"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPISHEVSKIY, I.K.

Reproduction of the cirriped Balanus balanoides (L.) near the eastern part of the Murman Coast. Trudy MMBI no.2:114-136 '60. (MIRA 14:2)

(Murman Coast--Cirripedia)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.

Method of calculating the regime and climatic characteristics of ocean waves and its basis. Trudy GOIN no.84:182-224 '65.

(MIRA 18:10)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G. V.

Flow Meters

Very simple method for keeping hydrological apparatuses from freezing. Met. i gidrol. no. 6, 1948.

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

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G. V.

"The Problem of Calculating the Elements of Wind-Waves at Limited Depth," Meteorologiya i Gidrologiya, Issue No. 1, 1949.

U-1442, 28 Aug 51

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G. V.

21490 ARKHIPOVA, Ye. G.; i RZHEPLINSKIY, G. V.

Rezul'taty eksperimental'nykh nablyudeniy nad konvektsiyey v yestestvennykh usloviyakh.
Trudy Cos. Okeanogr. in--ta, Vyp. 11, 1949, s. 43 - 52.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.

2

5R-102 551.465(47)

Rzheplinskii, G. V., O Sulomkh u iugo-vostochnogo poberezh'ia Kryma. [On confluence along the southeastern coast of Crimea.] *Meteorologiia i Gidrologiia*, No. 2:45-50, Oct. 1950. 3 figs. DLC—Description of the phenomenon called "suloi" which is the line of confluence of sea swell. Observation of this phenomenon is an important factor in the investigation of the dynamics of sea swell and the hydrological regime of the sea. The observations made during 1948-1949 along the southeastern coast of Crimea are described and some interesting characteristics of the thermal conditions of sea water, and land-sea breezes in this area are given. *Subject Headings:* 1. Ocean currents 2. Ocean swell 3. Oceanic confluence 4. Black Sea Coast, U.S.S.R. 5. Crimea, U.S.S.R.—*N.T.Z.*

Geophys

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.

Connection between the transverse circulations of wind currents and the process of thermal convection. Trudy GOIN no.21:108-128 '52. (Ocean currents) (MIRA 11:3)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.

Water exchange between the middle and southern Caspian Sea and currents of the Apsheron barrier. Trudy GOIN no.32:4-37 '56. (MLRA 10:1)

(Caspian Sea--Ocean currents)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

KRAVTSOV, N.D.

RZHEPLINSKIY, G.V.

3(5) PHASE I BOOK EXPLOITATION SOV/1637

Akademiya nauk SSSR. Kompleksnaya antarkticheskaya ekspeditsiya.

Opisaniye ekspeditsii na dizel'-elektrokhode "Ob', "1955-1956 gg. (Description of the Expedition Aboard the Diesel-electric Ship "Ob'" 1955-1956) Moscow, Izd-vo AN SSSR, 1958. 237 p. 2,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Sovet po antarkticheskim issledovaniyam. Chief Ed.: I. P. Bardin, Academician; Resp. Ed. for this vol.: V.G. Kort, Professor, Chief, 1st trip of the Marine Antarctic Expedition, USSR Academy of Sciences; Editorial Board: A.A. Afanas'yev (Chief, Main Administration of the Northern Sea Route, Sea Route, MMF), V.G. Bakayev (Minister of Sea Transport), V. F. Burkhanov (Deputy Chief, Main Administration of the Northern Sea Route), A.A. Zolotukhin (Chief, Main Administration of the

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Hydrometeorological Service), V.G. Kort (Professor, Chief, 1st trip of the Marine Antarctic Expedition, USSR Academy of Sciences), M.M. Somov (Chief, Combined Antarctic Expedition, USSR Academy of Sciences), V. V. Frolov (Director, Arctic Scientific Research Institute, Main Administration of the Northern Sea Route), D. I. Shcherbakov (Chairman, Council for Antarctic Research, USSR Academy of Sciences; Eds. of Publishing House: L.I. Sprygina, and B. S. Shoknet; Tech. Ed.: P. S. Kashina.

PURPOSE: This volume is intended for the general reader.

COVERAGE: The Report of the Combined Antarctic Expedition of the AN SSSR, headed by M. M. Somov, contains an account of the work on the first trip of the Diesel-electric ship "Ob'" to the Antarctic and the aims and problems involved, including the establishment of an observatory at Mirnyy. A major part of the book is devoted to scientific research in aerology, meteorology and actinometry,

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conducted in cooperation with the IGY program. A large part of the observations and preliminary findings cited are in the field of hydrology and hydrochemistry, marine geology, geophysics, hydrography, and hydrobiology. A roster of the members of the expedition together with their specialities is included. There are 72 figures, including maps. Bibliographic references accompany separate chapters.

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Preparation of the expedition 8
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Volume of work completed (K. V. Moroshkin) 48
Organization, equipment and methods of research

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

AUTHOR: Rzheplinskiy, G. V. 50-1-12/26

TITLE: Some Peculiarities of the Results of Wave-Graphic Observations in the Ocean (Nekotoryye osobennosti rezul'tatov volnograf nykh nablyudeniy v okeane).

PERIODICAL: Meteorologiya i Gidrologiya 1958, Nr 1, pp. 44-46 (USSR)

ABSTRACT: During this works with the Antarctic Expedition the author noticed some peculiarities of the results of the wave-graphic observations. In the connection with the absence of the steep coasts and the actually unrestricted advance of waves in the storm zone of the antarctic sector of the Indian Ocean the motion of the sea (one or more system) as well as the wind waves caused by the wind acting in this region are almost always observed. The same holds for the trade-wind zone of the Indian Ocean, but with the difference that the motion of sea in this zone and the wind waves nearly always spread in only one direction. The motion of sea is here caused by the same trade wind as the wind waves. But the motion of sea is due to the action of a constant wind formed with great advance, whereas the wind waves reflect a locally unstable process of the development of waves under the action of the same wind. In this connection the following is to be said: The heights

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and wave-periods which were measured by a wave-graph in the ocean almost never have relations to the acting wind because systems of larger waves of sea are observed beside the wind waves. Therefore the immediate results of the wave-graphical observations in the ocean only in very rare cases are suitable for an examination of the theoretical calculations of the components of waves according to the method at present known. In smaller reservoirs only one system of wind waves is usually observed during the storm, therefore the variations of the wave level in one point (for whose recording a wave graph is provided) very closely characterize the heights and the variety of the waves observed at the surface of the ocean. Under conditions of an ocean in the presence of several systems of waves the variations of the wave level in the point, which represent a concentration of the waves, neither directly reflect the heights and the periods nor the variety of the waves belonging to different systems and which may by an observer on the surface of the ocean be seen around the ship. Therefore the visual observations of the motion of the sea in parallel with wave-graphical observations are of great importance for the ocean, when in this connection the elements of waves of the individual system are determined.

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Some Peculiarities of the Results of Wave-Graphic Observations. 50-1-12/26

It is also to be mentioned that regardless of the existing opinions even with little experience the visual estimation of the individual wave system as well as the separate determination of the individual wave elements for every individual system does not meet with any difficulties.
There is 1 figure.

