1. Chlen korrespondent AN SSSR (for Frenkel')
(Electrodynamics)

AUTHOR GOLANT, V.E., PA - 2804

TITLE Pulse High Frequency Discharge in Argon. I. Electron Scattering Function According to Velocities.
(Vozniknoveniye impul'snogo razryada v argone na sverkhvysokikh chastotakh. I. Funktsiya raspredeleniya elektronov po skorostyam. Russian)

PERIODICAL Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 4, pp 756-770, (U.S.S.R.)

Received 5/1957 Reviewed 6/1957

ABSTRACT Determination is carried out on the conditions which correspond to the production of an impulse discharge in argon at centimeter wave frequencies and aduration of impulse of the order of 10^{-6} sec. The diffusion of the electrons towards the periphery of the discharge interval is disregarded. The approximate calculation of the distribution function is based on the analytical approximation of known experimental data on the probability of elastic and inelastic collisions of electrons with argon atoms. Calculations showed that in the most unfavorable case the difference of the distribution functions in two border cases does not exceed $10^{0}/o$ for the energy loss in the case of inelastic collisions for the lowest value of the β parameter characterizing interaction of electrons and argon atoms. The coefficient of the ionization of argon atoms by the electrons and by the high frequency conductivity of the argon at the time of the production of the impulse discharge is calculated by means of distribution function. The maximum value of the ionization coefficient is obtained at 2800 Kc and

PA - 2805

AUTHOR GOLANT, V.YE.,

TITLE Pulse High Frequency Discharge in Argon. II. The Formation of the Discharge under Influence of rectangular Energy-Impulses. (Vozniknoveniye impulsnogo razryada v argone na sverkhvysekikh chastotakh. II. Vozniknoveniye razryada pod vozdeystviyem pryamougol'nykh impul'sov moshchnosti - Russian)

PERIODICAL Zhurnal Tekhn. Fiz.,1957, Vol 27, Nr 4, pp 771-783, (U.S.S.R.)
Received 5/1957 Reviewed 6/1957

ABSTRACT The critical amount of the voltage amplitude of the electric field is computed. It is shown to be useful to determine the critical voltage according to the maximum value of $P_{load}^{impulse}$ (average value of the square of the voltage of an electric field during an impulse)on the occasion of $P_{decr.}$(decreasing power under load if the discharge interval is lacking) of small values, where ionization in gas is lacking, to great values where the steady discharge occurs. The calculations were carried out for the cases of single as well as of periodical repeating high frequency impulses. The 10^8-fold magnification of the initial concentration of electrons is shown to lead to an only 1.1 1.3-fold decreases of the critical voltage E_{cr} which means that the E_{cr} changes very slowly on the occasion of the change of the active component E_0 or the conductivity of the discharge interval (in the case of electrons lacking). Calculation data are compared with those of the experiments (impulse discharge in argon at 2800 Kc). The experiment proved the ab-

[illegible]-27-7-[illegible]/40

AUTHOR: [illegible]

TITLE: The Production of [illegible] Frequencies ([illegible]) [illegible]

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, [illegible] (USSR)

ABSTRACT: [illegible] of the characteristics [illegible] for the production of the discharge in neon under the action of rectangular high-frequency impulses with [illegible] is carried out in the same manner as in the paper [illegible] the author in Zhurnal Tekhnicheskoy Fiziki, 1957, [illegible]. Here, too, it is assumed that the diffusion [illegible] of the high-frequency impulse [illegible] which [illegible] the critical [illegible] of the electron [illegible] formation of the discharge was carried [illegible] electron-distribution function [illegible] of the [illegible] approximately calculated [illegible] of the [illegible] ionization of [illegible] the probability of the collision of the electrons with the [illegible] distribution [illegible] coefficient of ionization of the [illegible]

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The Production of a Pulse-Discharge in Neon at High Frequencies 57-27-7-11/40

the capture of the electrons by the water-molecules (on addition of small amounts of water vapor to neon) and the high-frequency conductivity of neon during the time of the formation of the impulse-discharge. These data were used for the calculation of the critical quantity of the voltage-amplitude of the electric field. The results of the calculations are compared with the experimental data obtained by the author as well as with those of other papers. There are 9 figures and 11 references, 5 of which are Soviet.

