"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

Country :USSR
Category :Human and Animal Physiology, Sensory Organs T

Abs. Jour. :Ref Zhur Biol., No. 2, 1959, No. 8536

Author :Sheyvekhman B., Varshavskiy L., Tumarkina L.
Institut. :
Title :The Limits of the Range of Auditory Thresholds During and After Sound Stimulation of Varying Intensity.
Orig. Pub. :V sb.: Vospriyatiye zvukovykh signalov v razlich. akust. usloviyakh. M., AN SSSR, 1956, 102--110

Abstract : The range of auditory thresholds for frequencies between 100 and 7000 cycles was determined for 17 persons between 18 and 24 years of age during and after wide-band and low-frequency noises of varying intensity. The values of the range (both during and after the noise) depended to a considerable extent upon the intensity and frequency of the tone tested and, to a lesser extent, upon the spectral character of the noise. In the presence of the noise the range increased when the level of the noise rose and the frequency of the tone being

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Country : USSR
Category : Human and Animal Physiology, Sensory Organs T

Abs. Jour. : Ref Zhur Biol., No. 2, 1959, No. 8536

Author :
Institut. :
Title :

Orig Pub. :

Abstract : perceived increased. After production of a noise of the order of 70--100 decibels, the range did not depend on the intensity of the noise. With an increase to 120 decibels in the intensity of the noise, the range was increased after cessation of the noise, especially at certain high frequencies.--A.D.Zh.

Card: 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMARKINA, L. N.: Master Biol Sci (diss) -- "Investigation of threshold sensitivity and the adaptability of the organ of hearing of man under various acoustic conditions". Moscow, 1959. 20 pp (Acad Med Sci USSR), 230 copies (KL, No 18, 1959, 124)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

BABKIN, V.P.; ROZEN, O.M.; TUMARKINA, L.N.; CHERNYAK, R.I.

Study of vibration sensitivity and factors affecting it. Biofizika 6 no. 1:61-67 '61. (MIRA 14:2)

1. Akusticheskiy institut AN SSSR, Moskva.
(VIBRATION—PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

BABKIN, V.P.; ROZEN, O.M.; TUMARKINA, L.N.; CHERNYAK, R.I.

Study of the mechanism of vibration frequency discrimination using models of the cochlea and the cutaneous receptor. Biofizika 6 no. 2:191-197 '61. (MIRA 14:4)

1. Akusticheskiy institut AN SSSR, Moskva.
(HEARING)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

PROCESSES AND PROPERTIES INDEX

Fluorescence measurement method for the study of absorption in the ultra-violet region of the spectrum. L. H. Tumerman. *J. Phys. Chem.* (U. S. S. R.) 2, 328-35 (1931).—Data are given for a KNO_3 soln. in the region 254 to 334 mμ. F. H. R.

COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

A-1

Dependence of the fluorescence spectrum on the viscosity of the solvent. [illegible] (Compt. rend. Acad. Sci. U.R.S.S., 1935, 1, 471–474.)—It is shown for solutions of [illegible], quinine sulphate, rhodamin-B, and Magdala-red in H_2O, EtOH, and glycerol that the fluorescence is independent of the η of the solvent. H. J. E.

COMMON ELEMENTS

COMMON VARIABLES INDEX

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

Fluorometer based on the effect of Debye and Sears

L. A. Tumermann and V. Symanovskii. *Compt. rend acad. sci. U. R. S. S.* **15**, 323-6(1937).—A fluorometer is described which gives higher intensities of the modulated light than the Kerr-effect method. Measurements can be extended into the ultraviolet by using quartz lenses. No polarizing prisms are necessary. C. E. P. Jeffreys

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

1ST AND 2ND ORDERS — PROCESSES AND PROPERTIES INDEX — 3RD AND 4TH ORDERS

SA

A53

98 535.37

On the law of decay of luminescence of complex molecules. TUMERMAN, L. A. *J. Phys., U.S.S.R.*, 4, 1-2, *pp.* 151-166, 1941.—The law of decay of the luminescence of solutions of complex organic substances (dyes) is experimentally investigated in a temperature range of +20° to −107°. It is shown that at comparatively high (room) temperatures the law of decay can with sufficient accuracy be considered as exponential: $\Phi(t) = E_0/\tau \cdot e^{-t/\tau}$. With a lowering of the temperature a considerable increase is observed in the average time during which the molecule remains in the excited state. Analysis of the experimental data shows that this is not due to a simple increase in the value of τ in the exponential law of decay, but is connected with a change in the law itself. The period of exponential decay of the luminescence is preceded by a dark pause, during which an increase in the fluorescence takes place. The duration of the dark pause is very small in comparison with τ at room temperatures and increases very rapidly with a lowering of the temperature. This dark pause is interpreted as the time of rebuilding of the molecule after absorption of light. It is shown that quenchers (KI, aniline) added to the solution in extremely small concentrations (in which the effect of quenching is practically not yet absorbed call forth an abrupt shortening of the dark pause and almost destroy the influence of the temperature on the law of decay of the fluorescence and on the average duration period of the excited state of the molecules.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

Law of the quenching of the luminescence of complex molecules. L. A. Tumerman. *J. Exptl. Theoret. Phys.* (U. S. S. R.) 11, 515-29(1941); *J. Phys.* (U. S. S. R.) 4, 151-60(1941)(in English). Exptl. data on the rate of quenching of the fluorescence of fluorescein (I), rhodulin orange (II), rhodamine G extra (III), eosin (IV) and uranin (V) at temps. from −110 to +20° with various amts. of KI added as a quencher are shown. The app. used is described and illustrated. Various other types of app. and their accuracy are discussed. For I, II, and IV the half-life of the fluorescence τ increases at lower temps; for III τ is independent of the temp. Near room temps. the law of quenching is exponential, $\varphi(t) = (E_0/\tau)\, e^{-t/\tau}$. At lower temps. the life of the excited state increases, and the law of decay itself changes. The complete law of quenching is given by the sum of a dark pause δ which is greater the lower the temp. and the exponential law. In very small concns. quenchers such as KI or aniline abruptly shorten δ, and thereby decrease the apparent temp. effect.

