GACHECHILADZE, R. G.; TUMANISHVILI, G. D.

Change in the nucleic acid content of a regenerating rat testicle under the influence of rabbit testicle extract. Dokl. AN SSSR 156 no. 1:171-173 My '64. (MIRA 17:5)

1. Institut kibernetiki AN GruzSSSR i Institut fiziki AN GruzSSSR. Predstavleno akademikom A. I. Oparinym.

L 9781-66 EWT(1)/FCC/EWA(h) GW
ACC NR: AP5025483 SOURCE CODE: UR/0203/65/005/005/0934/0936

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M.
44,55 44 55

ORG: Tbilisi State University (Tbilisskiy gosudarstvennyy universitet); Institute of Geophysics, AN GruzSSR (Institut geofiziki AN GruzSSR)

TITLE: Anomalous absorption in polar cap

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 5, 1965, 934-936

TOPIC TAGS: astronomy, solar activity, ionosphere, geomagnetic disturbance, solar flare, earth magnetism, solar corpuscular radiation

ABSTRACT: The case of April 10, 1958, was the most interesting of all observed cases of anomalous absorption in the polar cap. Despite the fact that it was a typical case of absorption, it was only now that an attempt was made to explain the occurrence. The data on the vertical probing of the ionosphere, obtained by

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UDC: 550.385.

high latitude stations (up to 50° of geomagnetic latitude) were used in the study, by taking the parameters f_{min} and f_0F2 from ionospheric data. Graphs were plotted on the dependence of time (t) of the anomaly beginning on the effective latitude $\bar{\lambda}$ (in coordinates $\bar{\lambda}$ vs. t and $\bar{\lambda}$ vs Δ t; where Δ t is the duration of anomalous absorption in the polar cap). The heliophysical phenomena were investigated for the same period. Two active areas (A and B) were present in the sun during the period from March 30 to April 20 (See Solnechnye dannye, 1958, No. 4. and Quart. Bull. Solar Activity, 1958, No. 2). The entire complex of disturbances which occurred between April 10 and 20 was tentatively explained on the basis of these data. The flocculus in area A emitted, on April 8, a corpuscular stream (stream 1) of low velocity which reached the earth orbit and caught the earth on April 14, causing a storm with a gradual beginning (the earth entered the stream from the lateral side). The chromospheric solar flare (φ=11°N, λ=40°W) occurred at 14 hrs. 30 min. in the region B of the sun (eastern part, latitude ~10-20° N). It generated high-energy particles causing an anomalous absorption in the polar cap on April 10. The prolonged wandering of particles in space was caused by the presence of stream 1 and magnetic heterogeneity. This explained also the isotropic intrusion of particles into the ionosphere of the entire polar cap. The same flare emitted another corpuscular

L 9781-66

ACC NR: AP5025483

stream (stream 2) which passed the earth without reacting with the earth's magnetic field because of its high velocity. Till the evening of April 11 stream 2 caused a local effect of a decrease in cosmic rays and ionosphere for European zone, which was at this moment in the evening side. The geomagnetic storm of the SC type, which occurred at 20 hrs. 48 min. on April 15 could have been caused by corpuscular stream 3, emitted by the chromospheric solar flare generated in the area B and having the coordinates $\varphi = 14^{\circ}N$ and $\lambda = 36^{\circ}W$. Orig. art. has: 4 figures.

SUB CODE: 09,04,03/SUBM DATE: 07Dec64/ NR REF SOV: 004/ OTHER: 002

OC

3/3

L 13089-66 EWT(1)/FCC/EWA(h) GW

ACC NR: AP6000733 SOURCE CODE: UR/0251/65/039/003/0555/0560

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M.

ORG: Institute of Geophysics, Academy of Sciences, Georgian SSR (Institut geofiziki Akademii nauk Gruzinskoy SSR)

TITLE: Anomalous absorption at the polar cap

SOURCE: AN GruzSSR. Soobshcheniya, v. 39, no. 3, 1965, 555-560

TOPIC TAGS: solar flare, ionospheric absorption, solar chromosphere, solar corpuscular radiation

ABSTRACT: The authors study one of the interesting cases of anomalous absorbtion associated with a chromospheric flare on 7 July 1968. The data used in the paper are from vertical ionospheric sounding by a world wide network of stations: 67 stations in the northern hemisphere and 34 in the southern hemisphere. High energy electrons and protons were generated by the chromospheric flare. The synchrotron radiation of relativistic electrons was frozen into a plasma cloud. Protons with energies of tens to hundreds of Mev were hurled out by the sun and reached a

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L 13089-66
ACC NR: AP6000733

2

terrestrial orbit in 1-2 hours. Because of their comparatively low energy, they fell only into the polar cap regions causing anomalous absorbtion of the third type. The corpuscular stream thrown out by this flare reached a terrestrial orbit in 31 hours and caused geomagnetic and ionospheric storms, as well as storms in terrestrial currents and cosmic rays. The state of the ionosphere was studied by using hourly and quarter-hourly data on the minimum reflection frequencies during vertical ionospheric probing. The state of the F2 layer was evaluated by deviation of its critical frequencies from the average monthly values in percent. It was found that the state of the F2 layer was nearly calm up until the beginning of the geomagnetic storm. An ionospheric storm began in the initial phase of the geomagnetic storm, gradually reaching almost all latitudes. This disturbance reached a maximum in the principal phase of the geomagnetic storm and gradually decreased, ending on 10 July. Anomalous absorbtion was observed simultaneously at all northern stations down to a latitude of 64°, while in the southern hemisphere observation was delayed by 3-4 hours. At stations located below a latitude of 64°, anomalous absorbtion was not observed until 10-20 hours after the chromospheric flare, and was much less pronounced.

SUB CODE: 08/13/SUBM DATE: 14Jan65/ ORIG REF: 007/ OTH REF: 002

Card 2/2 DR

L 43160-66 EWT(1)/FCC GW

ACC NR: AP6018924 SOURCE CODE: UR/0203/66/006/003/0588/0589

AUTHOR: Khocholava, G. M.; Gachechiladze, R. G.

ORG: Institute of Geophysics, AN GruzSSR (Institut geofiziki AN GruzSSR)

TITLE: Nature of disturbances in the F2 region of the ionosphere at middle latitudes

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 3, 1966, 588-589

TOPIC TAGS: ionospheric disturbance, F layer, Earth magnetic field, geomagnetic disturbance

ABSTRACT: In an analysis of the character of ionospheric disturbances at middle latitudes, use was made of data obtained from vertical sounding of the ionosphere during the IGY by six stations located in the latitude range of 02-65°N. The initial data employed were the critical frequencies of the F2 layer. Graphs were plotted for deviations of these frequencies from the normal level (F2, %). The disturbance pattern was studied by using different methods of processing the data, in order to determine whether positive disturbances are due to errors inherent in the method itself or whether they actually occur at middle latitudes. The following conclusions were reached: (1) the median calculated for magnetically quiet days can be used at all latitudes; (2) positive disturbances are observed only at low (equatorial) latitudes, and also during winter months at geomagnetic latitudes above 47° (nocturnal winter anomaly); (3) positive disturbances are lacking at middle latitudes. Isolated cases of positive distrubances observed by some stations at middle latitudes are strictly local

Card 1/2 UDC: 550.388.2

in character and have nothing in common with the development of the overall planetary character of the disturbances of the earth's magnetic field. Orig. art. has: 2 figures and 1 table.

SUB CODE: 04,08/SUBM DATE: 04Dec65/ ORIG REF: 003

ACC NR: AT6028209 SOURCE CODE: UR/2502/65/001/000/0062/0073

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M.

ORG: none

TITLE: Ionospheric perturbations caused by large chromospheric flares

SOURCE: AN GruzSSR. Institut geofiziki. Trudy, v. 1(23), 1965. Nekotoryye voprosy issledovaniya eletromagnitnogo polya Zemli (Some problems in the investigation of the earth's electromagnetic field), 62-73

TOPIC TAGS: solar chromosphere, solar flare, ionospheric disturbance, ionospheric absorption

ABSTRACT: This paper studies all cases of type III anomalous absorption recorded from July 1957 to June 1960 in the polar cap and the laws governing it. The material used is from the world data center for IGY, Moscow (mirovoy tsentr dannykh MGG). The topics discussed include the relationship between anomalous absorption and solar activity. It is noted that of the 37 cases in the polar cap 29 may be linked to chromospheric flares of intensity 3 and 3+, and the other eight to flares of intensity 2 and 2+. Two types of anomalous absorption in the polar cap corresponding to the "early" and "late" types of Sakurai are considered. Daily variation and length of anomalous absorption in the solar cap where absorption continuously increases for about one day and deteriorates over several days is discussed: one flare causes 2-3 days

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ACC NR: AT6028209

absorption, several flares, 7-10 days. The state of the F_2 layer of the ionosphere during anomalous absorption in the solar cap is discussed and it is noted that it is almost impossible to determine in the polar cap and at high latitudes. Its state can be determined below 60°, but no planet-wide picture can be established. Soviet data on 14 ionospheric storms indicates normality of the F_2 layer. Orig. art. has: 1 formula, 2 tables, and 6 figures.

SUB CODE: 04,03/ SUBM DATE: none/ ORIG REF: 016/ OTH REF: 004

Card 2/2

ACC NR: AR6035547 SOURCE CODE: UR/0269/66/000/010/0058/0058

AUTHOR: Gachechiladze, R. G.; Khocholava, G. M.