ASSOCIATION: Leningrad Polytechnic Institut imeni M. I. Kalinin ([illegible] Politekhnicheskiy Institut im. M. I. Kalinina)

SUBMITTED: December [illegible], 1956

AVAILABLE: Library of Congress

1. High frequency discharges-Mathematical analysis 2. Neon-Applications

Card 2/2

57-9-19/40

AUTHOR Golant, V. Ye.

TITLE The Excitation of a Pulse Discharge in Argon at High Frequencies. III. The Excitation of a Discharge Under the Action of an Exponentially Rising High-Frequency Energy.
(Vozniknoveniye impul'snogo razryada v argone na sverkhvysokikh chastotakh. III. Vozniknoveniye razryada pod vozdeystviyem eksponentsial'no narastayushchey vysokochastotnoy moshchnosti.)

PERIODICAL Zhurnal Tekhn. Fiz., 1957, Vol. 27, Nr 9, pp. 2071-2079 (USSR)

ABSTRACT On the strength of the results obtained by those analyses of the function for electron distribution according to velocities, which were dealt with by previous papers, the amplitude modification of the voltage of the electric field in the discharge inter space at the excitation of a discharge in argon and under the action of an exponentially rising high-frequency is dealt with. The parameters characterizing the process of the excitation of the discharge are determined. On the basis of the data obtained the nature of the pulse filtrating through the discharge space during the rise of the power output of the generator

The Excitation of a Pulse Discharge in Argon at High Frequencies. III. The Excitation of a Discharge Under the Action of an Exponentially Rising High-Frequency Energy.

carried out are compared with those obtained by experiment. It is shown that, in spite of the fact that the analysis has the character of an approximation, experimental results agree with those obtained when computing parameters.

There are 7 figures and 2 Slavic references.

ASSOCIATION: None given.
SUBMITTED: March 27, 1957
AVAILABLE: Library of Congress.

GOLANT, V. V.

"The Relation Between Characteristics of Ultra High Frequency Current in Gas and Characteristics of the DC Current in Gas."

"The Formation of Impulse Ultra High Frequency Discharges in Inert Gases."

paper presented at Second All-Union Conference on Gaseous Electronics, Moscow, 2-6 October '58.

AUTHORS: Abramov, T. S., Golant, V. Ye. 57-28-5-21/36

TITLE: On the Influence of Diffusion on the Formation of a Pulsed Superhigh Frequency Discharge in Argon (O vliyanii diffusii na vozniknoveniye impul'snogo sverkhvysokochastotnogo razryada v argone)

PERIODICAL: Zhurnal Tekhnicheskoy Fiziki, 1958, Vol. 28, Nr 5, pp. 1006-1101 (USSR)

ABSTRACT: The authors communicate the results of the experimental determination of the dependence of the critical field strengths characterizing the formation of pulsed superhigh frequency discharges in argon, on the dimensions of the discharge volume at variable gas pressure. The experimental investigation was conducted in an apparatus, the block-scheme of which is shown in figure 1. The measurement methods were analoguous to the methods described in reference 2. According to reference 2 it is possible to compute the function E_{cr} vs. the field density and pressure by utilizing the dependence α/p vs. E determined in reference 1. The E_{cr} obtained from these computations is shown in figure 3. The optimum correspondence between the experimental and theoretical results are obtained at values of $\alpha^i_{kr.} = 7 \cdot 10^6 \frac{1}{sec}$ ($w = 7.7$; $\eta^{1/2} E_0 \approx 3.10^4$). According to the

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experimental data shown by figure 4 $\frac{E_{kr}}{E_{kr.\infty}} > 1.1$ at $pl^2 < 0{,}1 \div 0.2$ cm^2 mm of mercury column (that is to say at $\frac{(pl)^2}{pt} < \sim 2.10^5$ cm^2/sec mm of mercury column). If for this case the value $\alpha^i_{kr.\infty}(\alpha^i_{kr.\infty} = 7.10^6 \frac{1}{sec})$ and the quantity μ is correspondingly taken according to the curve of the paper mentioned in ref. 2 ($\mu \approx 1{,}5$) then $D \sim \frac{10^4}{t}$ cm^2/sec is obtained from formula 11.

$$\left(\frac{E_{kr}}{E_{kr\infty}}\right)^{\mu} = 1 + D\frac{\pi^2}{l^2\alpha^i_{kr\infty}} = 1 - (Dp)\frac{\pi^2}{w}\frac{t}{(pl)^2} \quad (11)$$