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1. Ocean waves-Indian Ocean 2. Ocean waves-Analysis

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

AUTHOR: Rzheplinskiy, G. V. 50-58-3-15/22

TITLE: The Fundamental Deficiency of the Turbine Ondograph and the Method of Processing Ondograms (Printsipial'nyy nedostatok turbinochnogo volnografa i metodika obrabotki volnogramm)

PERIODICAL: Meteorologiya i Gidrologiya, 1958, Nr 3, pp 53-55 (USSR)

ABSTRACT: In the Antarctic Expedition of the Soviet Academy of Science the ondograph VOM - 5o was used for observations of wave motions. The observation and treatment of ondograms was performed by the author. He succeeded in determining an essential and fundamental deficiency in the work of the ondograph VOM - 5o. The system consisting of a float and the cable connected with it drifts under the action of currents which have highest velocities at the surface of the ocean. Moreover the strong wind moves the float of the ondograph. Consequently the float is moved with regard to a quieter deep layer of water into which a small turbine is immersed. By its deviation from the horizontal position the latter fixes the velocity of the motion in the comparatively immobile water. These additional

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50-58-3-15/22

The Fundamental Deficiency of the Turbine Ondograph and the Method of Processing Ondograms

values of velocity sum up with the velocity of the vertical change of position of the small turbine in the ascent of the float to the crests of the waves and diminish the values of velocity of the motion of the small turbine on submersion of the float from the crests to the wave troughs. Therefore the height values of the individual waves and the average values of the height to the sides of the crests are too high and to the windward side - too small. In the treatment of ondograms this deficiency is found out by the fact that the sum of peaks recorded on the ondograph which refer to the lee side of the waves is higher than the sum of peaks referring to the windward side. Actually these sums (with the taking into account of the calibration values of the device) must be equal even for a comparatively small number of waves. This deficiency in the work of the turbine ondograph has very serious consequences. It became evident that the method of corrections for the drift employed in practice for the treatment of wave scales does not exclude errors of the height of wave. After the introduction of the drift compensations the height of the individual waves, from the entire number of recorded waves, is resulting considerably exaggerated. The

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correction consists of the following:
a) The sum difference of the height values of lee and windward sides of the wave-crests is found, which confirms the errors caused by the drifting of the float.
b) Half of the difference is distributed to all waves proportional to their height.
c) The quantity of compensation obtained in this manner for every wave is added with the relative elevation of the windward side and subtracted from the relative elevation of the lee side of the given wave.
After this operation the sums of the relative elevations of windward and lee sides of the wave-crests become equal. The author attempts to solve this problem in an indirect way by the determination of the connection existing between the average periods of the waves and the sum differences of relative elevations of the windward and lee sides of crests. The difference of this sum must be proportional to the drift velocity of the float. Such a connection is shown on figure 1. There is 1 figure.

1. Ocean waves--Measurement 2. Ocean waves--Recording devices
3. Recording devices--Performance

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3(3) PHASE I BOOK EXPLOITATION SOV/3223

Akademiya nauk SSSR. Kompleksnaya antarkticheskaya ekspeditsiya

Klimat Antarktiki (Climate of the Antarctic) Moscow, Geografgiz, 1959. 285 p. (Series: Its: Trudy; Meteorologiya i klimatologiya) Errata slip inserted. 4,000 copies printed.

Ed.: S. M. Kumkes; Tech. Ed.: S. M. Kosheleva; Editorial Board: V. F. Burkhanov, B. L. Dzerdzeyevskiy, Kh. P. Pogosyan, and G. M. Tauber.

PURPOSE: This book is intended for meteorologists and climatologists. It will be of interest to all earth scientists concerned with the Antarctic region.

COVERAGE: This book contains 18 articles on the weather and climate of Antarctica. Articles represent the generalized results of processing data obtained by the Soviets during their expeditions to the Antarctic, 1955-1958. Individual authors have attempted to clarify and unify previously divergent views on Antarctic meteorological processes (zonal circulation, temperature distributions, cyclonic and anticyclonic movement, etc.). No personalities are mentioned. References accompany individual articles.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.

Ocean waves in Antarctica. Trudy GOIN no.48:5-85 '59.
(MIRA 13:6)

(Antarctic regions--Waves)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G. V.

"Results of Investigations of Ocean Wave Disturbances in the Antarctic"

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.; MERTSALOV, V.G.

Nomograms for calculating wave periods and heights in the deep sea from atmospheric pressure gradients. Trudy GOIN no.54:61-66 '60. (MIRA 14:4)

(Waves) (Nomography(Mathematics))

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V., starshiy nauchnyy sotrudnik; YUSHCHAK, A.A., red.; YASNOGORODSKAYA, M.M., red.; FLAUM, M.Ya., tekhn.red.

[Album of plates of stereophotogrammetric wave surveying; Antarctica (diesel-electric ship "Ob'," 1956)] Al'bom planshetov stereofotogrammetricheskoi s"emki voln. Antarktika; dizel'-elektrokhod "Ob'" 1956 g. Pod red. A.A.IUshchaka. Leningrad, Gidrometeor.izd-vo, 1960. 5 p. (MIRA 14:3)

1. Moscow. Gosudarstvennyy okeanograficheskiy institut. 2. Gosudarstvennyy okeanograficheskiy institut (for Rzheplinskiy).
(Oceanography--Charts, diagrams, etc.) (Antarctic regions--Waves)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPLINSKIY, G.V.

Calculation of wave elements in the ocean. Trudy Okean.kom. 11:69-73 '61. (MIRA 14:7)

(Waves)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

S/169/61/000/012/041/089
D228/D305

AUTHOR: Rzheplinskiy, G. V.

TITLE: Results of investigations of the ocean swell in Antarctica

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1961, 13, abstract 12V103 (Tr. Gos. okeanogr. in-ta, 1961, no. 61, 53-65)

TEXT: The results of calculations of waves ($\bar{h}$ and $\bar{h}_{max}$) and periods ($\bar{\tau}$ and τ_{max}), fulfilled with the application of nomograms compiled for calculating the elements of waves from atmospheric-pressure fields, are adduced; the wave elements are given for separate months in latitudes 30, 40, 50, and 60°S. The distribution curves approximate to an expression which at definite scales for the coordinate axes (logarithmic for h or

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Results of investigations... S/169/61/000/012/041/089
D228/D305

and bilogarithmic for security) gives the rectilinear relation: $P_{\%} = e^{(-k/\beta)^{\gamma}}$ where $P_{\%}$ is the security for h and β and γ are the parameters characterizing the conditions of h or γ in the given area, and k is the magnitude of the wave element. 8 references. [Abstracter's note: Complete translation.]

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

ARKHIPOVA, Ye.G.; RZHEPLINSKIY, G.V.

Transparency and color of water in the Apsheron area of the Caspian Sea. Trudy GOIN no.61:153-158 '61. (MIRA 14:10)
(Apsheron Peninsula region--Sea water)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

MERTSALOV, V.G.; RZHEPLINSKIY, G.V.

Practice of compiling prognoses of ocean waves under shipboard conditions. Meteor. i gidrol. no.10:44-46 O '62. (MIRA 15:9)

1. Gosudarstvennyy okeanograficheskiy institut.
(Waves)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

MUROMTSEV, A.M.; ARKHIPOVA, Ye.G.; MAKEROV, Yu.V.; KHARITONOV, D.G.; DOBROVOL'SKAYA, L.N.; POTAYCHUK, M.S.; VORONOVA, S.P.; BELOV, V.P.; RZHEPLINSKIY, G.V., nauchn. red.; ROZECHINA, V.V., red.; ZARKH, I.M., tekhn. red.

[Basic characteristics of the hydrology of the Atlantic Ocean] Osnovnye cherty gidrologii Atlanticheskogo Okeana. Pod red. A.M.Muromtseva. Moskva, Gidrometeoizdat, 1963. 835 p. ___[Atlas of vertical cross sections and maps of temperature, salinity, density and oxygen composition] Prilozhenie no.2. Atlas vertikal'nykh razrezov i kart temperatury, solenosti, plotnosti i soderzhaniia kisloroda. 182 p. (MIRA 17:3)

1. Moscow. Gosudarstvennyy okeanograficheskiy institut.

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ACC NR: AT6006531 SOURCE CODE: UR/2634/65/000/084/0182/0224

17

B+1

AUTHOR: Dzheplinskiy, G. V.