F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

SA

75 3
1

535.371 10H6

The polarization of fluorescence and the law of its decay. TUMERMAN, L. A. *C.R. (Doklady) Acad. Sci. URSS*, 32, 7, *pp.* 474–477, 1941.—Describes the results of measurements of the polarization at various temperatures of the fluorescence of certain organic dyestuffs in alcoholic solution. These results confirm earlier conclusions concerning the law of decay of fluorescence and the effect of small concentrations of quenchers. [See Abstr. 98 (1942)]. A. J. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

W 2

Materials + Subsidiary Techniques

1809

Luminescence Extinction in Complex Molecules.

L. A. Tumerman. (*Bull. Acad. Sci. U.R.S.S. ser. phys.*, 1949, Vol. 9, Nos. 4/5, p. 425. In Russian.) Discusses the effect of temperature and the existence of a "dark pause".

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

PROCESSES AND PROPERTIES INDEX

A 53
1

535.508 : 535.247.4

160. Photoelectric method of measuring the degree of polarization of radiation. TUMERMAN, L. A. *Dokl. Akad. Nauk SSSR*, 58 (*No.* 9) 1945-8 (1947) *In Russian.*—The classical methods of Cornu and Savart as well as the Lyot [Abstr. 2323 (1926)] modification of the Savart method measure the so-called coefficient of depolarization of radiation $\Delta = I_M/I_m$, the constant relative error being 1-2%. This coefficient is a convenient characteristic of a partially polarized radiation provided its value is not too near to 1, i.e. when the radiation is more or less polarized. On the other hand, with feebly polarized light it is preferable to characterize radiation by the degree of polarization $p = (I_M - I_m)/(I_M + I_m) = (1 - \Delta)/(1 + \Delta)$. Differentiating this equation, the absolute, and relative, determination error, respectively, are obtained: $\Delta p = \pm \frac{1 - p^2}{2} \frac{\Delta\Delta}{\Delta}$; $\frac{\Delta p}{p} = \frac{1 - p^2}{2p} \frac{\Delta\Delta}{\Delta}$. Hence, for small values of p, the value of the relative error can become unduly large. Differential photoelectric photometry measures the difference $I_M - I_m$, hence p can be determined with any desired relative error, with a sufficiently sensitive receiver. In the method used a beam of partially polarized radiation passed through a rotating analyser. The constant component of the photocurrent was thus $\propto (I_M + I_m)$ while the amplitude of the variable component $\propto (I_M - I_m)$. A compensation method was used. The results of polarization measurements of fluorescein in fluorescein solutions (aqueous and in water-glycerol mixtures) of various concentrations, and excited by wavelengths 436 and 365 mμ, have been compared. According to the theory advanced by Vavilov [*J. Exp. Theo. Phys.*, 13 (1943)], the ratio p_{436}/p_{365} should remain constant for all concentration values. This should also apply to rotatory depolarization caused, e.g. by the decrease of the viscosity of the solvent. Both have been confirmed by experiment. F. L.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, Lev Abramovich.

The light and its source. Moskva, Gos. izd-vo detskoi lit-ry, 1947. 54 p. (Uchenye - shkol'nikam) (48-26892)

TH7703.T9

NN

1. Lighting. 2. Electric lighting.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.

PA 50T92

USSR/Physics Feb 1947
Fluorescence
Fluorometry

"Experimental Methods of Investigating Rapid Relaxation Processes," L. A. Tumerman, 58 pp

"Uspekhi Fiz Nauk" Vol XXXIII, No 2

Generally discusses historical development of methods to study damping of illumination, theory of fluorometric measurement, fluorometry with dual modulation of light impulses, stroboscopic fluorometry, fluorometry with modulation of receiver sensitivity, "phase" fluorometry, some of the fundamental results obtained through fluorometric work, and Kerr's and Faraday's electrooptic effects.

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.

Electroluminescence of organic compounds. Izv.AN SSSR Ser.fiz.no.5: 552 '56. (MIRA 9:9)

1.Fizicheskiy institut imeni P.N.Lebedeva Akademii nauk SSSR.
(Luminescence)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERAN, L.A.

PRIKHOT'KO, A.F.

24(7) p.3 PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Gazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavistera, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Milyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Glauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Tumeran, L.A. New Optical Method in Mass-spectroscopy 81

Kovner, M.A., A.M. Bogomolov. The Structure and Vibrational Spectra of Some Aromatic Hydrocarbons 84

Kamenetskiy, V.D., and B.M. Yavorskiy. Method for the Calculation of Absorption Spectra of Organic Molecules 88

Iogansen, A.V. Normal-vibration Frequencies and the Anharmonicity Constants of Acetylene and Deutero-acetylene Molecules 93

Motulevich, G.P., and A.A. Shubin. Polarization Method for the Measuring of Optical Constants of Metals in the Infrared Range 95

Kislovskiy, L.D. Use of a Resonator Model With Viscous Friction for the Representation of Optical Characteristics of Absorbing Media in the Infrared Range 96

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.; FAB[illegible]NSKY[illegible], [illegible]

Academician Grigorii Samuilovich Landsberg; obituary. Fiz. v shkole 17 no.3:22-24 My-Je '57. (MLRA 10:6)

1. Fizicheskiy institut imeni P.N. Lebedeva AN SSSR.
(Landsberg, Grigorii Samuilovich, 1890-1957)

TUMERMAN, L.A.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

AUTHOR: Tumerman, L. A. 20-4-16/52

TITLE: The Duration of the Excited State and the Quantum Yield of the Fluorescence of Chlorophyll in Vitro and in Vivo (Dlitel'nost' vozbuzhdennogo sostoyaniya i kvantovyy vykhod fluorestsentsii khlorofilla in vitro i vivo)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 4, pp. 605-608 (USSR)

ABSTRACT: The quantum yield was measured in an integrating sphere and the duration of the excited state was measured by means of a phase fluorometer. The author investigated in vitro a preparation which was given to him by A. A. Krasnovskiy which contains a non-separated mixture of the chlorophylls a and b, as well as of an extract of beetroot--leaves. The fluorescence of chlorophyll in the cell was investigated on suspenions of the alga scenedesmus accuminatus. The excitation was carried out with the line Hg 436 mμ. The results obtained here are summarized in a table. The obtained results here confirm that the relation $\tau = \rho\tau_0$ holds with sufficient accuracy. In this context τ denotes the duration of the excited state of the chlorophyll in the solution, ρ - the absolute value of the

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

The Duration of the Excited State and the Quantum Yield of the Fluorescence of Chlorophyll in Vitro and in Vivo 20-4-16/52

of second kind, or a pure extinction of second kind is concerned in the cell. At present there are not yet any clear experimental evidences available in favour of either one or the other possibility. This report was submitted to the second Allunion conference on photosynthesis in 1957 and will be printed in the elaborate publications of this conference in full particulars. There are 2 tables, and 9 references, 6 of which are Slavic.