This quantity is considerably smaller than the coefficient of the free electron diffusion. The magnitude of the effective diffusion coefficient proved to be an intermediate value between the values of the coefficient of free diffusion and of bipolar diffusion according to the conducted estimation. These considerations given for the explanation of the experimental results, of course, only have the character of a preliminary estimation. A rigorous analysis must take into consideration the determination of the intial spatial distribution of the electrons, the influence of diffusion on the electron distribut-

On the Influence of Diffusion on the Formation of a Pulsed Superhigh Frequency Discharge in Argon 57-28-5-31/36

ion and the influence of the space charge on the electron diffusion. There are 4 figures and 4 references, 3 of which are Soviet.

SUBMITTED: July 19, 1957

1. High frequency discharges--Analysis 2. Argon--Diffusion

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53-65-1-2/15

AUTHOR: Golant, V. Ye.

TITLE: Gas Discharge at Ultrahigh Frequencies (Gazovyy razryad na sverkhvysokikh chastotakh)

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol. 65, Nr 1, pp. 53 - 86 (USSR)

ABSTRACT: The author of the present paper gives a survey on the present stage of research work concerning gas discharges, taking into consideration in particular the range of centimeter waves. Publications dealing with the same subject during the last ten years are in part dealt with at length and the most important results are discussed. The paper is arranged in 5 sections: I) Introduction, II) The velocity distribution function of the electrons in the field of ultrahigh frequencies. Here the author first deals with the method of the theoretical investigation of gas discharges at ultrahigh frequencies, the kinetic equation for the velocity distribution function, the principle of similarity of high-frequency discharges, the electron distribution function in the steady, as well as in

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the high-frequency field, and, finally, with the integration methods of the kinetic equation. Section III is entitled: The discharge phenomena under the continuous influence of a high-frequency force. Here, the author deals with the conditions of discharge phenomena and the methods of experimental investigation, further with the discharge phenomena under diffusion conditions, with the influence exercised by electron capture on the discharge phenomena, with the influence of a steady electric, as well as of a steady magnetic field on discharge phenomena and finally with the influence of recombination. Section IV, entitled "The steady discharge conditions at ultrahigh frequencies", first deals with the conditions for the maintenance of a discharge, then at length with the diffusion and the high-frequency discharge in the presence of an electronegative gas. Section V finally deals with pulsed discharges at ultrahigh frequencies, i. e. first with the discharge phenomena in the case of rectangular high-frequency pulses, then with the experimental methods and with the results of the investigation concerning pulsed high-frequency discharges. In conclusion, the author comments on discharge phenomena at

high pressures and on the discharge under the influence of strong high-frequency pulses. There are 34 figures and 34 references, 6 of wich are Soviet.

1. Gas discharges--Theory

SOV/109-4-4-12/24

AUTHORS: Golant, V.Ye. and Mandel'shtam, M.Ya.

TITLE: Methods of Simulating the Increased Power for the Testing of the T-R Tubes in Radar Antenna Switches (Metody imitatsii povyshennoy moshchnosti pri ispytaniyakh razryadnikov radiolokatsionnykh antennykh pereklyuchateley)

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 4, pp 660 - 673 (USSR)

ABSTRACT: Two test equipments permitting the simulation of the increased test power for T-R tubes are suggested. The first system is illustrated in Figure 1. It consists of a magnetron oscillator, a T-junction, a phase shifter, two reactive diaphragms, a matched load and the investigated tube (symbol R). It is seen that the investigated tube is situated inside a cavity resonator, which is limited by two reactive diaphragms. The resonator is tuned by varying the electrical distance between the diaphragms (e.g. by means of the phase shifter). The second system, shown in Figure 2, employs a resonator which is bounded by a reactive iris and by a plunger. The resonator is tuned

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by varying the position of the plunger. The system employs a ring-type balanced bridge, which provides a matched load to the transmitter. If the phase in the arm 2 of the bridge is properly chosen and the load in the arm 3 is matched, it is possible to match the input of the bridge, while a full reflection is obtained in the arm. The second system is more complex than the first but the tuning of the resonator is accomplished very easily. The parameters characterising the test operating conditions in the two systems are determined analytically. It is shown that for the first system, the magnification coefficient K and the modulus of the reflection coefficient G_{vkn} at the input are given by Eqs (7);