ORG: State Oceanography Institute, Moscow (Gosudarstvennyy okeanograficheskiy institut)

12,44155

12,55

TITLE: A method for computing climatic characteristics of wave motion on the oceans, and its basis

SOURCE: Moscow. Gosudarstvennyy okeanograficheskiy institut. Trudy, no. 84, 1965. Voprosy morskoy meteorologii i okeanografii (Problems in marine meteorology and oceanography), 182-224

TOPIC TAGS: wind, ocean dynamics, ocean property, wind velocity, climate

ABSTRACT: A method is described for determining the climatic significance of wave heights and periods in mixed wave motions and for finding the probable characteristics for any oceanic body by simple computations of wind roses. Various methods are given for computing wind-generated waves, the background of ocean swell, average height of waves under various climatic conditions, average wave periods under different conditions, and actual computations are presented with tests results on the methods. Many Observational data are used to show relationship of wave height and wave period to climatic factors, particularly to wind velocity. Graphs are drawn to permit extrapolation to the North Atlantic. The author considers that use of wind-velocity curves may

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yield data, when treated statistically, as reliable as synoptic charts in computing wave characteristics, and the time required is less than a tenth that for the second method. Ocean swell is considered in relation to mixed waves and wind-generated waves, and observational data are again used to isolate swell from superimposed wave motions. Average wave heights are computed for zones of cyclogenesis, of trade winds, of intense ocean swell, and of constantly diverging wind directions. Wave periods are found for the same zones. Though the computations are directed toward the North Atlantic, the author believes the results to be applicable to all large oceanic masses. In making this application, however, the oceans must be investigated by zones, as indicated in the computations above (cyclogenetic region, zone of trade winds, region of ocean swell). Distribution curves for wind velocity are then used to compute wave characteristics for the different zones. By knowing the wind velocity, the appropriate wave height and period may be determined. The background of ocean swell is considered for the particular type of ocean zone in order to determine the actual height of the mixed wave motion. This background amounts to 0.9 m on the average in zones of cyclogenesis (all seasons of the year) and to 0.6 m in zones of the trade winds. A simplified table is provided for the various regions, computed for 5 m/sec increments of wind velocity. Comparison of computed results with observation shows that the wave height and wave period lie within 10% of observed values. Orig. art. has: 12 figures and 8 tables.

SUB CODE: 08, 04/ SUBM DATE: none/ ORIG REF: 026/ OTH REF: 003

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPISHEVSKIY, I.K.

Conditions promoting mass hatching of nauplii of the cirriped Balnaus balanoides in the Eastern Murman. Trudy Okean kom. 10 no.4:48-54 '60. (MIRA 14:3)

1. Murmanskiy morskoy biologicheskiy institut AN SSSR.
(Murman Coast—Cirripedia)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEPISHEVSKIY, I.K.

Certain diagnostic features of the nauplii of three Balanus species in the Barents Sea. Dokl. AN SSSR 120 no. 5:1159-1161 Je '58. (MIRA 11:8)

1. Murmanskaya biologicheskaya stantsiya Kol'skogo filiala im. S.M.Kirova AN SSSR. Predstavleno akademikom Ye. N.Pavlovskim.
(Barents Sea--Cirripedia)
(Larvae--Crustacea)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHERZHIKHA, K.

SKORKOVSKIY, Ya. [Skorkovsky, J.], inzhener; RZHERZHIKHA, K. [Rericha, K.] inzhener; KLESHCHINOV, M.A., gornyy ~~inzhener; [tran~~slator].

Czechoslovak 150-ton electric locomotives for strip mining. Gor. zhur. no.5:17-22 My '57. (MLRA 10:6)

1. Zavod im. V.I. Lenina, (g. Pl'zen'.).
(Czechoslovakia--Electric locomotives) (Mine railroads)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

MATYUSHINA, Ye.V., kand. tekhn. nauk; RZHEVSHEVSKAYA, G.S., kand. tekhn. nauk

Method for the analysis of direct black dyes during the process of dyeing of sheep pelts. Nauch. issl. trudy NIIMP no.12:88-103 '63. (MIRA 17:11)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHESHEVSKIY, O., podpolkovnik

Nuclear Blob from the Pentagon. Komm. Vooruzh. Sil 4 no.17:76-79 8 '64. (MIRA 17:12)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

SHEVCHENKO, A., general-mayor; RZHESHEVSKIY, O., podpolkovnik

The Pentagon is intensifying its ideological preparations for war. Komm.Vooruzh.Sil 3 no.20:80-85 O'62. (MIRA 15:10)
(United States--Army--Political activity)
(United States--Propagnada, Anti-communist)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHESHEVSKIY, V.; PETRAKOVSKIY, N.

Review of outdated and erroneous standards. Sots.trud 4 no.5: 108-111 My '59. (MIRA 12:8)

1. Rukovoditel' gruppy Nauchno-issledovatel'skogo instituta truda (for Rzheshevskiy). 2. Starshiy inzhener Mosgorsovnarkhoza (for Petrakovskiy).
(Moscow--Wages) (Production standards)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

VAYNBERGER, Isaak Matveyevich; VASENIN, Aleksandr Yermolayevich; IZRAILIT, Lev Abramovich; RZHETSKIY, Dmitriy Borisovich; SPORIUS, Eduard Alekseyevich; TIKHONOV, Vasiliy Fedorovich; FAYNSHTEYN, Vladimir Maksovich; LANM, I.A., otv. red.; SAKHAROV, Ye.D., red.

[Mechanication and automation of mail processing operations] Mekhanizatsiia i avtomatizatsiia obrabotki pochty; informatsionnyi sbornik. Moskva, Izd-vo "Sviaz'," 1964. 77 p. (MIRA 17:6)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHETSKIY, N.N.

Voltage level suppressors. Izv. vys. ucheb. zav.; radiotekh. 6 no.5:566-569 S-O '63. (MIRA 17:1)

1. Rekomendovana kafedroy radiofiziki Kiyevskogo ordena Lenina gosudarstvennogo universiteta imeni Shevchenko.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHETSKIY, N.N.

Means for constructing a controlling machine. Izv. vys. ucheb. zav.; radiotekh. 6 no.4:448-449 Jl-Ag '63. (MIRA 16:11)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

METALLOVA, V.V.; RYAZANOVA, V.N.; RZHEUSSKAYA, I.V.

Reverse polarity of titanomagnetites. Uch. zap. LGU no.278:230-234 '59. (MIRA 13:2)

(Titanomagnetite--Magnetic properties)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEUSSKIY, P.S.

Use of catgut to arrest hemorrhage in hemophilia. Khirurgiia 33 no.6:130-131 Je '57. (MIRA 10:12)

1. Iz khirurgicheskogo otdeleniya (zav. P.S.Rzheusskiy) Molodezhnenskoy oblastnoy detskoy bol'nitsy (glavnyy vrach A.N.Kharlashkina)
(HEMORRHAGE, prev. & control
use of catgut in hemophilia)
(HEMOPHILIA
use of catgut for arresting of hemorrh.)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

ZHUCHKEVICH, Vadim Andreyevich; YAKUSHKO, Ol'ga Filippovna [IAkushka, O.F.]; RZHEUTSKIY, A.F. [Rzheutski, A.F.], red.; SOSNOVICH, A.I. [Sasinovich, A.I.], tekhn.red.

[Geography of the White Russian S.S.R.; textbook for the secondary school] Geagrafiia Belaruskai SSR; vuchebny dapamozhnik dlia siaredniai shkoly. Minsk, Dziarzh.vuchebna-pedagag.vyd-va M-va asvety BSSR, 1960. 72 p. (MIRA 14:2)

(White Russia--Geography)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

ZHUCHKEVICH, Vadim Andreyevich; YAKUSHKA, Ol'ga Filippovna; RZHEUTSKI, A.F., red.; SASINOVICH, A.I., tekhn. red.

[Geography of the White Russian S.S.R.; a textbook for secondary schools] Geografiia Belaruskai SSR; vuchebny dapamozhnik dlia siaredniai shkoly. Vyd.2. Minsk, Dziarzh.vuchebna-pedagag. vyd-va M-va asvety BSSR, 1961. 73 p. (MIRA 15:1)
(White Russia—Geography)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

9(2) SOV/112-59-5-9961

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 5, pp 219-220 (USSR)

AUTHOR: Rzhevkin, K. S., and Kaptsov, L. N.