TITLE: Ionospheric disturbances caused by great chromospheric flares

SOURCE: Ref. zh. Astronomiya, Abs. 10.51.419

REF SOURCE: Sb. Nekotoryye vopr. issled. elektromagnitn. polya Zemli. No. 1(23), Tbilisi, Metsniyereba, 1965, 62-73

TOPIC TAGS: ionospheric disturbance, solar flare, ionospheric absorption, magnetic storm, anomalous ionospheric absorption, polar cap, corpuscular stream

ABSTRACT: Several cases of type-III anomalous absorption recorded for the period July 1957—July 1960, are investigated. The possibility of a connection between some periods of anomalous ionospheric absorption in the polar cap and solar flares of force 2 and 2^+ is suggested. Two types of anomalous absorption, "simultaneous" and the "gradual" types, have been detected in the polar cap. The phenomena of type-I start with a small delay following the start of a solar flare (most frequently in the western section of the solar disk) and embrace the entire polar cap simul-

Card 1/2 UDC: 523.75:525.23

ACC NR: AR6035547

taneously. Type II phenomena start at one or several stations and gradually embrace the entire polar cap but in the first 10 to 15 hours the absorption is not total. Generally, these cases follow flares occurring in the eastern solar hemisphere. It is supposed that the magnetic field intensity of the corpuscular stream may be one of the factors determining the division of anomalous absorption in the polar cap into two types. Daily variations and the duration of anomalous absorption in the polar cap are investigated. The evolution of anomalous absorption may be divided into three stages: prior to, during, and following the magnetic storm. On the basis of experimental data, a mechanism of the origin of all the three stages of anomalous absorption is suggested. Bibliography has 20 titles. I. Odintsova. [Translation of abstract] [DW]

SUB CODE: 03/

Card 2/2

GACHECHILADZE, T.G.

GACHECHILADZE, T.G.

Angular distribution of the Be^9 (He^3, p) B^{11} reaction. Soob. AN Gruz. SSR 18 no.5:529-532 My '57. (MLRA 10:9)

1. Akademiya nauk Gruzinskoy SSR, Institut fiziki, Tbilisi. Predstavleno chlenom-korrespondentom Akademii V.I. Mamasakhlisovym.
(Nuclear reactions)

GACHECHILADZE, T.G.

A note on the D + D reaction. Soob. AN Gruz. SSR 19 no.4:401-406 O '57. (MIRA 11:5)

1. Institut fiziki AN GruzSSR, Tbilisi. Predstavleno chlenom-korrespondentom AN GruzSSR V.I. Mamasakhlisovym.
(Nuclear reactions)

GACHECHILADZE, T.O.

Theory of order in binary alloys. Soob. AN GRUZ. SSR 20 no.1:21-25 Ja '58. (MIRA 11:6)

1.Institut fiziki AN GruzSSR, Tbilisi. Predstavleno chlenom-korrespondentom Akademii V.I. Mamasakhlisovym.
(Alloys)

GACHECHILADZE, T. G., Cand of Phys-Math Sci -- (diss) " Stripping Phenomena in the Collision of Light Nuclei," Tbilisi, 1959, 17 pp (Tbilisi State University im Stalin) (KL-7-60,106)

AUTHORS: Mdivani, O. and Gachechiladze, T. SOV/126-8-3-1/33

TITLE: On the Ordering of Ternary Alloys

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 8, Nr 3, pp 321-329 (USSR)

ABSTRACT: An attempt is made in the present paper to obtain a formal generalization of the long-range order theory for binary alloys to the case of ternary alloys. The authors have not succeeded in using the Bragg-Williams theory (Ref 1) to find the Curie point for ternary alloys because of mathematical difficulties. In order to describe the properties of a ternary alloy, it is necessary to introduce four order parameters (Refs 2 and 3) When this is done the calculation of the free energy can be carried out in the usual way. The equilibrium conditions consist of a set of four transcendental equations involving the long-range order parameters. In the case of binary alloys, the Curie point is obtained from the equation

$$s = \text{th}\,\frac{V_o s}{2kT} \quad .$$

In the case of ternary alloys it is not possible to obtain

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the Curie point with the aid of an analysis of the corresponding (to this equation) transcendental equations. It is shown that near the Curie point and starting with the general discussion it is possible to establish certain relations between the four long-range order parameters and an approximate expression can be obtained for the Curie point. The final equation for the Curie point is given by Eq (39).
There are 4 references, 1 of which is Soviet, 1 Polish and 2 English.

ASSOCIATION: Tbilisskiy gosuniversitet, Institut elektroniki, avtomatiki i telemekhaniki AN Gruz. SSR (Tbilissi State University, Institute of Electronics, Automation and Telemechanics, Ac.Sc., Georgian SSR)

SUBMITTED: May 6, 1958

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21(7)

AUTHORS: Mdivani, O. M., Gachechiladze, T. G. SOV/56-36-5-59/76

TITLE: On the Angular Distribution of Neutrons in the Reaction $C^{13}(\alpha,n)O^{16}$ (Ob uglovom raspredelenii neytronov v reaktsii $C^{13}(\alpha,n)O^{16}$)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 5, pp 1591-1592 (USSR)

ABSTRACT: In the present paper the authors describe the results obtained by three American papers, and especially the results obtained by Schriffer, Kraus, and Risser (Ref 1) concerning the neutron angular distribution of the reaction mentioned in the title at 4 different α-energies. The results of this investigation are compared with those obtained by Owen and Madansky (Ref 2) in connection with the reaction $Be^{9}(\alpha,n)C^{12}$, as well as with the theoretical results obtained by Butler (Ref 3). There are 1 figure, 1 table, and 3 references.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

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PHASE I BOOK EXPLOITATION SOV/5683

Akademiya nauk Gruzinskoy SSR. Institut elektroniki, avtomatiki i telemekhaniki

Trudy (Academy of Sciences of the Georgian SSR. Institute of Electronics, Automation and Remote Control. Transactions) No. 1. Tbilisi, 1960. 126 p. 500 copies printed.

Ed. A. I. Eliashvili; Deputy Ed.: E. Ualamueridze; Tech. Ed.: A. Thodua.

PURPOSE: This collection of articles is intended for scientists and technical personnel concerned with electronics in general, and machine translations in particular.

COVERAGE: Four out of the nine articles concern machine translation from Georgian into Russian, and vice-versa. Two articles consider general problems of machine translation. The three remaining articles discuss various electronic devices. Articles 1, 3, and 4 are written in Georgian with summaries in Russian. The

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remaining articles are in Russian. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

Academy of Sciences (Cont.) SOV/5683

AVAILABLE: Library of Congress (TK7800.A45A14)

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JP/rsm/ec
10-28-61

GACHECHILADZE, T.G.; ELIASHVILI, A.I.

Statistics of two-letter combinations for the Georgian literary language. Trudy Inst.elek., avtom.i telem.AN Gruz.SSR 1:25-27 '60. (MIRA 14:6)
(Machine translating) (Georgian language—Translating)

TSERTSVADZE, G.N.; GACHECHILADZE, T.G.

Distributing letters in words in the Georgian language. Trudy Inst. elek., avtom.i telem.AN Gruz.SSR 1:29-39 '60. (MIRA 14:6)
(Machine translating) (Georgian language--Translating)

S/749/60/007/000/[illegible]

AUTHORS: Gachechiladze, I. G., and Mdivani, G. K.

TITLE: On the possible re-orientation of neutron spin in the reaction $B^9(d, n)C^{10}$

SOURCE: Akademiia nauk Gruzinskoy SSR. Institut fiziki. Trudy, v.7, 1960, 201-[illegible] (In Georgian, with eight-line English résumé).

TEXT: The paper examines the reaction $B^9_6(d, n_0)C^{10}$ (the energy of the incident neutrons being $E_d = 0.86$ Mev) for transitions to the ground state and to the first four excited states of the residual nucleus B^{10}. Experimental data for the transitions to the ground state and the second excited state agree well on the basis of the stripping scheme with due consideration of the exchange interaction and the effect of the re-orientation of the spin of the freed neutron. Explanation of the other cases is adequately achieved through the use of the stripping scheme with consideration of the exchange interaction. There is 1 figure and 1 Soviet (same authors, ZhETF, v.[illegible], 1959, 1591) and 5 English-language references: Butler, S. T., Roy. Soc., Proc., v.A 208, 1951, 559; Shuttle, A. B., et al., Phil. Mag., v.43, 1952, 485; Owen, G., and Madansky, L., Phys. Rev., v.105, 1956, 1766; v.113, 1959, 1575; v.99, 1955, 1608; Tobocman, W., Phys. Rev., v.94, 1954, 1655; Bowcock, J. E., Phys. Rev., v.112, 1958, 925; Green, L., et al., Proc. Phys. Soc., v.A 68, 1955, 386.

ASSOCIATION: None given.

Card 1/1

ABELISHVILI, T.L.; GACHECHILADZE, T.G.; MDIVANI, O.M.

Angular distribution of neutrons in the reaction C^{13} (d, n)N^{14}. Zhur. eksp.i teor.fiz. 38 no.2:631-633 F '60. (MIRA 14:5)

1. Tbilisskiy gosudarstvennyy universitet i Institut elektroniki, avtomatiki i telemekhaniki Akademii nauk Gruzinskoy SSR.
(Neutrons) (Nuclear reactions)

S/748/61/002/000/001/003

AUTHORS: Gachechiladze, T.G., Tsertsvadze, G.N., Chikoidze, G.B.

TITLE: On the ε-structure of the distribution of gaps.

SOURCE: Akademiya nauk Gruzinskoy SSR. Institut elektroniki, avtomatiki i telemekhaniki. Trudy. v. 2. 1961, 3-15.