K is defined as the ratio of the field amplitudes squared at the tested switch tube and at the input of the test device, G is the reflection coefficient of a diaphgram with a matched load; the parameter β represents the characteristic of the T-junction whose scattering matrix

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is given by Eq (2). The same characteristic operating parameters for the second test system are expressed by Eqs (12). The parameters K and G_{ych} are plotted in Figures 3 and 4. The dependence of the parameters K and G_{ych} on the de-tuning of the resonators is represented by Eqs (11) and (16); the first test system obeys Eqs (11), while the second system is governed by Eqs (16). The effect of the de-tuning in both systems is illustrated graphically in Figures 5 and 6. From the analysis, it follows that at wavelengths of 5-10 cm, it is possible to obtain magnification coefficients of the order of 10-20. The methods are disadvantageous, however, in that the de-tuning of the resonator leads to an increase in the reflection coefficient at the output of the magnetron and, secondly, the methods are not fully equivalent to the usual test conditions. In view of the above, it was decided to investigate a ring-type resonator with a travelling wave (instead of a standing wave resonator); a system of

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this type is shown in Figure 7. The coupling between the principal waveguide and the resonator is directional and the tuning of the resonator is done by changing its electrical length (by means of a phase shifter). In the absence of irregularities in the resonator waveguide, a travelling wave is formed in it. The amplitude of the field of this wave can be considerably greater than that of the wave in the principal waveguide. If it is assumed that the coupling slot of the system has infinite directivity and is matched, the scattering matrix of the directional filter formed by the principal waveguide, the resonator and the slot is given by Eq (22), where α is the coupling coefficient. The magnification coefficient and the input reflection coefficient for the system are given by Eqs (25). The de-tuning effect on the magnification and the reflection is represented by Eqs (27). Analysis of these equations shows that the system of Figure 7 is preferable to the systems of Figures 1 and 2. A test equipment based on a travelling

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wave resonator was devised. This is shown in Figure 10. The equipment consists of: 1) a modulator; 2) a magnetron oscillator; 3), 7) and 6) directional couplers; 4) a directional coupler between the resonator and the principal waveguide; 5) a matched load charger; 8) a phase shifter; 9) a waveguide section of variable length; 10) a waveguide tap; 11) a calibrated attenuator; 12) a thermistor probe and 13) a thermistor bridge. A system of Figure 10 was investigated experimentally and it was found that the magnification coefficients obtainable were of the order of 4-5. The authors express their gratitude to M.L. Pesina for her collaboration. There are 11 figures and 7 references, 4 of which are English, 1 French and 2 Soviet.

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24.2120 SOV/109-4-8-22/35

AUTHORS: Granovskiy, V.L., Luk'yanov, S.Yu., Spivak, G.V. and Sirotenko, I.G.

TITLE: Report on the Second All-Union Conference on Gas Electronics

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 8, pp 1339 - 1358 (USSR)