PRESENTED: June 12, 1957, by M. A. Leontovich, Academician

SUBMITTED: June 10, 1957

AVAILABLE: Library of Congress

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

LEKONT, Sh. [Lecomte, Jean]; KHEYNMAN, A.S. [translator]; MARKHILEVICH, K.I. [translator]; YELINER, A.S. [translator]; TUMERMAN, L.A., red.perevoda; GESSEN, L.V., red.; GAVRILOV, S.S., tekhn.red.

[Infrared radiation] Infrakrasnoe izluchenie. Pod red. L.A. Tumermana. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1958. 584 p. [Translated from the French] (MIRA 12:4)
(Infrared rays)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

24(4) PHASE I BOOK EXPLOITATION SOV/1853

Tumerman, Lev Abramovich, Professor

Novyye istochniki sveta (New Sources of Light) Moscow, Izd-vo "Znaniye," 1958. 31 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya VIII, 1958; vyp. II, no. 25) 35,000 copies printed.

Sponsoring Agency: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy.

Ed.: I. B. Faynboym; Tech. Ed.: Ye. V. Savchenko.

PURPOSE: This booklet is intended for the general reader.

COVERAGE: This popular science type booklet describes the various sources of light. It traces developments from the early use of the "luchina", a long stick of wood burnt for illumination in old Russia before the introduction of kerosene lamps, to the use of incandesent and neon lamps, and concludes with a discussion of the possibilities of using "cold light" sources. No personalities are mentioned. No references are given.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

24(7), 23(5) SOV/48-23-1-21/36

AUTHORS: Borisov, A. Yu., Tumerman, L. A.

TITLE: A New Type of Fluorometer (Novyy tip fluorometra)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 97 - 101 (USSR)

ABSTRACT: The phase method or fluorometric method, is based upon the following principle: Measurements are carried out of the phase shift between exciting and emitted light. In the exponential extinction law the constant of this law (the average duration of extinction) can be determined up to an order of magnitude of 10^{-9} sec. For this purpose it is, however, necessary that frequency be modulated by the order of 10 megacycles. In principle, the phase fluorometer has remained the same since it was developed in 1941, with the exception that for the oscillograph tube, which had been used as zero indicator of the phase shift, a phase detector with an insertion measuring device was substituted. In the course of further development the following tasks remained to be performed: Increase of sensitivity, stability and reliability of the device, and providing for the possibility

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

A New Type of Fluorometer

SOV/48-23-1-21/36

of easily passing from one frequency to another. In connection with the last-mentioned requirements, the previously used heterodyne was replaced by an electromechanical frequency transformer, and general frequency shift was replaced by the multiplier FEU. The old basic scheme and the new one are illustrated by figures. Further possibilities of development are being envisaged. It is intended, within wide limits, to provide for a possibility of regulating amplifier resistance in view of the fact that current measurements up to 10^{-10} A are carried out, and the electromagnetic frequency transformer is to be replaced by two generators which are independent of each other and are stabilized by means of quartz. There are 3 figures and 15 references, 8 of which are Soviet.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

24 (7), 5 (3)

AUTHOR: Tumerman, L. A.

SOV/53-68-1-8/17

TITLE: Application of Spectroscopy to Biology and Biochemistry (Primeneniya spektroskopii v biologii i biokhimii)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 68, Nr 1, pp 93-122 (USSR)

ABSTRACT: This article is a reproduction of a lecture delivered by the author at the 12th Conference on Spectroscopy held in Moscow in November 1958. Since the material is very comprehensive, the author confines himself to a description of the specific features of the biological matter, the aims of their investigation, of the special methods of investigation developed for this purpose, and of the spectrum analysis of the biological matter under investigation. Various examples demonstrate the wide range of possibilities offered by spectroscopy for detecting the physical mechanism of fundamental biological processes. In the first section the author describes the specific features of the biological matter and indicates that the destructive spectroscopic methods (spark-flame-arc-emission spectrum analysis) are of negligible importance. The main part is played by absorption spectroscopy, and among the methods of emission spectroscopy the most

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important ones are the photoluminescence- and chemoluminescence emission of biological substances and living organisms. In the second section the author discusses the possibilities of absorption spectroscopy in the individual spectral ranges (ultraviolet, visible, infrared). Several examples illustrate the typical features of some biological groups (e.g. of the amide group). The author reports on the structure of complex compounds and makes special reference to the one of some steroid hormones (Figs 3, 4) and shows the absorption spectra of two such hormones within the range of from 8.89 to 10.53μ (Figs 5, 6). Further examples of infrared absorption spectra are given and discussed: figure 7 shows the adenosin spectrum and figure 8 a number of spectra of other organic compounds (according to Bergmann, Ref 4). The following section deals with the ultraviolet absorption spectra, and the author describes in detail the design and the mode of operation of a computer constructed by Rogoff in the U.S. for the purpose of determining the values in the quantitative spectrum analysis (Figs 12-16). Figure 16 shows a photograph of the Laboratory for Infrared Spectroscopy, New York, with the Rogoff computer.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

Application of Spectroscopy to Biology and Biochemsitry SOV/53-68-1-8/17

Further, the author explains infrared spectrophotometers and mentions some ranges of application. The following sections treat with spectroscopic methods applied to the investigation of fundamental biological processes. First, the author describes the photochemical processes and phenomena, and then he gives and explains numerous examples. Figure 18, for instance, shows the structure and characteristic absorption spectrum of chlorophyll as well as of its derivatives and analogs. Varicus bacteria are analyzed, and two American analytical apparatus are discussed. The author explains the connection between the so-called effective spectrum and the absorption spectrum. Figures 23 and 24 give a comparative view of both curves by means of schematical drawings (photosynthesis); the figures were published in Western articles. In the last section the author describes the methods of emission. The major part of publications referred to in this article is of Western origin. There are 24 figures and 56 references, 14 of which are Soviet.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

21(0),24(0) PHASE I BOOK EXPLOITATIO SOV/3

Akademiya nauk SSSR. Fizicheskiy institut

Issledovaniya po eksperimental'noy i teoreticheskoy fizike; [sbornik] (Studies on Experimental and Theoretical Physics; Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 304 p. Errata slip inserted. 2,300 copies printed.