TEXT: The object of the analytical investigation set forth in this paper is the so-called gaps as defined in Yngve's recent paper (not identified). Following the identification of pairs of elements (words, morphemes, etc.) by some indication, the elements within a text that lie between the fixed elements are regarded as gaps; the frequency with which a certain number of gaps between fixed elements in a text occurs is calculated, and the so-called Yngve histograms are constructed. Having previously employed Yngve's calculation technique, not just for specific words or morphemes as elements, but for certain parts of speech, namely, nouns and verbs, and having calculated the distribution of gaps between the four possible pairs of these two parts of speech, the author presently makes an attempt to describe mathematically the results obtained by the methods of the analysis of gaps. The model employed is described. A text in which the mutually related nouns and verbs intermingle and in which all gaps are marked by dashes, is transformed into a form in which

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each interrelated noun-verb pair stands separately with all elements lying between the two key elements of the pair marked by dashes. The complex consisting of a noun and the verb nearest to it, together with the dashes located between them, are termed a "word" and the verb and noun standing nearby are termed an "interval between words." The paper studies the distribution of the length of the "words," that is, the number of dashes in a "word." The length of a "word" is affected by the neighboring "words" and the omitted symbols. The method proposed takes this influence into consideration. The mathematical description of the process of formation of the "words" by means of a suitable mathematical model is described. The experimental portion of the paper reports the distribution of the length of "words" of three languages: Russian, Gruzian, German. Inasmuch as the statistic for the latter was found to be fairly inadequate, no theoretical distributions were set up for it. The criterion for the sufficiency of the amount of text digested was judged by the change in the probabilities encountered when an additional (usually 1,000-word) portion of text was added to the results of the preceding investigation. When the oscillations lay within ±1%, the text was regarded as sufficient. The ε spectrum was set up by an experimental calculation of the moments, the value of which was equated to the expression obtained by the mathematical functions derived in the present study. The solution of these equations provided the theoretical distribution. The works of 3 Gruzian authors were analyzed. For the Russian language, the

On the ε-structure of the distribution of gaps. S/748/61/002/000/001/003

works of 3 authors (A. Fadeyev, A. P. Chekhov, and Kuprin) were analyzed. The 3 German authors analyzed were Thomas Mann, Erich Remarque, and Lion Feuchtwanger. There are 12 tables, showing the numerical results obtained for the 9 authors. There is no list of references, even though an unidentified English-language work by Victor H. Yngve is cited in the text.

Card 3/3

GACHECHILADZE, T.G.

Irreversibility and principle of negative entropy. Trudy Inst. elek., avtom. i telem. AN Gruz. SSR 3:47-50 '62. (MIRA 16:5)
(Information theory)

ABELISHVILI, T.L.; GACHECHILADZE, T.G.; TSILOSANI, T.I.

Angular distribution in the reactions $N^{14}(N^{14},1')N^{15}$ and $Mg^{25}(N^{14},N^{13})Mg^{26}$. Soob. AN Gruz. SSR 29 no. 3:283-287 S '62 (MIRA 19:1)

1. Tbilisskiy gosudarstvennyy universitet. Submitted October 20, 1961.

ACC NR: AR6025782 SOURCE CODE: UR/0058/66/000/004/E039/E039

AUTHOR: Bokuchava, N. V.; Gachechiladze, T. G.; Mdivani, O. M.

TITLE: Concerning one model of ordering of an alloy

SOURCE: Ref. zh. Fizika, Abs. 4E302

REF.SOURCE: Tr. Tbilissk. un-ta, v. 103, 1965, 163-168

TOPIC TAGS: ordered alloy, binary alloy, model theory, statistic distribution

ABSTRACT: A new ordering model is proposed, based on the study of the distribution of the lengths of chains consisting of regular pairs. At a given temperature, a regular chain can be made up of either non-decaying regular pairs, or pairs produced as a result of a random process. A formula is obtained for the probability distribution of the lengths of the regular chains. The configuration free energy of the alloys is written out in terms of this distribution. The model is explained using as an example a binary equal-component alloy (linear chain and quadratic lattice). [Translation of abstract]

SUB CODE: 20

Card 1/1 vlr

Def. at
Tbilisi State U.

ZHGENTI, V.K., akademik; KALANDADZE, N.I.; GACHECHILADZE, TS.V.

Structural state of internal innervation mechanisms of the lungs following a course of treatment in experimental tuberculosis. Soob. AN Gruz.SSR 20 no.5:587-593 My '58. (MIRA 11:10)

1. AN GruzSSR (for Zhgenti). 2. Ministerstvo zdravookhraneniya Gruz.SSR, Respublikanskiy nauchno-issledovatel'skiy institut tuberkuleza.
(LUNGS--INNERVATION) (TUBERCULOSIS)

ZHGENTI, V.K., akademik; KALANDADZE, N.I.; GACHECHILADZE, TS.V.

Effect of vitamin B_1 on the course of experimental tuberculosis. Soob. AN Gruz. SSR 24 no. 1:89-94 Ja '60. (MIRA 14:5)

1. Ministerstvo zdarvookhraneniya Gruzinskoy SSR, Respublikanskiy nauchno-issledovatel'skiy institut tuberkuleza, Tbilisi.
2. AN Gruzinskoy SSR (for Zhgenti).
(THIAMINE) (TUBERCULOSIS)

ZHGENTI, V.K., akademik; KALANDADZE, N.I.; GACECHILADZE, TS.V.

Condition of the structures of interorganic innervation mechanisms of the striated muscles in experimental tuberculosis. Soob. AN Gruz.SSR 24 no.4:479-484 Ap '60. (MIRA 13:7)

1. Ministerstvo zdravookhraneniya GruzSSR, Respublikanskiy nauchno-issledovatel'skiy institut tuberkuleza, Tbilisi. 2. AN GruzSSR (for Zhgenti).
(MUSCLES—INNERVATION) (TUBERCULOSIS)

GACHECHILADZE, Ts. V.

Cand Med Sci - (diss) "Study of histochemical characteristics of the oviducts and the uterus in post-embryonic ontogenesis in conception and pregnancy." Tbilisi, 1961. 23 pp; (Tbilisi State Med Inst); 160 copies; price not given; (KL, 7-61 sup, 257)

KALANDADZE, N.I.; GACHECHILADZE, TS. V.

Effect of caffeine on the course of experimental tuberculosis.
Soob. AN Gruz. SSR 32 no. 1:199-205 O '63. (MIRA 17:9)

GACHEGOV, A. I.

Fuel Abstracts
May 1954
Natural Solid
Fuels: Preparation

3454. MODERNIZATION OF TY 5 TsKB PULVERIZED FUEL SEPARATOR.
Vaizel, L.E., Vainitskii, S.R., Gachegov, A.I. and Sladnikov, I.V.
(Elekt. Sta. (Pwr Sta., Moscow), June 1953, Vol. 24, 8-10). With screen
#68 the efficiency of the separator was found to be high and the
aerodynamic resistance low. Owing to the low velocity of the aerated dust
flow the elements of the separator are subjected to little wear and tear.
The use of the separator for ordinary and lean coal permitted an increase
in mill productivity and a reduction in power consumption. B.E.A.

25810
S/048/61/025/005/024/024
B117/B201

24,2200

AUTHORS: Kotel'nikov, N. V., and Gachegov, V. I.

TITLE: Magnetic properties of nickel precipitates obtained by the method of chemical nickeling

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 5, 1961, 655-659

TEXT: The present investigation was the subject of a lecture delivered at a symposium on thin ferromagnetic films (Krasnoyarsk, July 4 to 7, 1960). The authors studied the hitherto little known magnetic properties of nickel precipitates of the Ni/P system obtained by way of chemical nickeling (Ref. 1: Gorbunova K. M., Nikiforova A. A., Fiziko-khimicheskiye osnovy protsessa khimicheskogo nikelirovaniya, Izd. AN SSSR, 1960). Nickel was precipitated on the outer walls of soldered copper tubes 4 mm in diameter. The tubes were placed in the bath in vertical position, and 100 mm of their length were nickel-coated; the precipitate was limited by the end of the vinyl tube, to which the copper tube was fastened. A tubular vessel with an inside diameter of 25 mm served for the chemical nickeling operation.

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Magnetic properties of nickel...

To prevent the sclution from evaporating, the bath was sealed with a cork in which a small opening was bored to allow for the escape of the gases evolving in the course of the reaction. A small piece of an aluminum foil (1 by 3 mm) was fastened to the end of the vinyl tube to release the nickeling process. The base (copper tube) was treated both prior to that process and prior to electrolysis. The nickeling of every specimen was completed within 10 hours at 87°C. The bath was renewed every hour, and a homogeneous precipitate structure was thus achieved. Ferromagnetic properties of the specimens were examined on the basis of magnetization curves and the hysteresis loops obtained by a ballistic method. The 50-mm long compensation test coil had an inside diameter of 4.5 mm and an outer diameter of 16 mm. The difference between the coil windings wound differentially tc each other was 2035. This as well as the relatively great thickness of the precipitates obtained (over 100 μ) permitted examining the ferromagnetic properties of these precipitates, which were weak compared with pure nickel. The bath compositions are indicated in Table 1 along with data of the specimens concerned. A total of six specimens was studied. Results are collected in Table 2. They are summarized as follows: (1) Ferromagnetic properties of nickel precipitated

Magnetic properties of nickel...

in the chemical way differ from those of pure nickel markedly, which is in agreement with results found by other authors.(Ref. 1). At room temperature they are considerably weaker for chemically reduced nickel, and are highly dependent on temperature. Beyond 100°C they vanish entirely. (2) An increase of the hypophosphite content in the second bath causes a weakening of ferromagnetic properties. (3) The temperature dependence of I_s, I_r, and H_c has a linear character. Coercive force at a rise of temperature was found to drop more slowly then remanence. The values of coercive force are not proportional to the magnetization of individual specimens. (4) The Curie point in the precipitates obtained is much lower than in case of pure nickel. This is evidently due to the presence of phosphorus in the precipitates. There are 6 figures, 2 tables, and 3 Soviet-bloc references.