TITLE: Analysis of FM Almost Harmonic Oscillators and Equivalent-Reactance Transistor Circuits

PERIODICAL: Tr: 1-y Mezhvuzovsk. konferentsii po sovrem. tekhn. dielektrikov i poluprovodnikov, 1956, L., 1957, pp 220-224

ABSTRACT: Frequency, self-excitation conditions, and the cutoff frequency of oscillation have been determined with certain assumed approximations for transistors used in the common-base circuit of LC- and RC-oscillators designed with point-type and junction-type transistors. It is noted that the frequency modulation can be easily realized. Experimental testing has proven that an LC-oscillator has a frequency deviation of about 10%. To cut down the spurious amplitude modulation, it is desirable that the FM of the point-type

Card 1/2

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SOV/112-59-5-9961

Analysis of FM Almost Harmonic Oscillators and Equivalent-Reactance . . . .

transistor oscillator be made by varying the collector voltage, and the FM of the junction-type transistor oscillator by varying the emitter current. The frequency swing of an RC-oscillator, with a spurious AM not over 10%, has been 30%, the character of the swing being in good agreement with estimated data. Investigations of transistorized equivalent-reactance circuits with a grounded emitter, which are similar to electron-tube circuits, have shown that such schemes permit frequency swing within 100-150%. However, the oscillation amplitude varies several times. Besides, such systems are possible only at the frequencies up $0.5\omega_{critical}$.

V.M.L.

Card 2/2

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RZHEVKIN, K.S.

10 июня

(с 18 до 22 часов)

В. И. Самойленко

Тепловые режимы полупроводниковых приборов

В. И. Вертоградов

Исследование и расчет температурной зависимости параметров полупроводниковых триодов дрейфового типа

Ю. Р. Носов,
Б. Н. Казанов

Осуществление температурной стабилизации усилителя напряжения на полупроводниковых триодах различных типов

М. А. Абдашкаков

О зависимости параметров сплавных полупроводниковых триодов от тока эмиттера

В. П. Панаева

Шумы в полупроводниковых усилителях.

11 июня

(с 10 до 16 часов)

В.

Г. Н. Берестовский

Статические характеристики и переходные процессы в полупроводниковом триоде при большом сигнале

Т. Н. Ястербцева,
В. Н. Курильчик

Исследование особенностей работы спусковой схемы на плоскостных полупроводниковых триодах при счетном запуске в зависимости от параметров триодов

А. Ю. Гордонов

Расчет усилительного каскада на транзисторах

В. А. Кузьмин

О влиянии режима насыщения в полупроводниковых триодах на работу импульсных схем

11 июня

(с 18 до 22 часов)

Ю. М. Азьян,
К. Я. Сенаторов,
С. М. Чудинов

Об объемном заряде и электрическом поле в базовой области сплавного триода

К. С. Ржевкин

Влияние модуляции толщины базы на характеристики сплавного триода

17

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

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

05209
SOV/142-2-3-17/27

9(2,3)

AUTHORS: Az'yan, Yu.M., Kaptsov, L.N., Rzhevkin, K.S., Senatorov, K.Ya.

TITLE: The Terminology Problem in the Field of Semiconductor Electronics

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1959, Vol 2, Nr 3, pp 372-374 (USSR)

ABSTRACT: The authors refer to the article (Ref.1) by T.M. Agakhanyan B.N. Kononov and [redacted].P. Stepanenko titled "The Terminology in the Field of Transistor Electronics", published in Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, 1958, Vol 1, Nr 4. The authors agree in principle with the content of this article but present some of their own ideas and recommendations. They followed the pattern of ref.1 and divided the article in General Problems, Junctions and Contacts, Diodes, Triodes, Triode Parameters and Circuit Problems. They believe that the term "tranzistor" (transistor) should be replaced by the term "poluprovodnikovyy triod" ("semiconductor triode"), since there is no other term in Russian for "poluprovodnikovyy diod" (semiconductor diode). Two entirely different terms should not be used for designating two closely related devices. The majority of the other suggestions con-

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05209
SOV/142-2-3-17/27

The Terminology Problem in the Field of Semiconductor Electronics

tained in ref.1 were acknowledged by the authors of this article as being correct. There is 1 Soviet reference.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova (Faculty of Physics of the Moscow State University imeni M.V. Lomonosov).

SUBMITTED: February 16, 1959

Card 2/2

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

9(4) PHASE I BOOK EXPLOITATION SOV/3233

Az'yan, Yu. M., G. N. Berestovskiy, L. N. Kaptsov, K. S. Rzhevkin, and K. Ya. Senatorov

Poluprovodnikovyye triody v regenerativnykh skhemakh (Semiconductor Triodes In Regenerative Circuits) Moscow, Gosenergoizdat, 1959. 311 p. 12,000 copies printed.

Ed.: S. S. Akalunin; Tech. Ed.: G. Ye. Larionov.

PURPOSE: This book is intended for scientific workers and engineers interested in problems of transistor application, and for advanced students specializing in radio physics.

COVERAGE: The book is devoted to investigation of physical processes occurring in transistorized feedback circuits, including generators of quasi-harmonic oscillations, relaxation oscillators with transformer feedback (blocking oscillators, converters), and in relaxation oscillators with RC feedback (multivibrators, triggers). The book begins with a systematic presentation of

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basic physical processes occurring in the transmission of electric signals through transistors. Material is based on the results of investigations made by the department of wave theory at the physics division of MGU, where samples of Soviet alloy-type transistors were used. No personalities are mentioned. References follow each chapter.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

AUTHORS: Rzhevkin, K.S. and Shveykin, V.I. SOV/109-4-7-10/25

TITLE: Saturation Regime in Junction Transistors

PERIODICAL: Radiotekhnika i elektronika, 1959, Vol 4, Nr 7, pp 1164 - 1172 (USSR)

ABSTRACT: The operation of transistors under the saturation condition was considered by J.L. Moll (Ref 1) and by V.A. Kuz'min and V.I. Shveykin - Ref 2). Moll determined the storage time for a transistor operating with small signals. The second work (Ref 2) was based on the analysis of the physical processes taking place in a transistor and gave a formula which permitted the determination of the storage time on the basis of one significant parameter. However, the work dealt with the problem when the input pulse applied to the transistor was infinitely long. In the following, the analysis is extended to the case of the pulses of finite duration. The analysis is carried out under the following assumptions:
1) the emitter injection coefficient is $\gamma = 1$;
2) the transistor is considered as a uni-dimensional

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system;

3) the lifetime τ of the holes in the base is constant, and

4) the electric field in the base is comparatively weak so that the drift current is much smaller than the diffusion current. The system considered is shown in Figure 2a; this is a grounded-base circuit. A pulse having a duration t_n is applied to the emitter. The output of the system at the collector is represented by Figure 3б, where t_o represents the transient and τ_p is the storage time of the transistor. By solving the diffusion equation (Eq 1) for the system it is shown that the storage time is given by:

$$t_p = \tau \ln \frac{I_{э_1} - I_{э_2} - \left(I_{э_1} - \frac{E_K}{\alpha R_H}\right) e^{-\frac{t_n - t_o}{\tau}}}{\frac{E_K}{\alpha R_H} - I_{э_2}} \qquad (2)$$

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If the input pulse is very long, the storage time is given by Eq (3); this coincides with the formulae derived in Refs 1 and 2. The storage time in a grounded-emitter circuit is given by:

$$t_{p\text{э}} = \tau \ln \frac{I_{б_1} - I_{б_2} - \left(I_{б_1} - \frac{E_K}{bR_H}\right) e^{-\frac{t_и - t_{o\text{э}}}{\tau}}}{\frac{E_K}{bR_H} - I_{б_2}} \qquad (5)$$

where $I_{б_1}$ is the base-current amplitude in the forward direction, $I_{б_2}$ is the base-current amplitude after the removal of the saturating pulse, $b = \alpha/1-\alpha$ is the current amplification coefficient, $t_{o\text{э}}$ is the rise time

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of the output pulse (for the grounded-emitter circuit). The validity of Eqs (2) and (5) or (3) and (7) was tested experimentally. This was done by determining the lifetime τ by employing Eqs (3) and (7). The results are plotted in Figure 4, which shows the values of τ for a grounded-base circuit as a function of the emitter current. The values of τ were also determined by several other methods and these are shown in the table on p 1171 for different transistors. The first two columns in the table show τ which were measured with small signals, while the second two columns represent τ taken at large signals; the discrepancies between these values of τ amount to less than 30%. The dependence of the storage time on the duration of the input pulse is illustrated in Figure 6. It is seen that the experimental points coincide with the theoretical curves.