Ed.: I. L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; Eds. of Publishing House: A. L. Chernyak and V. G. Berkgaut, Tech. Ed.: Yu. V. Rylina; Commission for Publishing the Collection in Memory of Grigoriya Samuilovich Landsberg: I. Ye. Tamm (Chairman), Academician; M. A. Leontovich, Academician; P. A. Bazhulin, Doctor of Physical and Mathematical Sciences; S. L. Mandel'shtam, Doctor of Physical and Mathematical Sciences; I. L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; F. S. Landsberg-Baryshanskaya, Candidate of Physical and Mathematical Sciences; and G. P. Motulevich (Secretary), Candidate of Physical and Mathematical Sciences.

PURPOSE: This book is intended for physicists and researchers engaged in the study of electromagnetic radiations and their role in investigating the structure and composition of materials.

COVERAGE: The collection contains 30 articles which review investigations in spectroscopy, sonics, molecular optics, semiconductor physics, nuclear physics, and other branches of physics. The introductory chapter gives a biographical profile of G. S. Landsberg, Professor and Head of the Department of Optics of the Division of Physical Technology at Moscow University, and reviews his work in Rayleigh scattering, combat gases, spectral analysis of metals, etc. No personalities are mentioned. References accompany each article.

Kaporent, B. S. Kinetics of the Action of Light Gases on the Intensity of Absorption Spectra of Vapors of Aromatic Compounds 149

Obreimov, I. V. and Ye. S. Trekhov. The Resistance of Mica to Rupture Along the Cleavage Plane 159

Rytov, S. M. The Correlation Theory of Rayleigh Light Scattering 175

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Suabchinskiy, M. M. Dependency of the Width of Combined-Scattering Lines of the Anisotropy of a Derived Polarizability Tensor 211

Tamm, I. Ye. Present State of the Theory of Weak Interactions of Elementary Particles 218

Tumerman, L. A. and B. A. Chayanov. The Illumination of Dielectrics in High Voltage a-c Electric Fields 231

Ukholin, S. A., and M. Z. Pronina. Investigation of Combined Light-Scattering Spectra in H_2O_2-H_2O and H_2O_2-Dioxane Solutions 244

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Frank, I. M. The Role of the Group Speed of Light in Irradiation in a Refractive Medium 261

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Shpol'skiy, E. V. The Interpretation of Spectra of Aromatic Hydrocarbons in Frozen Crystalline Solutions 296

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

S/829/60/000/000/003/005
D243/D308

AUTHOR: Tumerman, L.A.

TITLE: The role of electron disturbed states in biological processes

SOURCE: Fiziko-khimicheskiye i strukturnyye osnovy biologicheskikh yavleniy: sbornik rabot. Inst. biol. fiz. AN SSSR, Moscow, Izd-vo AN SSSR, 1960, 84-106

TEXT: The development by Szent-György of the concept of 'quantum biology' and its application to bioenergetic processes are outlined and the main premises which underly it are discussed. The subject is shown to apply to the changes taking place during muscle contraction and to phenomena associated with the selective penetration of cell membranes and the accumulation in the cell of different substances. The unequal distribution of Na^+ and K^+ ions between the interior and the surrounding medium is particularly considered. The author then proceeds to consider this concept in relation to photosynthesis and his own recent experiments on the influence of

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different photosynthesis inhibitors on the quantum yield and fluorescence of chlorophyll in chloroplasts isolated from plant leaves and single-celled algae, Scenedesmus accuminatus. Three groups of inhibitors are distinguished: Class A, which take part in reversible reactions and include alcohol, acetone, pyridine and phenylurethane. These act at the first stage of photosynthesis and prevent S' → T' conversions, thus increasing quantum yield and prolonging chlorophyll fluorescence. Class B inhibitors simultaneously suppress photosynthesis and decrease the yield and the length of fluorescence. The processes which govern these phenomena are discussed and it is reported that on repeating, with modifications, Szent-György's experiments with frozen, aqueous, dye solutions it was found that Class A inhibitors reduced the probability of conversion of excited molecules at the triplet level and produced normal fluorescence only, whilst Class B types caused prolonged fluorescence. It is concluded that all the facts discovered fit naturally and simply into Szent-György's concept and may thus be regarded as some confirmation of it. There are 35 references.

ASSOCIATION: Fizicheskiy institut im. P.M. Lebedeva, AN SSSR, Moskva (Physics Institute im. P.M. Lebedev, Moscow)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.

"On the Mechanism of Conversion and Storage of Light Energy in Photosynthesis."

Paper submitted for International Biophysics Congress, Stockholm 31 Jul --4 Aug '61.

Inst. of Physico-Chemical and Radiation Biology, AS USSR, Moscow

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L. A. (USSR)

"Mechanism of the Conversion of Light to Chemical Energy in Photosynthesis."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 August 1961

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.; MOROZOV, Yu.V.; NABERUKHIN, Yu.I.

Verification of the experimental principles of A. Szent-Györgyi's bio-energy concepts. Biofizika 6 no.5:556-562 '61. (MIRA 15:3)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR, Moskva.

(BIOPHYSICS)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.; BORISOVA, O.F.; RUBIN, A.B.

Relation between the photosynthetic activity and the luminescence of chlorophyll. Biofizika 6 no.6:645-649 '61. (MIRA 15:1)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR, Moskva.
(CHLOROPHYLL) (PHOTOSYNTHESIS)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.; ZAVIL'GEL'SKIY, G.B.; IVANOV, V.I.