ASSOCIATION: Permskiy gos. universitet (Perm' State University)

Card 3/5

GACHEV, B., inzh.

Electrode operators, new level-indicating elements.
Ratsionalizatsiia no.2:20-21 '62.

GACHEV, D., inzh.

Mechanized sand loading of locomotives. Ratsionalizatsiia no.12:20 '62.

GACHEV, B., inzh.

Achievements and shortcomings of the rationalizers at the V. Kolarov Electric Plant for High-Voltage Equipment. Ratsionalizatsiia no.5:8-11 '62.

GACHEV, B., inzh.; DONEV, P.

The complete 20kv. shunting installation. Ratsionalizatsiia no.5:24 '62.

GERCHEV, N., inzh.; GACHEV, B., inzh.; IANEV, S., inzh.

Results of the checking of keeping certain standards. Ratsionalizatsiia [illegible] V:34-35 '62.

GACHEV, B., inzh.

Automatic control of the group rubber conveyor belts. Ratsionalizatsiia no.10:16-17 '62.

GACHEV, B., inzh.; TRIFONOV, B., inzh.

Starting the synchronous and asynchronous motors at the pumping stations with the aid of a reactor in the station.
Ratsionalizatsiia 11 no.12:19-20 '61.

GACHEV, B., inzh.

Automatic control of ventilation in mine galleries.
Ratsionalizatsiia no.11:24 '62.

GACHEV, B., inzh.

Complex automation of rediffusion stations. Ratsionalizatsiia 13 no.1:24-25 '63.

GACHEV, E. v tekhnicheskom sotrudnichestve s D.Mutavchiyevym

A simple, accurate method for determining fibrinogen in blood. Lab. delo 4 no.2:3-7 Mr-Ap '58. (MIRA 11:4)

1. Iz Nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir. - S. Kolarov), Sofiya.
(FIBRINOGEN)

GACHEV, E.

Determining the total protein content of lipemic sera by the biuret test. Lab.delo 4 no.2:8-11 Mr-Ap '58. (MIRA 11:4)

1. Iz biokhimicheskoy laboratorii Nauchno-issledovatel'skogo instituta ozrany materinstva i detstva (dir. - S.Kolarov), Sofiya.
(BLOOD PROTEINS)

GACHEV, Emanuil P.

Role of prolactin in the maintenance of the lactose level in milk. Zhur. ob. biol. 24 no.5:382-383 S-O '63. (MIRA 17:1)

1. Institut pediatrii, Sofiya.

GACHEV, M.

Photocolorometric method for gold determination with crystal violet. Min delo 18 no. 12: 35-37 D '63

1. Durzhavno minno predpriiatie "Gorbuso".

[redacted] P.

Increasing labor productivity of spinners for carded woolen material.

p. 26

[redacted] Vol. 5, No. 3, 1956

Sofiia, Bulgaria

So. East European Accessions List Vol. 5, No. 9 September, 1956

GACHEVA, I.

Ultrasonics. Suvrem. med., Sofia 5 no.3:69-78 1954.

1. Iz Katedrata po fizioterapiia pri ISUL (direktor: dots. S.Kircheva)
(ULTRASONICS.)

Gachevi, Iord

NEDKOVA, N.; GACHEVA, Iord.; BRAILSKI, Khr.; TSONKOVA, D.

Combined therapy of peptic ulcer with sleep therapy associated with ultraviolet block of the cervical and paravertebral autonomic ganglia. Suvrem. med., Sofia 5 no.5:79-89 1954.

1. Iz Klinikata po gastroenterologiia s lechebno khranene (zav. katedrata: prof. T.Tashev i Katedrata po fizioterapiia (zav. katedrata: dots. S.Kircheva) pri ISUL.

(PEPTIC ULCER, therapy,
sleep ther. with ultraviolet block of autonomic ganglia)
(ULTRAVIOLET RAYS, therapeutic use,
peptic ulcer, ultraviolet block of autonomic ganglia with sleep ther.)
(SLEEP, therapeutic, use,
peptic ulcer, with ultraviolet block of autonomic ganglia)
(GANGLIA, AUTONOMIC,
ultraviolet block in peptic ulcer, with sleep ther.)

KIRCHEVA, S., prof.; GACHEVA, Iord.

Certain cutaneo-galvanic tests as an aid in examination of a patient. Suvrem.med., Sofia 6 no.9:76-79 1955.

1. Iz Katedrata po Fizioterapiia pri ISUL-Sofiia (zav. katedrata: prof. S.Kircheva)

(REFLEX, PSYCHOGALVANIC,
cutaneo-galvanic tests as aid in clin. exam. (Bul))

GACHEVA, Iord.; KHADZHIEV, Dim.

Effect of ultrasonics on tonus of certain arteries. Suvrem. med., Sofia 8 no.1:95-102 1957.

1. Iz Katedrata po fizioterapiia pri ISUL. (Zav. katedrata: prof. S. Kircheva) i Katedrata po nervni bolesti pri ISUL (zav. katedrata: dots. G. Mastev).

(ARTERIES, effect of radiations, ultrasonics, on tonus (Bul))
(ULTRASONICS, effects, on arterial tonus (Bul))

ANDREEV, Dim.; GACHEVA, I.

Treatment of diabetes insipidus. Suvrem. med., Sofia 9 no.4:15-27 1958.

1. Iz Klinikata po vutreshni bolesti s endokrinologiia i bolesti na obmianata pri ISUL (Zav. katedrata: prof. Iv. Penchev) i Katedrata po Fizioterapiia pri ISUL (Zav. katedrata: dots. S. Kircheva)

(DIABETES INSIPIDUS, ther.
ultraviolet rays paravertebral & autonomic ganglia irradiation (Bul))

(ULTRAVIOLET RAYS, ther. use
diabetes insipidus, irradiation of paravertebral & autonomic ganglionin regions (Bul))

PETROV, At.; GACHEVA, Ior.

Effect of ultrasonics on the arterial tonus in patients with diseases of the peripheral nerves. Suvrem med., Sofia no.11:69-79 '60.

1. Iz Katedrata po nevrologiia pri ISUL (Rukov. na katedrata G.Nostev) i Katedrata po fizioterapiia pri ISUL (Rukov. na katedrata: S.Kircheva)

(NEUROLOGY)
(VASOMOTOR SYSTEM physiol)
(ULTRASONCS)

KIRCHEVA, S.S.; GACHEVA, I.; KHADZHIYEV, D. (Bolgariya)

Nervous reflex mechanism in the action of ultrasound. Vop. kur. fizioter. i lech. fiz. kul't. 25 no. 5:434-436 S-O '60. (MIRA 13:10)

1. Iz kafedry fizioterapii kurortologii (zav. - prof. S.S. Kircheva) i kafedry nevrologii (zav. - dotsent G.Nastev) Instituta usovershenstvovaniya i spetsializatsii vrachey v Sofii.
(REFLEXES) (ULTRASONIC WAVES—PHYSIOLOGICAL EFFECT)

S/194/62/000/008/054/100
D413/D308

AUTHOR: Gacheva, Y.

TITLE: Electro-physiological investigations into the effect of ultrasonic vibrations on certain diseases of the peripheral nervous system

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1962, abstract 8-5-39 v (Nauchni tr. ISUL, v.8, no. 3, 1961, 1-21 [Bulg.; summaries in Rus. and Eng.])

TEXT: A summary by the author of a dissertation dealing with the results of using ultrasonic vibrations to treat neuralgic illness, neuritis and radiculitis. The investigation was carried out on a group of 136 patients with a control group of 80 healthy subjects. Observation was maintained of the change over a period of time in the excitability of the motor system and skin, the neuromuscular conductivity, and pathological variations in the response of the vegetative system. Excitation was made by a single irradiation. From analysis of the clinical material collected, the author draws positive conclusions on the prospects for the use of ultrasonic

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S/194/62/000/008/054/100
Electro-physiological investigations ... D413/D308

therapy in the treatment of the complaints mentioned. It is shown that ultrasonic vibration has a normalizing action in asymmetrical disturbances of the functions of the vegetative system, in asymmetry of arterial tapus [Abstracter's note: Transliterated, meaning of word not known], heightened sensitivity of the skin to ultraviolet radiation, etc. (TSUL, katedra po fizioterapiya i kurortologiya, Bolgariya.) [Abstracter's note: Complete translation.]

Card 2/2

GACHEVSKIY, P.

BULGARIA / Chemical Technology. Dyeing and Chemical Treatment of Textile. H-34

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 79953.

Author : Gachevski, P.
Inst : Not given.
Title : How To Avoid Defects in a Process Carbonization.

Orig Pub: Leka promyshlenost, 1957, 6, No 4, 13-17.

Abstract: The major causes for defects during carbonization are: non-uniform concentration of sulfuric acid solution on a fabric and the formation of precipitates of fatty acids (from soap) or sulphates (from hard water). It is important to use for rinsing fabrics only synthetic preparations and acid solutions with the least low concentration (it is feasible to substitute the acid with

Card 1/2

BULGARIA

GACHEVA, Y., TSVETANOV, K., Chair of Physiotherapy and Balneology, Director Prof. V. Mikhailov, ISUL /Institut za spetsializatsiya i usuvurshenstvuvane na lekarite; Institute for the Specialization and Advanced Study of Physicians/; Chair of Neurology, Director, Docent P. Ovcharova, ISUL.

"Treatment of Post-Apoplectic Hemiplegic Patients By Electric Stimulation with Low-Frequency Pulse Currents"

Sofia, Nevrologiya, Psikhiatriya i Nevrokhirurgiya, Vol 4, No 6, 1965, pp 447-452.