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Saturation Regime in Junction Transistors SOV/109-4-7-10/25

There are 6 figures, 1 table and 7 references, of which 4 are English and 3 Soviet.

SUBMITTED: March 11, 1958

Card 5/5

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

BENDRIKOV, G.A.; KRASNUSHKIN, P.Ye.; REYKHRUDEL', E.M.; POTEMKIN, V.V.; MUSTEL', Ye.R.; RZHEVKIN, K.S.; IVANOV, I.V.; KHARLAMOV, A.A.; TIKHONOV, Yu.V.; STRELKOVA, L.P.; KAPTSOV, L.N.; ORDANOVICH, A.Ye.; KHOKHLOV, R.V.; VORONIN, E.S.; BERESTOVSKIY, G.N.; KRASNOPEVTSEV, Yu.V.; MINAKOVA, I.I.; YASTREBTSEVA, T.N.; SEMENOV, A.A.; VINOGRADOVA, M.B.; KARPEYEV, G.A.; DRACHEV, L.A.; TROFIMOVA, N.B.; SIZOV, V.P.; RZHEVKIN, S.N.; VELIZHANINA, K.A.; NESTEROV, V.S.; SPIVAK, G.V., red.; NOSYREVA, I.A., red.; GEORGIYEVA, G.I., tekhn. red.

[Special practical manual in physics] Spetsial'nyi fizicheskii praktikum. Moskva, Izd-vo Mosk.univ. Vol.1. [Radiophysics and electronics] Radiofizika i elektronika. 1960. 600 p. (MIRA 13:7)

1. Professorsko-prepodavatel'skiy sostav otdeleniya radiofiziki fizicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta (for all, except Spivak, Nosyreva, Georgiyeva).
(Radioactivity) (Electronics)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, K.S.; LOGUNOV, L.A.; KAPTSOV, L.N.

Analysis of near harmonic transistor oscillators for above critical frequencies. Radiotekh. i elektron. 1 no.5:647-653 My '56. (MLRA 9:12)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.
(Oscillators, Transistor)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

KAPTSOV, L.N.; RZHEVKIN, K.S.

Equivalent reactances in junction transistors. Radiotekh. i elektron. 1 no.5:670-679 My '56. (MLRA 9:12)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.

(Transistors)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, K. S.

621.373.52 : 621.373.431.1 2705

Multivibrator with Point-Contact Semiconductor Triode. K. S. Rzhevkin & M. A. Abdyukhanov. (*Radiotekhnika i Elektronika*, Dec. 1956, Vol. 1, No. 12, pp. 1478–1484.) The operation of a transistor multivibrator is briefly analysed and design formulae are given. Calculated and experimental values are tabulated for comparison.

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Elimination of waste in lead bronze. V. S. Rzhesinkov. *Aviapromyshlennost* 6, No. 1, 15-18(1937); *Chem. Zentr.* 1937, II, 3657. Sources of trouble in the manuf. of Pb bronze may appear in the compn. and prepn. of the flux (recommended compn. H_3BO_3 76.5, $Na_2HPO_4 \cdot 12H_2O$ 13, H_2SiO_3 10.5%), cleaning of the ingots, covering them with flux, arrangement of the graphite forms, etc. — M. G. M.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

BELASHCHENKO, Tom Kirillovich, kapitan 2 ranga; RZHESHEVSKIY, Oleg Aleksandrovich, podpolkovnik; SHEVCHENKO, A.M., general-mayor, red.; LISENKOV, M.M., polkovnik, red.

[The U.S. Army as it is] Armiia SShA kak ona est'. Moskva, Voenizdat, 1965. 142 p. (MIRA 18:3)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

REHESHOTARSKIY, A.A.

Brittleness of hot iron and steel. Vest.mash. 34 no.11:94 N '54.
(Steel--Brittleness) (MLRA 7:11)

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, K.S.

USSR / Radiophysics. Application of Semiconductors I-8

Abs Jour : Ref Zhur - Fizika, No 5, 1957, No 12599

Author : Rzhevkin, K.S., Lagunov, L.A., Kaptson, L.N.

Inst : Physics Faculty, Moscow State University, USSR

Title : Analysis of a Nearly-Harmonic Transistor Oscillator at Frequencies Above Critical.

Orig Pub : Radiotekhn. i elektronika, 1956, 1, No 5, 647-653

Abstract : A linear calculation is made of a transistorized oscillator with capacitor feedback, taking into account the phase-frequency dependence of the transistor current gain, in the form:

$$\alpha = \alpha_0 \operatorname{arch} \sqrt{j\, 2.43 \frac{\omega}{\omega_{cr}}},$$

where α_0 is the gain coefficient at low frequencies, ω_{cr} is the critical frequency of the transistor relative to the

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"Multivibrator With Semiconductor Point-Contact Triode," by K. S. Rzhevkin and M. A. Abdyukhanov, Radiotekhnika i Elektronika, No 12, Dec 56, pp 1478-1484

The article describes the analysis of transient processes and the method of engineering calculation of a multivibrator with one point-contact semiconductor triode, operating in the regime of self-oscillation. Oscillations close to rectangular in shape are obtained, with pulse amplitude at the collector load almost equal to the feed voltage.

Calculation is based on the principle of solving the reverse problem, i.e., with the given pulse parameters the elements of the circuit are determined. An equivalent electric circuit is worked out, which greatly simplifies the process of calculation.

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120-3-23/40

AUTHORS: Rzhevkin, K.S., Senatorov, K.Ya. and Lubentsov, Yu.V.

TITLE: A "Characterograph" for Semiconductor Triodes. (Kharakteriograf dlya poluprovodnikovykh triodov)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, Nr 3, pp.81-84 (USSR)

ABSTRACT: An instrument is described which has been designed for oscillographic investigation of the characteristics of point and plane (junction) semi-conductor triodes with earthed bases. The four following families of characteristics are measured:

(1) $U_э = f(i_k)$ with $i_э$ constant,

(2) $U_k = f(i_k)$ with $i_э$ constant,

(3) $U_э = f(i_э)$ with i_k constant,

(4) $U_k = f(i_э)$ with i_k constant,

where U represents voltage, i - current, э - emitter, k - collector. To obtain the characteristics, linearly changing current pulses (Fig.2e) are applied to the emitter or collector circuit and stepped current pulses (Fig.2ł) are applied to the collector or emitter circuit respectively. The circuit connections are altered by a switch to

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120-3-23/40

A "Characterograph" for Semiconductor Triodes.

give the required characteristic. A voltage proportional to the linearly changing current is applied to the X amplifier of a CRT, and a voltage from the appropriate semiconductor electrode is applied to the Y amplifier. Calibration is obtained by measuring the voltages on the electrodes and the current through the triode. The circuit is given in Fig.1 and the waveforms in Fig.2. The circuit consists of the following: multivibrator ($Л_1$ - Fig.2a); sawtooth generator ($Л_{16}$ - Fig.2д); step voltage generator ($Л_2$, $Л_3$, $Л_4$, $Л_5$ - Fig.2в); cathode follower, supplying the emitter current ($Л_5$ - Fig.2г); cathode follower, used to draw the collector current ($Л_{15}$ - Fig.2e). Diodes $1/2Л_{12}$, $Л_{14}$ establish the DC components and diodes $Л_{13}$, $Л_{10}$, $1/2Л_{11}$, $Д_1$ together with the meter $П_4$ measure the linearly changing current. Meter $П_2$ measures the step current. The

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120-3-23/40

A "Characterograph" for Semiconductor Triodes.

characterograph is supplied by the rectifier BYC-1, and UO-4 together with photographic recording is used for displaying the characteristic curves. Figs.3 and 4 show oscillograms of the characteristics of point and plane semi-conductor triodes; Fig.5 shows the collector characteristics for a plane triode in the region of saturation. There are 5 illustrations and no references.