Mechanism of the phenomenon of thermoluminescence in chloroplasts. Biofizika 7 no.1:21-30 '62. (MIRA 15:5)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR, Moskva.

(CHROMATOPHORES) (LUMINESCENCE)

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S/048/62/026/001/009/018
B117/B102

AUTHOR: Tumerman, L. A.

TITLE: Application of luminescence to the study of biological processes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 1, 1962, 84 - 93

TEXT: This is the reproduction of a report held at a physicists' conference in commemoration of S. I. Vavilov. The lecturer dealt with the importance of luminescence in the study of primary physical mechanisms of basic processes associated with the vital activity of organisms. The part played by aromatic compounds, especially of adenosine-triphosphate, in the transformation of energy was emphasized, and papers treating this subject were mentioned. A particularly evident and direct relationship is that between the luminescence of molecules and their biological function in photobiological reactions, beginning from photosynthesis. As of late, the following characteristics of luminescence have been utilized to clarify primary physical mechanisms of the transformation of

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B117/B102

Application of luminescence...

luminous into chemical energy: its duration τ, quantum yield Q, and polarization. The author's report includes results obtained last year at the laboratory of the Institut radiatsionnoy i fiziko-khimicheskoy biologii Akademii nauk SSSR (Institute of Radio- and Physicochemical Biology of the Academy of Sciences USSR). The author in cooperation with O. F. Borisova and A. B. Rubin (Ref. 12: Biofizika, 6, no. 6 (1961)) studied the relationship between the photosynthetic activity of chloroplasts and the chief characteristics of chlorophyll fluorescence in them, and found a shortening of τ. This reflects the process in which the photosynthetic cell apparatus is formed gradually and absorbs the chlorophyll in the plant leaf. As this apparatus forms, the probability that excited chlorophyll molecules are inactivated in the "photosynthetic way" becomes higher. A. B. Rubin and L. Ye. Minchenkova have later succeeded in observing the kinetics of the variation in the duration of luminescence of etiolated leaves during the first minutes of their illumination. A very thorough examination of protochlorophyll conversion into chlorophyll was made possible thereby. The observed drop of τ and Q shows that the leaf becomes adapted to light under conditions ensuring a more effective utilization of the duration of excitation of chlorophyll

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Application of luminescence...

molecules, rather than the utilization of products of primary luminous reactions. In addition to physiological factors, also the action of different chemical substances upon the photochemical activity of chloroplasts in Hill's reaction was examined. Experiments show that the photochemical utilization of the luminous energy during photosynthesis does not take place over the triplet state of chlorophyll molecules, but that the part played by complex formation in the cell has to be possibly taken into account. Examples are given to illustrate how information can be obtained on biological processes from the duration of luminescence. For the case of energy migration in biological systems, activation and excitation spectra are also an important source of information. Strehler's and McElroy's method using luminescence to determine small adenosine triphosphate amounts has proved convenient and highly accurate thanks to the high sensitivity of modern photoelectric devices. Tens of thousands of fireflies from around the town of Sukhumi were dissected by the author last spring. Extracts from their luminous organs were used to check the proportionality between luminous intensity and the amount of adenosine triphosphate added, the optimum reaction temperature was determined, and a special instrument was worked out for these measurements. This method is

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Application of luminescence...

recommended for use in biological and biochemical laboratories of the USSR. It is hoped that bioluminescence, besides its purely scientific interest, may also gain practical importance. S. I. Vavilov, B. I. Stepanov, V. A. Engel'gardt, A. G. Pasynskiy, Yu. V. Morozov, Yu. I. Naberukhin, Yu. A. Vladimirov, S. V. Konev, N. D. Zhevandrov, A. N. Terenin are mentioned. There are 4 figures and 23 references: 11 Soviet and 12 non-Soviet. The four most recent references to English-language publications read as follows: D. Arnon, Photosynthetic apparatus, its structure and function (Brookh. symposia in biol. no. 11), p. 181, 1959; Nature (L.), 184, 10 (1959); A. Szent-Györgyi, Bioenergetics. N. Y., 1957; Introduction to the submolecular biology, N. Y., 1961; Science, no. 3227, p. 873 (1956); G. Tollin, Brookh. symposia in biology, no. 11, p. 35, 1959; W. D. McElroy, Federat. Proc., 19, 941 (1960).

ASSOCIATION: Institut radiatsionnoy i fiziko-khimicheskoy biologii Akademii nauk SSSR (Institute of Radio- and Physicochemical Biology of the Academy of Sciences USSR)

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMERMAN, L.A.; RUBIN, A.B.

Temperature effect on the efficiency of the primary process of light energy conversion in photosynthesis. Dokl.AN SSSR 145 no.1:202-205 Jl '62. (MIRA 15:7)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Predstavleno akademikom I.V.Obreimovym.
(PHOTOSYNTHESIS) (TEMPERATURE--PHYSIOLOGICAL EFFECT)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

RUBIN, A.B.; MINCHENKOVA, L.Ye.; KRASNOVSKIY, A.A.; TUMERMAN, L.A.

Studying the average duration of the fluorescence of protochlorophyll during the greening of etiolated leaves. Biofizika 7 no.5:571-577 '62. (MIRA 17:8)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii, Moskva, Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova i Institut biokhimii imeni A.N. Bakha AN SSSR, Moskva.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

BORISOVA, O.F.; KISELEV, L.L.; TUMERMAN, L.A.

Determining the degree of spiralization of transport RNA from the fluorescent properties of their complexes with acridine dyes. Dokl. AN SSSR 152 no.4:1001-1004 O '63. (MIRA 16:11)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Predstavleno akademikom V.A. Engel'gardtom.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

MINCHENKOVA, L.Ye.; ZUMERMAN, L.A.

Luminescence of the complexes of acridine orange with bases and nucleotides. Biofizika 10 no.4:696-698 '65. (MIRA 18:8)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.