Abstract: Electrotherapy with low-frequency pulse currents according to a method developed by Gacheva was applied to 25 patients 20-70 years old with hemipareses and hemiplegias in consequence of apoplectic strokes due to thromboses, embolisms, and hemorrhages in the brain. Starting from the principle of reciprocal action of flexors and extensors, attempts were made 1) to suppress the pathologically increased excitability and lability of the principal muscles(responsible for the Wernicke-Mann posture), while at the same time obtaining a reciprocal activation of the nerve centers of the extensors of the hands and flexors of the legs, resp.; 2) to stimulate antagonist muscles with a view of producing reciprocal inhibition of the spastic hypertonic muscles. The response of spastic paretic patients to the application of pulse currents varied; preliminary electrodiagnosis was found

1/2

GACHEVSKY, P.

H

CCUNTRY : BULGARIA
CATEGORY : Chemical Technology. Chemical Products and Their Applications. Dyeing and Chemical Treatment of *
ABS. JOUR. : RZhKhim., No 17, 1959, No. 63141

AUTHOR : Gachevskii P.
INSTITUTE : -
TITLE : Causes of Certain Defects in the Dyeing of Wool and Their Elimination.
ORIG. PUB. : Leka promishlenost. Tekstil, 1958, 7, No 4, 19-21

ABSTRACT : Characteristics and analysis of causes of the uneven dyeing of wool, arising from improperly conducted pretreatment operations and also arising from defects in the raw wool are presented.
-- I. Podiman.

*Textile Materials.

Card: 1/1

GACH'IA, P.

Angiopneumography in various diseases of the lungs and mediastinum. Vest. khir. 85 no. 7:39-45 Je '60. (MIRA 14:1)
(LUNGS--DISEASES) (MEDIASTINUM--DISEASES) (ANGIOGRAPHY)

GACHILOV, T.

Refrigerating machines and equipment. Mashinostroene 11 no.7/8:39-41 Jl-Ag '62.

GACHILOV, T.,inzh.

A new model of the homemade refrigerator "Mraz-80."
Mashinostroene 11 no.2:43-44 F '62

1. Durzhaven khimichen zavod "Anton Ivanov," Sofia.

L 11049-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) OD/BC

ACC NR: AT6017623 (N) SOURCE CODE: UR/0000/65/000/000/0441/0444

AUTHOR: Gachinskiy, E. Ye.; Makarovskiy, S. N.

53
B+1

ORG: none

TITLE: Industrial automatic optimizers of the Institute of Automation and Telemechanics

SOURCE: Vsesoyuznaya konferentsiya po teorii i praktike samonastraivayushchikhsya sistem. 1st, 1963. Samonastraivayushchiyesya sistemy (Adaptive control systems); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 441-444

TOPIC TAGS: computer memory, signal generator, optimal control

ABSTRACT: Single channel, special purpose 1A01-1 and 1A01-2 type optimizers designed for finding the extremum of a function of one variable are described. Different versions of these two types of optimizers have been built for use in various industrial applications. The optimizers are shown in figures 1 and 2.

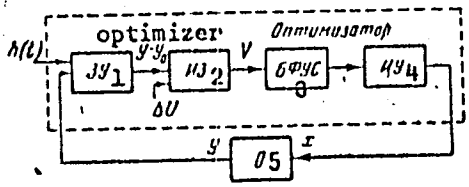

Fig. 1. Block diagram of basic optimizer (Type 1). 1--memory; 2--integrator; 3--control signal generator; 4--execution block; 5--object.

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L 41069-66

ACC NR: AT6017623

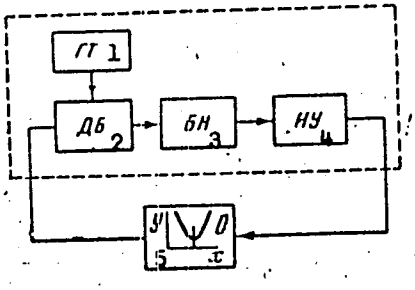

Fig. 2. Block diagram of basic optimizer (Type 2). 1--move generator; 2--differentiating block; 3--block of direction of motion; 4--execution block; 5--object.

Orig. art. has: 2 figures.

SUB CODE: 09/ SUBM DATE: 22Nov65/ ORIG REF: 004/

Card 2/2

GACHINSKIY, P. I.

GACHINSKIY, P. I. "Regulatory rheostats of the RSh type", Elektrosila, No. 5, 1948, p. 57-59.

SO: U-3042, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No.7 1949).

S/138/61/000/001/008/010
A051/A029

AUTHORS: Gachinskiy, R., Stempen', M.

TITLE: Chromatographic Method for the Determination of Certain Vulcanization Accelerators

PERIODICAL: Kauchuk i rezina, 1961, No. 1, pp. 33-37

TEXT: This is a translation into Russian from the Polish journal Przemyst Chemiczny, 1959, Vol. 38, No. 9, p. 571. The purpose of the work conducted by the authors was to develop a chromatographic method of analysis of various accelerators when they are present together with neozone D in the rubber mixtures. An attempt was also made to find a means for decomposing certain accelerators and determine the conditions of chromatography for the products of the decomposition. The investigations of Zijp (Ref. 7) and Miksch and Prölss (Ref. 8) were taken as the basis of the chromatographic method. The main subjects of the investigation were 6 accelerators widely used in the Polish rubber industry: captax, altax, BT sulfenamide, thiuram, R-extra N, DFG and the anti-oxidant-neozone D. The method of circular paper chromatography was chosen due to its simplicity and ease of application in

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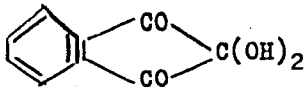
S/138/61/000/001/008/010
A051/A029

Chromatographic Method for the Determination of Certain Vulcanization Accelerators

industry instead of chromatography on columns. In selecting the solvents, the chemical properties of the substances to be separated had to be considered. In determining the accelerators of an acidic nature the following solvent was used: isopropyl alcohol - 25 % ammonia water-chlorobenzene in the ratio 45:10:45 (volume parts). This solvent ensures a high rate of transmission on the paper, stability, the ability to transmit the plasticizers to the solvent front and to retain water in the organic phase. In separating substances of an alkaline nature, it is recommended adding acids (such as acetic acid) to the solvent. The following solvent composition was used for accelerators of an alkaline nature: n-butanol-acetic acid-water in the ratio 4:1:5 (vol. parts). Bismuth nitrate was used for determining compounds of the mercaptobenzothiazol class, and ninhydrin:



was used for determing or identifying amines formed in the decomposition of

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A051/A029

Chromatographic Method for the Determination of Certain Vulcanization Accelerators

compounds of the carbamate, thiuram and sulfenamide type. In order to detect carbamates and thiurams, copper salts were used as well as bromophenol blue - diphenylguanidine and phenyl-β-naphthylamine - n-nitroaniline chloride in combination with sodium nitrite. The technique of chromatography was as follows: a paper disk was placed on a Petri cup so that the strip cut and bent in the middle would be submerged in the solvent in the Petri cup. The investigated solution was introduced on the base of the bent paper (filter paper Wattman No. 3 and No. 4 were used). The measurements were conducted at room temperature. The chromatography lasted 20 - 60 min, depending on the type of paper used and the nature of the solvent. The obtained chromatographs were dried at room temperature for 30 min or by a flow of warm air for several minutes, then they were developed and processed with the corresponding reagents. In order to determine the individual accelerators an acetone extract was obtained which was evaporated to a volume of 2 - 3 ml and transferred to the paper with a pipette and chromatographed with the solvents mentioned. Altax was determined after its reduction to mercaptobenzo-

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Chromatographic Method for the Determination of Certain Vulcanization Accelerators

thiazol with sodium sulfite, since altax itself gives no color reactions. Since BT sulfenamide also gives no color reactions, it was decomposed in an acidic medium to mercaptobenzothiazol and diethylamine which was determined with ninhydrin. The accelerators and neozone D in the rubber mixture were determined by the following method: two separate weighed portions of 7 g each were extracted with acetone at room temperature. One extract was evaporated until dry and the residue dissolved in ethyl alcohol at room temperature. The chromatography on the first disk containing the analyzed solution was carried out using a solvent consisting of n-butanol, acetic acid and water (ratio 4:1:5). The accelerator was determined using the compositions: bromophenol blue - diphenylguanidine and n-nitroaniline chloride in combination with sodium nitrite - phenyl-β - naphthylamine. In the other disk a solvent of the following composition was used: isopropanol-ammonia-chlorobenzene and the accelerator was identified: a) with a 1 %-solution of bismuth nitrate-mercaptobenzothiazol and b) with a 5 %-solution of copper-sulfate-thiuram. A qualitative analysis was further carried out of the various

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A051/A029

Chromatographic Method for the Determination of Certain Vulcanization Accelerators

accelerators in vulcanizates. It is pointed out that most accelerators undergo strong chemical transformations during vulcanization, rendering their analysis in the rubber mixture impossible. The following method was developed: mercaptobenzothiazol and dibenzothiazolyldisulfide were determined by the same method as that of altax in a rubber mixture. The indentification of BT sulfenamide, DFG and neozone D was carried out in the same way as for a rubber mixture. The thiuram identification was based on the decomposition of dimethyldithiocarbamate by HCl and the determination of dimethylamine formed using ninhydrin. The determination of the amines formed was carried out by measuring the Rf coefficient, the value of which is different for diethylamine and ethylphenylamine. Finally, a determination was made of the combined presence of accelerators and phenyl-β- naphthylamine in the vulcanizates. Table 2 lists the solvents and color developers used in the chromatographic analysis of the vulcanizates and also the color of the obtained chromatograms and the values of Rf. The method developed for the determination of the accelerators and neozone D is considered to be simple and

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S/138/61/000/001/008/010
A051/A029

Chromatographic Method for the Determination of Certain Vulcanization Accelerators

fast, since it helps to determine 6 of the most widely used accelerators in rubber mixtures within a few hours, using a small amount of reagents and simple apparatus. The determination of captax and altax in the vulcanizates is done by determining the presence of mercaptobenzothiazol, the origin of which is still unknown. The authors consider it expedient to develop a method of quantitative analysis of accelerators in the future. There are 2 tables and 12 references: 2 Soviet, 5 English, 5 German.