ASSOCIATION: Department of Physics of the Moscow State University imeni M. V. Lomonosov (Fizicheskiy fakul'tet MGU im. M. V. Lomonosova)

SUBMITTED: January 26, 1956.

AVAILABLE: Library of Congress.

Card 3/3 1. Semiconductors-Analysis 2. Triodes-Analysis 3. Instrumentation

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, K.S.

109-9-2/15

AUTHORS: Az'yan, Yu.M., Rzhevkin, K.S., Senatorov, K.Ya.

TITLE: Transient Characteristics of Junction Transistors. (Perekhodnyye kharakteristiki ploskostnykh poluprovodnikovykh triodov)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, Nr 9, pp. 1097 - 1109 (USSR)

ABSTRACT: It appears that the accurate analysis of the transient characteristics of a simple transistor amplifier is rather involved. An attempt is made, therefore, to simplify the analysis and make it acceptable in normal engineering practice. It is assumed that the transistor is operating linearly, which means that its input signal is of the order of 5 μA and not of the order of 5 mA, as assumed by some authors. A transistor circuit operating as a grounded-base amplifier is first analysed and its current transfer coefficient is assumed to be in the form (Ref.7):

$$\alpha(j\omega) = \mathrm{Sch}\,\frac{w_0}{L_\sigma}\sqrt{1 + j\omega\tau_\sigma} \quad , \qquad (1)$$

where w_0 is the base width, L_σ is the diffusion length, τ_σ is the lifetime of the carriers in the base. The equation for α is expressed in terms of the Laplace operators from which

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Transient Characteristics of Junction Transistors.

the transient response of the system is evaluated. This is given by Eq.(4) in which $A = \left(\frac{W_e}{L_\sigma}\right)^2$. Eq.(4) is in the form of a rapidly converging series. A graph of Eq.(4) is shown in Fig.1, where it is plotted against ξ, which is the time normalised with respect to t_0, where t_0 is given by Eq.(7). It is shown that the curve of Fig.1 can be satisfactorily approximated by an exponential which is delayed by a time t_0 with respect to the origin.(see Eqs.9). These approximate equations can be used to derive an approximate expression for α as a function of frequency (see Eq.11). For a grounded emitter transistor amplifier the expression for the transfer function is given by:

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Transient Characteristics of Junction Transistors.

$$h_{\ni}(t) \doteq \frac{\mathrm{Sch}\,\frac{w_0}{L_\sigma}\sqrt{1 + p\tau_\sigma}}{p\left(1 - \mathrm{Sch}\,\frac{w_0}{L_\sigma}\sqrt{1 + p\tau_\sigma}\right)} = H_{\ni}(p) \quad . \qquad (14)$$

Consequently its transient response is expressed by Eq.(16), where α_0 is $\mathrm{Sch}\frac{w_0}{L_\sigma}$. Again, it is shown that the transient response can approximately be represented by a delayed exponential function, as given by Eqs.(19). Furthermore, the expression for α can also be simplified (see Eq.21). The above theoretical analysis was verified experimentally for a transistor operating in a grounded base circuit (see Fig.4). The resulting response functions for a transistor of the type П-2Б are shown in Figs.5 and 7. From the above results it is concluded that the above accurate analysis and also the approximate analysis is applicable not only to small signals but also to comparatively large input signals (up to 5 mA).

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109-9-2/15

Transient Characteristics of Junction Transistors.

There are 8 figures and 9 references, of which 4 are Slavic.

ASSOCIATION: Physics Faculty of the Moscow State University im. M.V. Lomonosov (Fizicheskiy Fakul'tet Moskovskogo Gosudarstvennogo Universiteta im. M.V.Lomonosova)

SUBMITTED: February 25, 1957.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZ-EKN, K S

109-9-3/15

AUTHORS: Rzhevkin, K.S., Senatorov, K.Ya., Maslov, S.P.

TITLE: Investigation of a Free-running Multivibrator Employing Junction Transistors (Issledovaniye mul'tivibratora na ploskostnykh poluprovodnikovykh triodakh)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, Nr 9, pp.1110 - 1118 (USSR)

ABSTRACT: The circuit investigated is a multivibrator with two grounded-emitter transistors, as shown in Fig.1. Analysis of the circuit is split into two stages: (1) The low frequency stage (slow transients) and (2) Fast transients (high frequency processes). During the first stage one of the transistors is closed, while the other is open and operates in the saturation region. The charging and recharging of the coupling capacitors of the circuits is regarded as a slow transient phenomenon. The main feature of the second stage is an avalanche-like change of the currents and voltages during which both transistors are operative. Evaluation of voltages at various points of the circuit is carried out under the following simplifying assumptions: (1) internal resistance of a saturated transistor is negligible in comparison with the external resistances of the circuit,

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Investigation of a Free-running Multivibrator employing Junction Transistors.

(2) a closed transistor can be represented as a series connection of the emitter and collector junctions, but during the calculations it is necessary to consider only the resistance of the collector junction r_{kc}, and (3) the changeover of a transistor from the nonconducting to the conducting state takes place when the potential of the base with respect to ground is zero. It is shown that the voltage at the base of the first transistor can be expressed by Eq. (1), from which the length of its pulse is given by:

$$T_1 = \frac{R_{б1} r_{кc1} C_1}{R_{б1} + r_{кc1}} \ln \frac{E_к}{E_к + V'_{б1}} \quad . \qquad (2)$$

Similarly, the duration of the pulse for the second transistor is given by:

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Investigation of a Free-running Multivibrator Employing Junction Transistors.

$$T_2 = \frac{R_{\sigma 2}\, r_{kc2} C_2}{R_{\sigma 2} + r_{kc2}} \ln \frac{E_k}{E_k + V'_{\sigma 2}} \quad . \qquad (3)$$

The meaning of the various symbols in the above equations can be understood by reference to Fig.1. The changeover process (fast transients) is analysed under the following assumptions: (1) when the voltage at the base of a non-conducting transistor reaches zero, the parameters of both transistors instantly assume values such as are necessary to produce the regenerative action, (2) both transistors take part in the changeover and the speed of these processes is therefore dependent on the characteristics of both the transistors which operate as amplifiers, (3) only the coupling capacitance between the base of the transistor which is being closed and the collector of the transistor which is being opened is taken into account. Equivalent circuit of the multivibrator is then represented as shown in Fig.3 and it can be described by Eqs.(5), (6), (7) and (9). Solution of this system of equations with respect to the current i_{BX} is given by Eq.(10), where its various parameters are

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Investigation of a Free-running Multivibrator Employing Junction Transistors.

in the form given by Eqs. (11), (12) and (13), and $\alpha_{\beta o}$ is the mean current amplification factor for the transistor operating in the grounded-emitter circuit. In most cases Eq.(10) can be simplified (see Eq.(14)), and it is then possible to determine the rise time of the fast transient τ_{Φ}, which is given by Eq.(21). The above theory was supplemented by experiments carried out on a multivibrator employing several types of junction transistors in which the capacitances C_1 and C_2 were varied from 750-10 000 pF. Curves representing the amplitude of the base pulses as a function of the coupling capacitances are shown in Fig.5, dependence of the base pulses on the supply voltage at fixed coupling capacitances is illustrated by Fig.6 and the duration of the pulses as a function of the coupling capacitances is shown in Fig.7. Application of the above theoretical and experimental results to the design of practical circuits is briefly outlined. There are 7 figures, 7 references, of which 3 are Slavic.

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109-9-3/15

Investigation of a Free-running Multivibrator Employing Junction Transistors.