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L01253-66 EWA(j)/EWT(m)/EPF(c)/EWP(j)/T/EWA(b)-2 RM

ACCESSION NR: AP5020818 UR/0048/65/029/008/1431/1438

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AUTHOR: Tumerman, L. A. 44,55

21,44,55

TITLE: Luminescence techniques for investigation of the structure of biopolymers [Report, 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964]

44,55

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1431-1438

TOPIC TAGS: luminescence, luminescence analysis, biochemistry, DNA, RNA, enzyme, protein

ABSTRACT: The author reviews recent work, mostly published during 1964 and 1965 in the two Soviet journals "Biofizika" and "Biokhimiya", on luminescence methods in biochemical investigations. Four topics are discussed under the following headings: 1) Determination of the degree to which a nucleic acid has the double helix structure; 2) Determination of the secondary structure of transport RNA; 3) Investigation of structure changes in DNA; and 4) Luminescence methods for investigating proteins. The treatment of the first three topics is based on the different luminescence behavior of acridine orange when adsorbed on natural (doubly helical) and denatured nucleic acids. This dye has two fluorescence bands, one of which is ascribed to the dimer and the other to the monomer. The fluorescence of the dimer and monomer differs not only in wavelength, but also in the lifetime of the excited

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state. Dimerization occurs when the dye is adsorbed on denatured nucleic acids, but not when it is adsorbed on nucleic acids with the double helix structure. By exploiting these properties of acridine orange it is possible to detect as little as 2% denaturization in DNA. By following the change in the luminescence of acridine orange (including its polarization) adsorbed on transport RNA during the action on the latter of ribonuclease, it was possible to establish that the double helices of transport RNA are broken only at one end, and not in the central portion of the molecule. The effect of ultraviolet light on DNA was investigated with the aid of acridine orange, and the formation of locally denatured regions in the molecule was demonstrated. The fluorescence method is very sensitive and it is possible to detect the effect of very small ultraviolet doses, approaching physiological doses. In the last section the author discusses a single investigation in which the breakdown of a complex enzyme into more active subunits was established by following the changes in the polarization of the fluorescence of organic luminophors bonded covalently to the protein. Orig. art. has: 4 formulas and 10 figures.

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ACCESSION NR: AP5020818

ASSOCIATION: Institut radiatsionnoy i fiziko-khimicheskoy biologii Akademii nauk SSSR (Institute of Physico-chemical and Radiation Biology, Academy of Sciences, SSSR)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

BORISOVA, O.F.; TUMERMAN, L.A.

Use of acridine orange fluorescence for studying the secondary structure of nucleic acids. Biofizika 10 no.1:32-36 '65. (MIRA 18:5)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR, Moskva.

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TUMERMAN, V.M.

B TUMERMAN

27

Polymerization of Isobutylene and Isoamylene in the Presence of the Etherate of Boron Fluoride. (In Russian.) A. V. Topchiev and V. M. Tumerman. *Bulletin of Academy of Sciences of the U.S.S.R., Section of Technical Sciences*, July 1947, p. 809-812.

Effects of different temperatures and catalyst carriers on the above reactions were investigated. Main products were dimers or trimers which have octane numbers of 85-99. Reaction proceeded either in liquid or gaseous phases in presence of 2% or less of the catalyst.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

BORISOVA, O.F.; KISELEV, L.L.; SUROVAYA, A.I.; TUMERMAN, L.A.; FROLOVA, L. Yu.

Macromolecular structure of transfer ribonucleic acids in a solution. Dokl. AN SSSR 159 no.5:1154-1157 D '64 (MIRA 18:1)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR. Predstavleno akademikom V.A. Engel'gardtom.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

BIELAWSKI, Stanislaw; TUMIA, Henryk; WINIARSKI, Boleslaw

New designs of thyratron-drive control systems for machine tools. Archiw automat 4 no.3/4:347-362 '59. (EEAI 9:7)

1. Politechnika Warszawska, Katedra Napedu Elektrycznego.
(Automatic control) (Thyratrons) (Machine tools)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMIAŁOJĆ, Andrzej

Geographic interpretation of air photographs. Problemy 20 no.73443 '64.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

RUDNEV, V.N.; TUMIKYAN, G.G.

Letter to the editor. Azerb. neft. khoz. 38 no.7:9 Jl '59. (MIRA 13:9)

(Kura Lowland--Geology, Structural)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMIKYAN, G.G.

TUMIKYAN, G.G.; MELIK-BARKHUDAROV, K.V.

Structural plan of the southeastern part of the northern edge of the lower Kura Lowland. Azerb. neft. khoz. 36 no.5:4-7 My '57.
(Kura Lowland--Geology, Structural) (MIRA 10:11)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMIKYAN, G.G.; IBRAGIMOVA, S.G.

Recent seismological prospecting data on the tectonics of the Zhdanov region in western Azerbaijan. Geol. nefti i gaza 8 no.4:49-52 Ap '64. (MIRA 17:6)

1. Kontora morskoy geofizicheskoy razvedki Gosudarstvennogo ob"yedineniya Azerbaydzhanskoy neftyanoy promyshlennosti i Institut geologii im. Gubkina AN AzSSR.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMIKYAN, G.G.; SHEKINSKIY, E.M.

New data on the tectonics of the northwestern part of the Apsheron oil-bearing region. Geol. nefti i gaza 7 no.3:40-43 Mr '63. (MIRA 16:4)

(Apsheron Peninsula—Geology, Structural)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMIKYAN, G.G.

Exploratory drilling in the southwestern wing of the Kalinskaya fold. Azerb.neft.khoz. 37 no.8:4-5 Ag '58. (MIRA 11:11)
(Apsheron Peninsula--Boring)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

MELIK-BARKHUDAROV, K.B.; TUMIKYAN, G.G.

Tectonics of the Alyaty upland. Geol. nefti 2 no.11:28-30 N '58. (MIRA 11:12)

1.Ministerstvo neftyanoy promyshlennosti AzerSSR.
(Kobystan--Geology, Structural)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

MELIK-BARKHUDAROV, K.B.; TUMIKYAN, G.G.