ASSOCIATION: Institut rezinovoy promyshlennosti, Pol'skaya Narodnaya Respublika (Institute of the Rubber Industry, Polish People's Republic)

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S/138/61/000/001/008/010
A051/A029

Chromatographic Method for the Determination of Certain Vulcanization Accelerators

Table 2: Results of the chromatographic analysis of vulcanizates

compound being determined	composition of solvent	color developer	Rf	color of chromatogram
mercaptobenzothiazol	isopropyl alcohol-ammonia-chlorobenzene in the ratio 45:10:45	1 % solution of bismuth nitrate	0.9	orange
dibenzothiazolyldisulfide	"	"	0.9	"
benzothiazolylsulfenediethyl amide	n-butanol-acetic acid-water in the ratio 4:1:5	1 % solution of ninhydrin in acetone	0.55	violet
tetramethylthiuramdisulfide	"	"	0.35	rose-grey
zincethylphenyldithiocarbamate	"	"	0.85	brown-grey
diphenylguanidine	"	bromophenyl blue	1.0	light blue
phenyl- - naphthylamine	"	n-nitroaniline chloride + sodium nitrite	1.0	red-violet

Card 7/7

GACHINSKIY, R.; STEMPEN', M.

Chromatographic method of determining certain vulcanization accelerators. Kauch. i rez. 20 no.1:33-37 Ja '61. (MIRA 14:3)

1. Institut rezinovoy promyshlennosti, Pol'skaya Narodnaya Respublika.
(Vulcanization)

GACHINSKIY, YE. V.

USSR/Cultivated Plants - Technical Oleaceae, Sugar Plants M-7

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 1684

Author : Ye. Gachinskiy
Inst : Not Given
Title : Single-Seeded Sugar Beets

Orig Pub : Kolkhoznoye proizvodstvo, 1957, No 3, 42-43

Abstract : No abstract

Card : 1/1

USSR / Cultivated Plants. Technical.

Abs Jour : Ref Zhur - Biologiya, No 2, 1959, No. 6378

Author : Gachinskiy, Ye.
Inst : Not given
Title : The Sugar Beet

Orig Pub : Nauka i peredovoy opyt v s.-kh., 1958, No 6, 73-76

Abstract : This is a brief outline of the development of the sugar beet production in USSR from the end of the 18th century up to the present.

Card 1/1

GACHINSKIY, Ye.V.

For further improvements in sugar beet cultivation. Zemledelie 7 no.9:68-69 S '59. (MIRA 12:11)

(Sugar beets)

GACHINSKIY, Ye., agronom; LAVRUSHIN, M., agronom

Consolidate the achievements of sugar-beet growers. Nauka i pered.op.v sel'khoz. 9 no.1:14-16 Ja '59. (MIRA 13:3)

(Sugar beets)

GACHINSKIY, Ye.V.

Expanding sugar beet culture in the U.S.S.R. Sakh. prom. 33 no.1: 61-65 Ja '59. (MIRA 12:1)

1.Ministerstvo sel'skogo khozyaystva SSSR.
(Sugar beets)

L 49214-65 EWT(1)/T/EWP(t)/EWP(b)/EWA(h) Pz-6/Peb IJP(c) JD/AT

ACCESSION NR: AP4045683 R/0003/64/015/008/0510/0513 25 B

AUTHOR: Moldovan, I.; Moscovici, Ana; Teodorescu, C.; Gaciu, V.

TITLE: A semi-industrial installation for the manufacture of high-purity germanium

SOURCE: Revista de chimie, v. 15, no. 8, 1964, 510-513

TOPIC TAGS: germanium refining, germanium purification, germanium semiconductor, germanium tetrachloride, germanium dioxide, zone melting

ABSTRACT: A procedure is described for obtaining the high-purity germanium necessary in the manufacture of semiconductors for the electronics industry. The starting material is mineral germanium concentrate or germanium wastage from the manufacture of semiconductors. The process involves the following steps: A) The mineral concentrates are treated with HCl and the wastage with chlorine gas. Germanium tetrachloride is obtained in both cases, according to the reactions: $GeO_2 + HCl = GeCl_4 + H_2O + 42.4$ KCal, and $Ge + 2Cl_2 = GeCl_4 + 130$ Kcal. The germanium tetrachloride is then distilled, starting at 83C, and collected as a transparent oily liquid (density = 1.88). B) Germanium tetrachloride is purified by fractional distillation in a column of quartz glass and separated from most of the metal chlorides having a higher or lower boiling point ($FeCl_4$; $AlCl_3$; $CuCl_2$; $MgCl_2$;

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L 49214-65

ACCESSION NR: AP4045683

$SbCl_3$; BCl_3; $AsCl_3$; $SiCl_4$). C) The pure germanium tetrachloride (1-10 p.p.m, impurities) is then hydrolized in deionized water, yielding germanium dioxide according to the reaction: $GeCl_4 + 2H_2O \rightleftarrows GeO_2 + 4\ HCl$. D) Germanium dioxide is dried at 120C and subsequently calcined in an autoclave at 250 C. E) The calcined germanium dioxide is then reduced with hydrogen at 650C. The black powder of metallic germanium is then melted at 1000 C, resulting in metallic germanium with a resistance of 5-13 ohm.cm, corresponding to 1 p.p.m. impurities. G) Finally, the purification is increased by zone-melting, resulting in a polycrystalline product having a resistance of >50 ohm.cm impurities of 10^{-15} - 10^{-14} atoms/cc. This high-purity germanium is very suitable for the manufacture of semiconductors. Orig. art. has: 6 figures, 4 tables and 2 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: IC, MM

NO REF SOV: 000 OTHER: 000

Card 2/2

GALL', I.; GACHKAYEV, K.; ZALOZHCHIK, A.

Practice in iron electroplating. Avt.transp. 40 no.5:29-33 My '62. (MIRA 15:5)
(Iron plating)

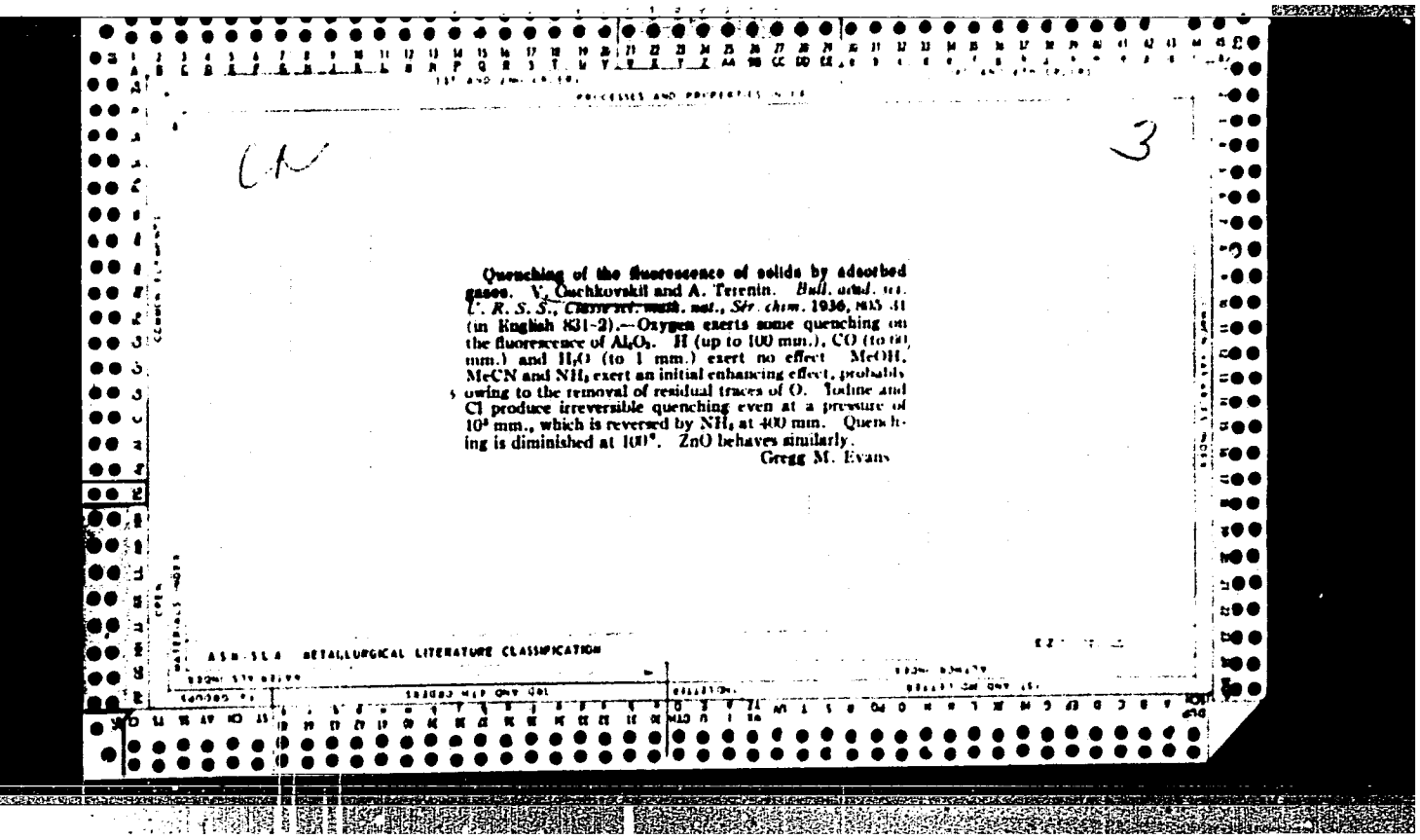
GACHKOVSKIY, G.I. (g.Rostov-na-Donu); STRIZH, N.I. (g.Rostov-na-Donu)

Some conclusions from experience in operating route-relay type centralized traffic control. Zhel.dor.transp. 37 no.11:69-73 N '55. (MLRA 9:2)

1.Glavnyy inzhener sluzhby dvizheniya Severo-Kavkazskoy dorogi (for Gachkovskiy). 2.Glavnyy inzhener sluzhby signalizatsii i svyazi Severo-Kavkazskoy dorogi (for Strizh).
(Railroads--Switching)

GACHKOVSKIY, Georgiy Iosifovich; BASOV, A.V., inzh., retsenzent; KOZLOV, V.Ye., kand. tekhn. nauk, retsenzent; PREDE, V.Yu., inzh., red. BOEROVA, Ye.N., tekhn. red.