ASSOCIATION: Physics Faculty of the Moscow State University im. M.V. Lomonosov (Fizicheskiy Fakul'tet Moskovskogo Gosudarstvennogo Universiteta im. M.V.Lomonosova)

SUBMITTED: February 20, 1957.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

109-9-8/--

RZHEVKIN, K.S.

AUTHORS: Rzhevkin, K.S. and Andrianov, Ye

TITLE: Compensation of Transistor Amplifiers (Korrektsiya usiliteley na poluprovodnikovykh triodakh)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.11, Nr 9, pp.1157 - 1169 (USSR)

ABSTRACT: A grounded emitter amplifier stage is considered (see Fig.2). It is assumed that the internal resistances $r_б$, r_k and $r_э$ of the transistor are independent of frequency but it is possible to take the frequency effects into account by shunting the collector resistance r_k by a capacitance C_k and by assuming that the current amplification factor α is approximately given:

$$\alpha = \frac{\alpha_0}{1 + j\frac{\omega}{\omega_{kp}}}, \qquad (2)$$

where ω_{kp} is the cut-off frequency for α. The load impedance of the amplifier consists of a resistance R_H and a parallel capacitance C_H. In order to simplify the

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109-9-8/15

Compensation of Transistor Amplifiers.

C_K = 50 pF , α_0 = 0.86 and in which the external load was 7.5 kΩ . It was found possible to increase the badnwidth of the amplifiers to $(3 \div 5)\omega_{Kp}$ for the low frequency transistors (C_K neglected) and up to $(1 \div 3)\omega_{Kp}$ for the high frequency transistors (with α independent of frequency). There are 8 figures, and 6 references, 2 of which are Slavic.

ASSOCIATION: Physics Faculty of the Moscow State University im. M.V. Lomonosov (Fizicheskiy Fakul'tet Moskovskogo Gosudarstvennogo Universiteta im. M.V.Lomonosova).

SUBMITTED: February 20, 1957.

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

AZ'YAN, Yu.M.; KAPTSOV, L.N.; RZHEVKIN, K.S.; SENATOROV, K.Ya.

Terminology in the field of semiconductor electronics. Izv. vys.ucheb.zav.; radiotekh. 2 no.3:372-374 My-Je '59. (MIRA 13:2)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.
(Transistors--Terminology)

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BENDRIKOV, G.A.; KRASNUSHKIN, P.Ye.; REYKHRUDEL', E.M.; POTEMKIN, V.V.; MUSTEL', Ye.R.; RZHEVKIN, K.S.; IVANOV, I.V.; KHARLAMOV, A.A.; TIKHONOV, Yu.V.; STRELKOVA, L.P.; KAPTSOV, L.N.; ORDANOVICH, A.Ye.; KHOKHLOV, R.V.; VORONIN, E.S.; BERESTOVSKIY, G.N.; KRASNOPEVTSEV, Yu.V.; MINAKOVA, I.I.; YASTREBTSEVA, T.N.; SEMENOV, A.A.; VINOGRADOVA, M.B.; KARPEYEV, G.A.; DRACHEV, L.A.; TROFIMOVA, N.B.; SIZOV, V.P.; RZHEVKIN, S.N.; VELIZHANINA, K.A.; NESTEROV, V.S.; SPIVAK, G.V., red.; NOSYREVA, I.A., red.; GEORGIYEVA, G.I., tekhn. red.

[Special physics practicum] Spetsial'nyi fizicheskii praktikum. Moskva, Izd-vo Mosk.univ. Vol.1. [Radio physics and electronics] Radiofizika i elektronika. Sost. pod red. G.V.Spivaka. 1960. 600 p.

(MIRA 13:6)

1. Professorsko-prepodavatel'skiy kollektiv fizicheskogo fakul'teta Moskovskogo universiteta im. M.V.Lomonosova (for all except Spivak, Nosyreva, Georgiyeva).

(Radio) (Electronics)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

BRANDT, Aleksandr Aleksandrovich. Prinimal uchastiye RZHEVKIN, K.S.. AZ'YAN, Yu.M., red.; GEORGIYEVA, G.I., tekhn.red.

[Arrangement and tuning of radio circuits] Tekhnika montazha i nalazhivaniia radioskhem. Izd.2., dop. Moskva, Izd-vo Mosk.univ., 1960. 353 p. (MIRA 13:5)

1. Moskva, Leninskiye gory, Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta (for Brandt).
(Radio circuits)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

BRANDT, Aleksandr Aleksandrovich; RZHEVKIN, Kirill Sergeyevich; AZ'YAN, Yu.M., red.

[Construction and adjustment of radio circuits]Tekhnika montazha i nalazhivaniia radioskhem. 3. perer. i dop. izd. Moskva, Izd-vo Mosk. univ., 1965. 444 p. (MIRA 18:7)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, Kirill Sergeyevich; MADOYAN, S.G., red.; YEMZHIN, V.V., tekhn. red.

[Tunnel diode]Tunnel'nyi diod. Moskva, Gosenergoizdat, 1962. 23 p. (Massovaia radiobiblioteka,no.452((MIRA 16:3)
(Tunnel diodes)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

VORONTSOV, Yu.I.; RZHEVKIN, K.S.

In reply to A.A. Rizkin's letter on "Nonlinearity of the characteristics of a tunnel diode." Radiotekh. i elektron 7 no.6:1064 Je '62. (MIRA 15:6)

(Tunnel diodes) (Rizkin, A.A.)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

S/194/62/000/006/103/232
D288/D308

9,4330

AUTHORS: Vorontsov, Yu.I., Petrov, V.M., and Rzhevkin, K.S.

TITLE: Measurement of tunnel diode parameters

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-4-63 p (V sb. Poluprovodnik pribory i ikh primeneniye, no. 7, M., sov. radio, 1961, 115-126)

TEXT: Methods of measuring tunnel diode (TD) parameters are described. An equivalent circuit of TD is assumed as shown in the Figure. A bridge circuit was used which enabled oscillographic observation of the volt-amp characteristic; to plot the static characteristic point by point; to measure the differential resistance of TD at any point of its volt-amp characteristic. The measurement of the differential capacitance was undertaken by resonance method at frequencies in 5 - 20 Mc/s range. The measurement of parasitic parameters L, r and C_n was done at UHF with a coaxial test line. Measurement of these parameters of a TD as a LF network was done at 1 Gc/s; for

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Measurement of tunnel diode parameters S/194/62/000/006/103/232
D288/D308

a TD as a UHF network - at 3 Gc/s. Measuring methods are described and discussed, the fundamental circuits for the TD connection for various measurements are given, a table of parameters of several TD samples is included. 2 references. [Abstracter's note: Complete translation.]

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APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, K.S., kand.fiziko-matematicheskikh nauk

Along the stages of discovery. Nauka i zhizn' 28 no.12:49-51 D '61. (MIRA 15:2)

(Electron tubes)

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

VORONTSOV, Yu.I.; RZHEVKIN, K.S.

Tunnel diodes in amplifiers; a review. Radiotekh. i elektron. 6 no.11:1779-1804 N '61. (MIRA 14:10)
(Transistor amplifiers)

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30286
S/109/61/006/011/001/021
D201/D304

9.4330 (1139, 1143, 1150)

AUTHORS: Vorontsov, Yu.I., and Rzhevkin, K.S.