Main fault of the Alyaty Upland and its effect on the distribution of oil and gas. Geol.nefti i gaza 6 no.5:37-39 My '62. (MIRA 15:5)

1. Armyanskoye geologicheskoye upravleniye i Ob"yedineniye Azerbaydzhanskoy neftyanoy promyshlennosti.
(Kobystan--Petroleum geology) (Kobystan--Gas, Natural--Geology)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

GOBERMAN, K.I.; RAPOPORT, S.Ya.; TUMIKYAN, G.G.

Tectonic pattern of the Lokbatan-More area based on seismic prospecting data. Azerb. neft. khoz. 42 no.1:6-8 Ja '63. (MIRA 16:10)

(Apsheron Peninsula—Submarine geology)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMIKYAN, G.G.

Yuzhnaya structure is a new promising area of the Apsheron petroleum-bearing region. Neftegaz. geol. i geofiz. no.7: 36-38 '63. (MIRA 17:10)

1. Gosudarstvennoye ob"yedineniye Azerbaydzhanskoy neftyanoy promyshlennosti.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, F., kapitan.

Device for reading the depth of piles sunk with the BMK-5 pile driver. Voen.-inzh. zhur. 101 no.5:26 My '57. (MLRA 10:6)
(Piling (Civil engineering))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

DAVYDENKO, Yu., inzhener-podpolkovnik, kand. tekhn. nauk; TUMILOVICH, I., inzhener-podpolkovnik

Increasing the distance of radio communication. Tekh. i vooruzh. no.4:44-46 Ap '64. (MIRA 17:9)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.

Titanium in the weathering crust. B. Polynov and L. Tumilovich. *Akad. V. I. Vernadskomu k Pyatidesyatiletiyu Nauch. Deyatelnosti* 1, 121-44(1936); *Chem. Zentr.* 1938, I, 1554-5.—Ti reaches the weathering zone along with acid, basic and alk. eruptive rock or even with various metamorphosed rock and is to be found in the form of independent minerals as well as an admixt. to a no. of other minerals. Ti silicates are most readily liable to decompn. in the weathering zone; next in order are the complex Ti-contg. acids and Ca titanates. By decompn. in the weathering crust the Ti is sepd. as $TiO_2.H_2O$, which is in part transformed immediately by loss of water and crystn. into anatase (octahedrite) and further into vadose rutile. Another portion, which is subjected to reactions in the colloidal system, is converted into vadose minerals of the type of titanates, while another is finally removed from the weathering zone by the waters washing it. The distribution of Ti in the weathering strata is but little localized; it is distributed as in the primary massive rock. The presence of Ti in all forms of the weathering crust as well as its ability to form gels, sols, and solns. accounts for its general infiltration in plant organisms. The ratio of the Ti content to that of other elements in the plant ash shows that only a small part of the Ti present in the weathering crust takes part in the biol. cycle.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

15-1957-3-3064

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 3, p 90 (USSR)

AUTHORS: Khetchikov, L. N., Tumilovich, L. B.

TITLE: The Colloidal Origin of a Mineral of the Amphibole Group (Mineral iz gruppy amfibolov kolloidnogo proiskhozhdeniya)

PERIODICAL: Soobshch. Dal'nevost. fil. AN SSSR, 1955, Nr 8, pp 37-40

ABSTRACT: Coatings of felt-like mineral masses were discovered in open cavities on druses of quartz and ilvaite crystals in skarn-polymetal deposits. The ore bodies of these deposits occur at the contacts between limestones and thick, crosscutting, porphyrite dikes. The matted mass grades in places into a gel-like mass. When this material is poured out a laminated mass forms, with a matted structure and

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15-1957-3-3064

The Colloidal Origin of a Mineral of the Amphibole Group

a variable thickness, which splits into even thinner laminae. The microscope shows the mineral to have perfect prismatic cleavage, parallel extinction, positive elongation, and 1.664 [Ng'] 1.658. The birefringence is 0.007 to 0.008. In hot HCl, the mineral will dissolve. The chemical composition is SiO_2 40.26%; Al_2O_3 1.28%; Fe_2O_3 10.17%; FeO 18.52%; MnO 8.54%; MgO 1.64%; CaO 7.92%; H_2O+ 6.27: total 99.97%. The formula is $Ca_{1.49}$ [$Fe^{2+}_{2.74}Mn_{1.28}Mg_{0.43}$] $Fe^{3+}_{0.92}(OH)_2$ [$Fe^{3+}_{0.33}Al_{0.26}Si_{7.42}O_{22}$] $2.72 H_2O$. This chemical formula is different from any for amphiboles that has been published in the literature. It is possible that it represents a new mineral in the amphibole group.

G.A,G.

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USSR/Cosmochemistry - Geochemistry. Hydrochemistry D.

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4174

Author : Khetchikov, L.N., Tumilovich, L.B.
Inst : Far-East Filiate of the Academy of Sciences USSR
Title : A Mineral of the Group of Amphiboles of Colloidal Origin

Orig Pub : Soobshch. Dal'nevost. fil. AN SSSR, 1955, No 8, 37-40

Abstract : At a nameless skarno-polymetallic deposit adjoining the contact of limestones with a porphyrite dyke fault, were found open cavities bound by spherical segragations of divergent structure hedenbergite. The shell consists of a felty mineral material that changes at the lower parts of the cavities into a gelatinous substance of varying consistency. Well crystallized aggregates consist of accumulations of minutest finely prosmatic crystals of ponacoid elements. Cleavability is perfectly prosmatic, the extinction is direct, elongation positive. 1.664 < Ng' > 1.658. Double refraction 0.007-0.008.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G., kand. med. nauk; ZOLOTAREV, I.I.

Diagnosis of a congenital adrenogenital syndrome. Sov. med. 27 no.10:112-115 O '63. (MIRA 17:6)

1. Iz detskogo ginekologicheskogo otdeleniya (zav.-dotsent L.G. Stepanov) Instituta akusherstva i ginekologii (dir.-prof. O.V. Makeyeva) Ministerstva zdravookhraneniya RSFSR i kafedry urologii (zav. - prof. I.M. Epshteyn) I Moskovskogo meditsinskogo instituta imeni I.M. Sechenova.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G.