[Train dispatching under a central control system; practices of the Northern Caucasus Railroad] Opyt organizatsii dvizheniia poezdov pri dispecherskoi tsentralizatsii; iz praktiki Severo-Kavkazskoi dorogi. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 20 p. (MIRA 14:7)
(Railroads—Train dispatching)



Quenching of the fluorescence of solids by adsorbed gases. V. Cochkovskii and A. Terenin. *Bull. acad. sci. U. R. S. S., Classe sci. math. nat., Sér. chim.* 1936, 815-41 (in English 831-2).—Oxygen exerts some quenching on the fluorescence of Al_2O_3. H (up to 100 mm.), CO (to 10 mm.) and H_2O (to 1 mm.) exert no effect. MeOH, MeCN and NH_3 exert an initial enhancing effect, probably owing to the removal of residual traces of O. Iodine and Cl produce irreversible quenching even at a pressure of 10^{-3} mm., which is reversed by NH_3 at 400 mm. Quenching is diminished at 100°. ZnO behaves similarly.

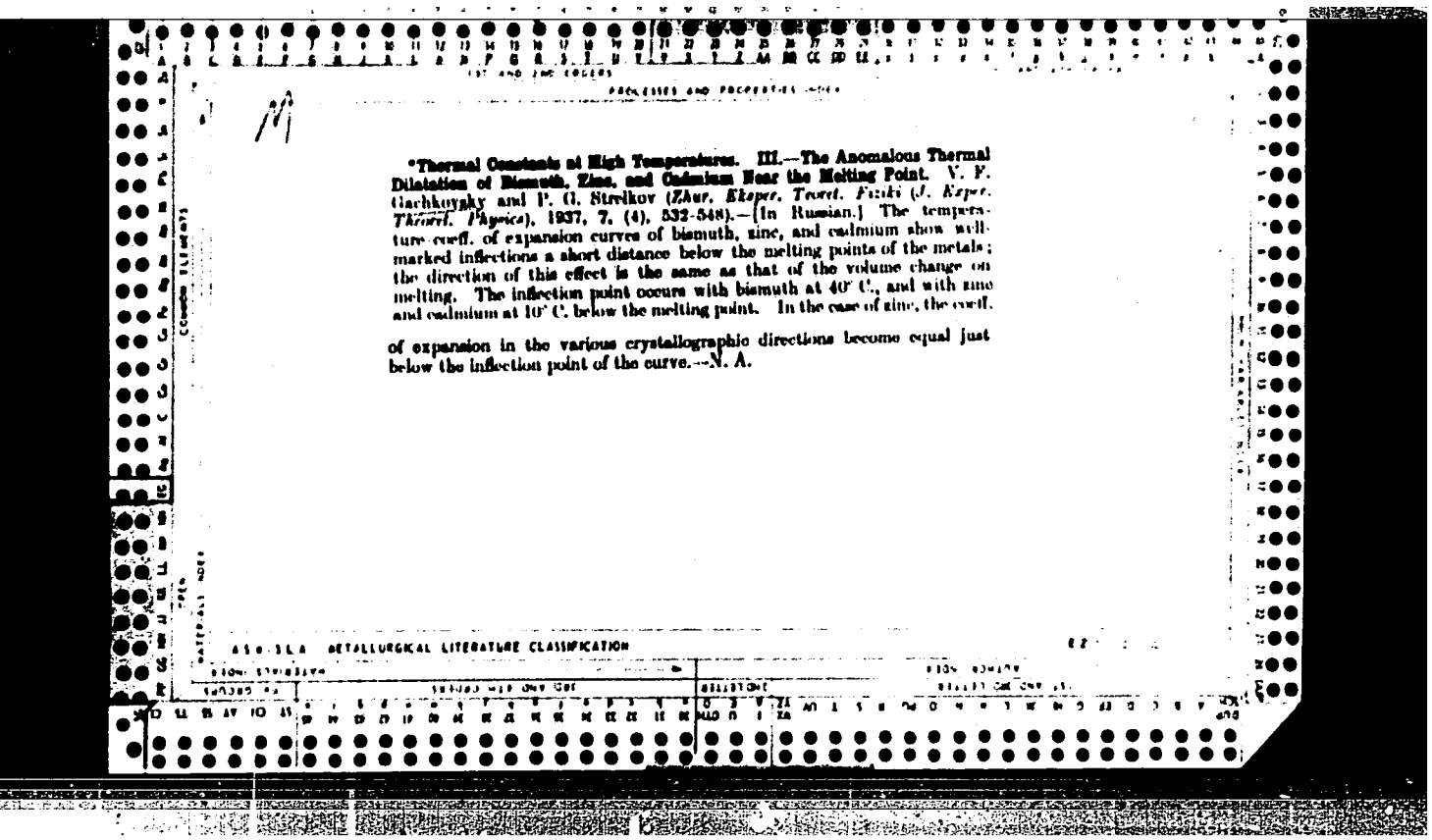
Gregg M. Evans

VAL'TER, A. K.; GACHKOVSKIY, V. F.; STRELKOV, P. G.

Thermic Constants in High Temperatures

II - Thermic Expansion of Rock Salt

ZhETF 7, 526, 1937



Thermal Constants at High Temperatures. III.—The Anomalous Thermal Dilatation of Bismuth, Zinc, and Cadmium Near the Melting Point. V. F. Tachkovsky and P. G. Strelkov (*Zhur. Eksper. Teoret. Fiziki* (*J. Exper. Theoret. Physics*), 1937, 7, (4), 532-548).—[In Russian.] The temperature coeff. of expansion curves of bismuth, zinc, and cadmium show well-marked inflections a short distance below the melting points of the metals; the direction of this effect is the same as that of the volume change on melting. The inflection point occurs with bismuth at 40° C., and with zinc and cadmium at 10° C. below the melting point. In the case of zinc, the coeff. of expansion in the various crystallographic directions become equal just below the inflection point of the curve.—N. A.

GACHKOVSKIY, V. F.; STRELKOV, P. G.

Thermic Constants in High Temperatures. IV. Expansion Coefficient of Silver Chloride and Bromide.

ZhETF 7, 549, 1937

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Fluorescence of magnesium phthalocyanine and of chlorophyll in different states. Effect of oxygen on the fluorescence of magnesium phthalocyanine and of chlorophyll in the adsorbed state. V. F. Gachkovskii. *Doklady Akad. Nauk S.S.S.R.* 70, 51-4(1950). Absorption and fluorescence spectra of Mg phthalocyanine adsorbed on MgO (from PrOH soln., and outgassed in vacuo) show, as in soln., mirror-like disposition of the bands. In the adsorbed state, the whole band system is shifted to shorter waves as compared with the soln. In excitation with 3660 A., the outgassed adsorbate fluoresces with a light raspberry-purple color, becoming dark red upon admission of O_2. This effect is due partly to a flare-up of the fluorescence of Mg phthalocyanine, but mainly to a quenching by O_2 of the proper fluorescence of the adsorbent MgO in the blue region of the spectrum, similarly to the quenching of the fluorescence of Al_2O_3 and ZnO. The observed fluorescence of the adsorbate is actually the result of a superposition of the proper emission of the adsorbed substance and of the carrier; the latter fluorescence is quenched by O_2. Small amts. of O_2 produce a flare up of the fluorescence of Mg phthalocyanine; the magnitude of this effect increases with the temp. of the outgassing (between 20 and 250°), and the max. of the intensity moves to increasingly higher O_2 pressures. Beyond that max., further increase of the O_2 pressure produces quenching. Desorption of O_2 at 20° results in an increase of the intensity of the fluorescence up to the max., but on further desorption the intensity remains at the max., unless the O_2 is removed by outgassing at the previous outgassing temp. Repetition of these operations in both directions gives rise to reversible repetition of the same phenomena. If the adsorbate is heated in vacuo at a higher temp (150°), the fluorescence band of Mg phthalocyanine at 675 mμ disappears, but flares up again on admission of a very small amt. of O_2 at 20°. The same phenomena are observed with outgassed adsorbates of chlorophyll (a + b on MgO), only the flare-up of the fluorescence is less pronounced. The curves of the intensity of fluorescence as a function of the pressure of O_2 are shifted to lower pressures. Flare up curves also under the action of vapors of different org. compds. such as H_2O, Et_2O, and Me_2CO. Heating above 150° gives rise to decompn. of the chlorophyll, evidenced by the appearance of a band at 672.5 mμ belonging to adsorbed Mg porphyrin, this effect begins at about 100°. The intensity-increasing effect of O_2 (and the org. compds. mentioned) may be explained by a declumerization of the adsorbed mols. through attack on the central Mg atom, which removes the self-quenching of the dimers. Quenching by greater amts of O_2 appears to be due to an attack on the peripheral parts of the mol. An alternative explanation may be based on the assumption of a quenching effect of the adsorbent which is counteracted by small amts. of O_2 through attack on Mg. A 3rd possibility is that the fluorescence of the adsorbates is due wholly to complexes with either the solvent mols. or O_2; outgassing destroys such complexes, which are restored on admission of O_2. Formation of such complexes is possible on account of the available coordination places on Mg.