I.M. Podgornyy and N.G. Koval'skiy - "New Data on X-ray Radiation During Pulse Discharges"
V.A. Khrabrov and M.M. Sulkovskaya dealt with the investi-
gation of the neutron radiation in powerful gas discharges
in chambers with conducting walls.
N.A. Borzunov et al. - "Investigation of the Gas Discharge
in a Conical Chamber".
S.M. Osovets et al. - "A Turn of Plasma in Transverse
Magnetic Field".
I.G. Kesayev "Data on the Division of a Cathode Spot
on Mercury in a Low-pressure Arc" (see p 1289 of the
journal).
A.E. Robson (England) - "A New Theory of the Cathode Spot"
(see p 1295 of the journal).
L.N. Breusova - "Positive Column in a Hydrogen Discharge
With Stationary and Pulse Loads".
I.G. Nekrashevich and A.A. Labud - "Current Distribution on
the Surface of Electrodes in Electric Pulse Discharges".
L.S. Kyz - "Some Properties of Gas Discharges in Low-voltage
in Halogen Counters".
Card9/15 G.I. Glotova and V.L. Granovskiy - "Comparison of the
Initial De-ionisation in the Isotopes of Hydrogen (H
and D)".
L.A. Akol'zina communicated some results on the pre-breakdown
current pulses at low pressures.
M.Ya. Vasil'yeva and A.A. Zaytsev - "Charge-density
oscillation Waves in Cylindrical Plasma".
L. Pekárek of Czechoslovakia communicated some information
on the wave-like phenomena in gas-discharge plasma.
B.G. Breznev dealt with the problem of the determination
of the energy of fast ions in pulse discharges.
B.B. Kadomtsev - "Convection Instability of a Plasma String".
S.I. Braginskiy and V.D. Shafranov - "Theory of a High-
temperature Plasma String".
The fifth section was presided over by N.A. Kaptsov and
dealt with high-frequency currents in gases. The following
papers were read:
V.Ye. Golant - "Formation of Ultra-high Frequency Pulse
Discharges in Inert Gases".
G.I. Pateyuk - "Influence of the Boundary Conditions on
the Formation and Maintenance of High-frequency Discharges".
P.S. Bulkin et al. - "Investigation of a Self-maintained
Ultra-high Frequency Pulse Discharge and the Process of
its Development".
G.N. Zastenker and G.S. Solntsev - "Some Results of the
Investigation of the Formation of Low-pressure High-
frequency Discharges".
G. Margenau (USA) - "Conductivity of Weakly Ionised
Plasma".
A.A. Kuzovnikov - "The Conditions of Transition From
High-frequency Corona Discharge at Atmospheric Pressures".
V.Ye. Golant - "The relationship Between the Characte-
ristics of the Ultra-high Frequency Current and the Direct
Current in Gas Discharges".
B.M. Lazov'yev analysed the conductivity of the disin-
tegrating plasma in the window of a resonance discharge
tube.
S.M. Levitskiy and I.P. Shashurin dealt with the
Card11/15 applicability of the probe method to high-frequency
discharges (see p 1450 of the journal).
The paper by V. Ya. Mitsuk et al. was devoted to the
investigation of the ultra-high frequency plasma by
means of the Stark effect.
G.S. Solntsev et al. dealt with the problem of electric
fields in a high-frequency discharge at low pressures.
Ya. Bedereu of Rumania read a paper entitled "High-
frequency Discharges in Methane".
The work of the sixth section was devoted to the problems
of plasma and its radiation; the section was presided
over by V.A. Fabrikant. The following papers were read:
Yu.M. Kagan - "New in the Probe Methods of Plasma
Investigation".
V.I. Drozdov - "Oscillographic Measurements in Plasma".
V.A. Simonov and A.G. [illegible] - "Investigation of the
Movement of Plasma by Means of a Mass Spectrometer of
the Transit Time"
A. [illegible] - "A [illegible] oscillations in a

AUTHOR: Galant, V. Ye. Super

TITLE: The Occurrence of a/High-frequency Impulse Discharge ... Cases

PERIODICAL: Izvestiya Akademii ... SSSR. Seriya fizicheskaya ... Vol 23, Nr 6, pp 952 - 957 (USSR)

ABSTRACT: The critical field intensities determining the ... a high-frequency impulse discharge may be computed by ... formula (1) if the dependence of the mean ionization ... on the amplitude of field intensity is known. The ... of the mean ionization frequency of krypton and ... carried out in the first part of the paper. Approximations ... are assumed for the cross section of the momentum transfer and ... these approximation values are in good agreement with ... mental data, as is shown in diagrams of figure ... By ... the distribution functions (6) the formula for the mean ... tion frequency (8) is then obtained. With (9) the ... coefficient is given and with (11) the ... as a function of the cross section of ... cross section of inelastic processes ... figure 2 show the experimental values compared with ...

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Th[illegible] Occurrence of a High-frequency Impulse Discharge [illegible] SOV [illegible] 2/2
in Noble Gases

puted by formula (11) there is good agreement [illegible] [illegible] the parameters of [illegible] frequencies may be determined [illegible] In the second part of this paper the critical field [illegible] according to relation (') is computed by using [illegible] the first part. The results of the above [illegible] marized in the diagrams of figure [illegible] krypton and xenon. The computed results are [illegible] with the experimental results determined [illegible] Abramova. There are [illegible] figures and 10 references [illegible] are Soviet.

ASSOCIATION: Leningradskiy politekhnicheskiy institut im. M. I. [illegible] (Leningrad Polytechnic Institute imeni M. I. Kal[illegible])

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