TITLE: Tunnel diodes in amplifying circuits (Survey)

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 11, 1961, 1779 - 1804

TEXT: Considering the great interest shown lately towards tunnel diode amplifiers, the authors try, in the present article, to evaluate the results so far obtained and the possible future developments for the systematic study of problems related to the operation of such system. All data given or discussed in the article are based either on published works or on the results of investigations by the authors. The survey is divided into 4 parts: 1) Amplifying properties of a tunnel diode; 2) Non-linear properties of tunnel diodes; 3) Noise performance of tunnel diode amplifiers; 4) Construction of tunnel diode amplifiers. 1a: Basic amplification theory of a tunnel diode amplifier is considered (as based on English-language publications); 1b: Main tunnel diode amplifier circuits

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are broadly discussed, a distinction being made between the insertion gain and nominal gain of the amplifier; 1c: Parallel amplifier connection is discussed. The expression for insertion gain is derived as a function of the cut-off frequency of the diode and of the equivalent cct parameters; 1d: Parallel resonant amplifier; the equation for the resonance insertion gain is derived. It is pointed out that

$$\Delta\omega\sqrt{K_{inr}} \simeq \frac{1}{RC} \qquad (9)$$

(K_{inr} being the insertion gain of resonance amplifier) which is often used, is only approximate, but may be applied in most practical cases for the evaluation of frequency and gain of properties; 1e: Series connected tunnel diode amplifier. An expression for the insertion gain is derived and discussed. A graph of the insertion gain against frequency is given, based on published data; 1f: A short analysis of circuits for SHF amplification, based on distributed constants amplification, in through and reflex circuits; 2a: A short discussion of the non-linear properties of tunnel diodes.

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30280

Tunnel diodes in amplifying ... S/109/61/006/011/001/021
D201/D304

An approximate expression is used for the conductance G(V);

$$G(V) = \alpha(V - V_0)^2 - G_0 \qquad (13)$$

where α = const. and V_0 is the operating point voltage. Hence the effective conductance G_{eff} averaged over one period is derived from energy considerations as

$$G_{eff} = G_0\left(1 - \frac{3}{4}\frac{\alpha A^2}{G_0}\right) \qquad (17)$$

4

where A is the amplitude of a.c. signal; 2b: The discussion of temperature effect is based on data published in English-language literature; 3a: Discussion of shot-noise, thermal noise and noise factor in tunnel diode amplifiers, based on data published in English-language literature. The low frequency noise, proportional to 1/f is disregarded. 4: Construction of tunnel diode amplifiers is discussed, typical diode mounts, as described in literature are analyzed, together with pass-band filter construction for broadening the pass-band, the hybrid ring amplifiers etc. Using the cct

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of Fig. 21 in R.F. Trambarulo (Ref. 47: Esaki diode amplifiers at 7.11 and 26 kMc, Prok. I.R.E., 1960, 48, 12, 2022), the authors studied amplifiers operating at frequencies of 6.8; 9.7; 10.8 and 25.8 kMc/s. The results of fundamental measurements are given in a table. The gain variation obtained (by means of an adjustable matching screw controlling the position of the coupling loop) was between 5 and 38 db, the pass band decreasing with gain. The amplifier working at 10.8 kMc/s had a pass band of the order of 300 mc/s with K = 5 db and 8 mc/s with K = 28 db. The diodes were made of gallium arsenide with a specific resistivity $\rho = 15 \times 10^{-4}$ ohm.cm. The value of I_{max} was 0.5 lmA and the ratio I_{max}/I_{min} was $\geqslant 3$. As to the distributed amplifiers, the authors state that there is considerable difficulty in obtaining complicated tunnel p-n transitions and the required stability. The authors express their gratitude to V.V. Migulin for advice and remarks. There are 22 figures, 1 table and 51 references: 6 Soviet-bloc and 45 non-Soviet-bloc. The 4 most recent references to the English-language publication read as follows: M. Schuller, W.W. Gartner, Large-signal circuit theory of negative-resistance diodes, in particular tunnel diodes,

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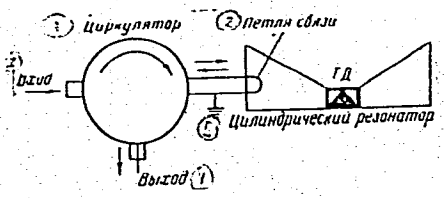
Tunnel diodes in amplifying ...

Proc. I.R.E., 1961, 49, 8, 1268; H.R. Kaupp, D.R. Crosby, Calculated wave forms for tunnel diode locked pair, Proc. I.R.E. 1961, 49, 1, 146; S.B. Geller, P.A. Mantek, Tunnel diode large-signal simulation study, Proc. I.R.E., 1961, 49, 4; R.F. Trambarulo, Esaki diode amplifiers at 7.11 and 26 kMc. Proc. I.R.E., 1960, 48, 12, 2022.

SUBMITTED: June 7, 1961

Fig. 21.



Legend: 1 - Circulator; 2 - coupling loop; 3 - input; 4 - output; 5 - cylindrical resonator.

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RZHEVKIN, S.N.

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PROCESSES AND PROPERTIES INDEX

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Preparation of an emulsion by means of ultrasonic waves. S. N. Rzhevkin and R. P. Ostrovskii. *J. Phys. Chem.* (U. S. S. R.) 6, 73-5(1935)(in Russian); *Acta Physicochim. U. R. S. S.* 1, 741-4(1934)(in German). Ultrasound waves of frequency 4-6 × 10^6, giving a pressure up to 1 atm. and generated by means of piezo-quartz plates immersed in oil, were used to prep. fine emulsions of Hg, transformer oil, paraffin oil, butter, benzene, paraffin, sulfur, Sn, Bi, Cu and Ag in water in about 2 min. The Hg emulsion was dark violet, particle size 0.5 μ, and gradually settled. A 3-min. Hg emulsion, 0.005 g. Hg per L., had an elec. cond. of 0.50 × 10^{-3} Ω^{-1} cm.$^{-1}$, after 3 hrs. 0.31 × 10^{-3} and after 1 day 0.29 × 10^{-3}. A 5-min. emulsion gave 0.83 × 10^{-3}. Oil emulsions are very stable and show Brownian movement. They show no fluorescence. Emulsions of S, Sn, Bi and Pb are blue in strong light with a dispersity of 10^{-6} cm.

W. H. Rathmann

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, S. N.

"Concerning the Wave Field of a Piezoquartz Emitter,"

DAN SSSR, 1937, 6, 5, 275

M-28, 14 Dec 1954

"Ultrasonic Waves and their Biological Action" Symposium, "Tr In-ta rentgen i radiolog." (Transactions of the Institute of X-Rays and Radiology)1936, 2, 181

M-28, 14 Dec 1954

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, S.N.

Mechanism of luminescence in liquids under ultrasonic treatment. V. I. Levshin and S. N. Rzhevkin. *Compt. rend. acad. sci. U. R. S. S.* 10, 399-404(1937)(in English). — The luminescence of distd. and tap H_2O, H_2O with hydrazide, aq. NaCl and H_2SO_4 with a small amt. of H_2O have been studied at various temps. and under the influence of various quenchers. On the basis of this work the most adequate explanation of the acoustic luminescence is the formation of cavities inside the liquid, filled with water vapor, which is excited and produces luminescence under the influence of potential differences that are produced when the liquid is disrupted or the cavities are annihilated. Harold Gershinowitz

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"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, S. N.

"Theory and Design of the Simplest Resonance Sound-Absorbing Systems," Dokl. AN SSSR, 22, No.9, 1939

Physics Inst. im. Lebedev, AS USSR.

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

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9885 **Resonance Sound Absorber With Yielding Wall.** S. N. Rzhevkin. National Advisory Committee for Aeronautics. Technical Memorandum 1273, May 1951. 28 pages. (Translated from *Zhurnal Tekhnicheskoi Fiziki* (Journal of Technical Physics), v. 16, no. 4, 1946, p. 381-394.) (TL570 Un3tm.)

Presents mathematical analysis of the effect of sympathetic vibration of the resonator front wall on sound absorption. The investigation is restricted to the case of a single-sheet resonance system for normal incidence of sound. Examples of application of the theory are given. 15 ref.

Sci. Res. Inst. Physics, Moscow State U.

METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, S. N., and NESTEROV, V. S.

"Resonant Sound Absorbers, Trudy Section on Electroacoustics and Sound Recording. Moscow, 1947,

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"

"APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6

RZHEVKIN, S. N.

"Developments in the Field of Electroacoustics in the Soviet Union," Radiotekh., 2, No.8, 1947

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001446610003-6"