N. Thon

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Fluorescence of magnesium phthalocyanine and chlorophyll in different states. Complex structure of the main maximum in the fluorescence spectrum. V. P. Gribkovskii (A. N. Bach Inst. Biochem. Acad. Sci., U.S.S.R.). *Doklady Akad. Nauk S.S.S.R.* 71, 589-91(1950). Fluorescence of the Mg phthalocyanine adsorbate, measured at 20°, decreases in intensity with the increase of the temp. at which the prepn. is outgassed in vacuo, and disappears completely if the prepn. is outgassed at 100° for 8hr. At the same time, the main band, with λ max. 673 mμ, becomes increasingly flatter, appears saddle-shaped at 200°, and, at 300°, is split into 2 bands with maxima at 650 and 697 mμ; these maxima disappear on outgassing at 400°. Contact with EtOH (50 mm. Hg) immediately restores the fluorescence of the preps. inactivated through outgassing at 100°. The same effect is obtained by admission of 60 mm. Hg of O_2 or 12 mm. Hg of H_2O. The band at 673 mμ is due to a complex with EtOH, whereas the bands at 650 and 697 correspond to complexes with O_2. A complex with H_2O gives rise to the band at 679 mμ. The origin of a 5th component, in the range 670-9 mμ, is uncertain. The effect of the high temp. outgassing is obviously due to a destruction of the complexes. That the complex formation is detd. by the presence of Mg follows from the fact that no fluorescing adsorbates could be prepared without Mg. Preps. made by adsorption from solvents other than EtOH have different maxima of the fluorescence spectrum. Thus, the λ max. at 674 (with EtOH) is shifted to 685 with Et_2O or Me_2CO; however, the positions of the O_2-complex bands, 650 and 697, and of the H_2O-complex band, 679 mμ, remain unchanged with all 3 solvents. N. Thom

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Fluorescence of magnesium pithiocyanin and of chlorophyll in different states—change of the electronic-vibrational structure of the fluorescence spectrum of magnesium pithiocyanin in complex formation with other molecules in the adsorbed state. V. F. Cheibovskii (A. N. Bakh Biochem. Inst., Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 73, 963-6(1950); cf. *C.A.* 44, 3217.—Adsorbates of pithiocyanin (I) on MgO were produced by passing vapor of I entrained at 150° over MgO prepared for 4-6 hrs. at 350-60°, and then kept 2 hrs. at 250-300° under const. pumping. Under these conditions, I suffers no decomp., and the adsorbate thus produced corresponds approx. to 1 mol. layer of I on MgO. Its color matches that of an adsorbate produced from 0.6 g. MgO and 0.5 cc. of a soln. of I in EtOH with an absorption coeff. of 0.8 at 665 mμ. Adsorbates prepd. by this procedure, from gaseous I, show no fluorescence. However, fluorescence arises if the originally nonfluorescent adsorbates are treated with gaseous O_2, H_2O, EtOH, Et$_2$O, MeCO, CO_2, PhOH, NH_3, H_2S, Cl_2, or I; vapors of CCl_4, toluene, or $CHCl_3$, are ineffective, provided they are rigorously freed of H_2O, O_2, or oxidation products. Each one of the compds. which activate the fluorescence of the adsorbate gives rise to a spectrum characteristic of that particular compd., and identical with the spectrum produced by the action of the same compd. on the adsorbate prepd. with a soln. of I and subsequent outgassing at ~10^{-4} mm. Consequently, the fluorescence is due to a complex between the adsorbate and the added compd. The fluorescence of the iodine complex is observable only at low vapor pressures of iodine, of the order of 0.005 mm. Hg. At higher vapor pressures, the intensity of the fluorescence falls owing to its absorption by absorbed iodine mols. The expd. fluorescence spectrum of the adsorbate on MgO from a soln. of I in Et$_2$O is the result of the superposition of the spectra of complexes of Mg(O)$_2$-vapor adsorbates with Et$_2$O, O_2, H_2O, and of some complex of unknown nature. Evidently, the fluorescence of the adsorbate is due to its complexes with several impurities. All these fluorescence spectra consist of 3-4 bands, falling off on the long-wave side, and distant from each other by from 200 to 900 cm^{-1}. The distances between the main band and the 2nd, 3rd, and 4th band are, for the complex with O_2, 900, 1451, and 2253 cm^{-1}; for the complex with Cl$_2$, 820, 1365, and 2224 cm^{-1}; for the complex with water, 725, 1245, and 1978 cm^{-1}; i.e. diminishing with increasing mass of the mol. entering the complex. Consequently, the fluorescence spectra of these complexes correspond to transitions from the excited electronic level to different vibrational levels of the ground state. The well-known changes of the absorption and fluorescence spectra of chlorophyll and its derivs. under the action of (Me)$_2$CO, and N$_2$, the intensification of the fluorescence and shifts of the fluorescence bands as a result of adsorption of ultrasonic mols. from solns., and the structure of the absorption and fluorescence spectra of porphyrins, are also interpretable by complex formation effects.

N. Thon

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Fluorescence of magnesium phthalocyanine and chlorophyll in different states. Structure of the absorption and fluorescence spectra of magnesium porphyrin and chlorophyll. V. F. Gachkovskii (A. N. Bach Inst. Biochem., Moscow). *Doklady Akad. Nauk S.S.S.R.* **78**, 407-10 (1950); cf. *C.A.* **44**, 5218; **45**, 41b.—Outgassing of a chlorophyll adsorbate on MgO at 200°, for 2 hrs., results in decompn. of approx. 80% of the original chlorophyll (I) and formation of the corresponding amt. of adsorbed Mg porphyrin (II). Treatment of such a partially decompd. adsorbate with a trace amt. of the vapor of the original solvent, e.g. 10^{-4}-10^{-5} mm. Hg of EtOH, Et_2O, Me_2CO (but not well-purified CaH_2), or of H_2O, O_2, or CO_2, produces a flare-up of the fluorescence, showing, along with the band characteristic of I, also bands in the 600-800-mμ region characteristic of II, with approx. equal intensities. In analogy with the spectrum of Mg phthalocyanin (III), the differences of the wave no. of bands correspond to vibration quanta, and the fluorescence and absorption spectra are related by specular reflection, with the intensities decreasing with decreasing frequency. Consequently, the spectra of adsorbates of all 3 substances, I, II, and III, have the same electronic-vibrational nature. The specular symmetry of the fluorescence and absorption spectra is imperfect in the sense that the vibrational sublevels appear compressed in fluorescence, and spaced in absorption. The transition A_{11} from the ground state to the higher excited level, which gives rise to the fluorescence in the red, corresponds, in I to 23,530, in II to 23,355, in III to 28,571 cm.$^{-1}$. The fluorescence max. at, resp., 14,900, 16,130, and 14,700 cm.,$^{-1}$ are due to transitions Φ_0 from the lower excited level to the ground state. The whole electronic-vibrational fluorescence spectrum is detd. by the transitions Φ_1, Φ_2, etc., from the lower excited level to the vibrational sublevels of the ground state. In opposition to the interpretation of Rabinowitch (*C.A.* **30**, 4284[1]), it is assumed that hydrogenation of one semi-isolated double bond in the porphin system results not in a new low excited level, but in a decrease of the energy of the existing term of the excited state I_1; hydrogenation of the 2nd semi-isolated double bond gives rise to a further shift towards the near infrared. The fact that heating of the adsorbate gives rise to the reverse shift indicates that at temps. around 200°, the semi-isolated double bond in the 4th pyrrole ring of I undergoes reduction through splitting of the H atoms in positions 7 and 8. Heating of the adsorbate of I would leave only the bond between the central Mg atom and the closed porphin ring system. N. Thon

1950

GACHKOVSKIY, V. F.

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USSR/Chemistry - Oxidation-Reduction Nov 52
Processes

"The Role of the Magnesium Atom During Obscure Reactions of Oxidation Catalyzed by Magnesium Phthalocyanin and Chlorophyll," V. V. Gachkovskiy Inst of Biochemistry im A. N. Bakh, Acad Sci USSR

"Zhur Fiz Khim" Vol 26, No 11, pp 1713-1715

The author cites previous expts by himself and others to indicate the great chem reactivity of O complexes towards Mg. The activity of the O mol can be explained, he adds, by the state of the Mg atom which, as the coordinating center of the mols of chlorophyll and magnesium phthalocyanin, is itself a positively charged ion. Thus a covalent

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bond also plays a part in the interaction between the O and Mg. He describes, then, the addn of an atom of H to the O complex of magnesium phthalocyanin or chlorophyll. His investigations lead him to suggest that if, in the above case, the central Mg atom is a catalyst with respect to the O mol, then, generally speaking, during oxidation-reduction reactions, this role could be filled by any other system capable of bringing one of the atoms of the O mol to the state of a trivalent positive ion. This conception, the author believes, can explain even the origin of the concept of chain oxidation reactions. And it can also possibly explain, he adds, the mechanism of the course of redox reactions in the process of photosynthesis.

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