Precocious sexual development in girls. Vop.okh.mat. i det. 8 no.2:74-80 F'63. (MIRA 16:7)

1. Iz otdeleniya detskoy ginekologii (zav. - dotsent L.G. Stepanov) Instituta akusherstva i ginekologii (dir. - prof. O.V.Makeyeva) Ministerstva zdravookhraneniya RSFSR.
(PUBERTY) (GIRLS)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G.

Disorders of the menstrual cycle in epilepsy. Akush.i gin. no.1:48-50 '62. (MIRA 15:11)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. F.A. Syrovatko) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D. Kovrigina) i psikhonevrologicheskoy bol'nitsy No.1 imeni Kashchepko (glavnyy vrach A.L. Andreyev).
(EPILEPSY) (MENSTRUATION)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L. G., Cand. Medic. Sci. (diss) "Derangement of Menstrual Cycle in Epilepsy, Clinical-laboratory Investigation," Moscow, 1961, 12 pp. (1st Moscow Med. Inst.) 250 copies (KL Supp 12-61, 289).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G.

Excretion of ovarian hormones in epilepsy. Zhur. nevr. i psikh. 60 no.11:1500-1505 '60. (MIRA 14:5)

1. Kafedra akusherstva i ginekologii (zav. - prof. F.A.Syrovatko) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.
(EPILEPSY) (ESTROGENS) (PREGNANEDIOL)
(URINE)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G., kand. med. nauk

Congenital adrenogenital syndrome in girls. Akush. i gin. 39 no.4:22-29 Jl-Ag'63 (MIRA 16:12)

1. Iz otdeleniya ginekologii detskogo vozrasta Instituta akusherstva i ginekologii (dir. - prof. O.V.Makeyeva).

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G., kand.med.nauk (Moskva)

Gonadal dysgenesis; a review of literature. Akush. i gin. 40 no.3:53-58 My-Je '64. (MIRA 18:6)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, L.G.

Adrenogenital syndrome; survey of foreign literature. Sov. med. 25 no.5:22-28 My '61. (MIRA 14:6)

1. Iz Instituta akusherstva i ginekologii Ministerstva zdravookhraneniya RSFSR (dir. - prof. O.V.Makeyeva).
(VIRILISM)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, N.G.

Development of the gas industry of the Stalingrad Economic Region. Gaz.prom. 4 no.6:31-33 Je '59. (MIRA 12:8)
(Stalingrad Province--Gas, Natural)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, N.I.; SHTUTIN, I.M.

Interpreting reflection from the underlying horizons of salt domes in the Caspian Depression. Razved. i prom. geofiz. no.37:22-28 '60. (MIRA 14:3)
(Emba Valley--Seismic prospecting)
(Salt domes)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, Ye. (Leningrad)

Small tank for flat films. Sov. foto 19 no.6:61-62 Je '59. (MIRA 12:9)

(Photography--Apparatus and supplies)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOVICH, Yevgeniy Vladislavovich; ALTUNIN, Sergey Yefimovich; USHENKO, V.S., red.izd-va; LEBEDEV, M.I., tekhn. red.

[Bridges and embankments of Leningrad] Mosty i naberzhnye Leningrada; al'bom. Moskva, Izd-vo M-va kommun.khoz. RSFSR, 1963. 296 p. (MIRA 16:7)
(Leningrad--Bridges) (Leningrad--Embankments)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

KAGAN, I.S.; KOGAN, F.I.; TUMILOVICH, Yu.N.

Thermal regime of the performance of an autoclave. Kons.i ov.prom. 16 no.3:13-15 Mr '61. (MIRA 14:3)

1. Ukrainskiy nauchno-issledovatel'skiy institut konservnoy promyshlennosti.
(Autoclaves)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOWICZ, Olgierd, inz. (Warszawa)

Training ships and training of seamen. Tech.gosp.morska 10 no.1: 11-13 Ja '60. (EEAI 9:4)
(Training ships) (Naval art and science)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMILOWICZ, Stanislaw.;ZUK, Edward.

Mixed abscess from the lymph nodes of the hilus; surgical treatment following lobectomy. Polski tygod. lek. 12 no.28:1086-1087 8 July 57.

1. Z Zakladu Flyzjochirurgii IDSKL; kierownik: prof. W. Rzepecki, Sanatorium Sokolowskiego PZSP w Zakopanem i z Oddzialu Chirurgii Sanatorium im Pawlowa w Rabce; dyr. M. Milewski. Adres: Otwock, ul. Dzierzynskiego 56-13.

(PNEUMONECTOMY, complications,
mixed abscess from lymph nodes of hilus after lobectomy, surg. (Pol))
(LYMPH NODES, abscess,
pulm. hilus, after lobectomy, surg. (Pol))
(LUNGS, abscess,
hilus lymph nodes, after lobectomy, surg. (Pol))

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMINA, T.I.

Use of the ophthalmoscope for fixation of the vision in the location of intraocular foreign bodies. Vest.oft.74 no.1:69 '61. (MIRA 14:3)

(EYE—FOREIGN BODIES) (OPHTHALMOSCOPY)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMINAUSKAS, S.

Let us study the poplars growing in Lithuania. p.22

MUSU GIRIOS (Misko ukio ir misko pramones ministerija ir Gemtos apsaugos komitetas prie Ministru tarybos)
Vol. 1o, Oct. 1959
Vilnius, Poland

Monthly List of East European Accession (EEAI) LC, vol. 9, no.1, Jan. 1960

Uncl.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

COUNTRY : USSR
CATEGORY : Forestry. Dendrology. K

ABS. JOUR. : RZhBiol., No. 23 1958, No. 104517

AUTHOR : Tuminauskas, S.
INST. : --
TITLE : Durmast Oak (Quercus petraea Liebl.) in the South of Latvia

ORIG. PUB. : Mežu girios, 1957, No. 5, 11-14

ABSTRACT : In the Trako forest a stand was found in which Durmast oak is present. Here runs the northern boundary of its range in the Baltic region. On an area of more than 20 hectares rock oak enters into the composition of the stand -- 6C 2E 2D; the age of the oak stand is 50 years, site class is II. This species in Latvia is frost-resistant and is distinguished by effective fertility, and good increment in diameter and volume. --V. V. Antanaytis

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

LEGUM, Mirko, Sanitetski pukovnik, dr.; TUMIR, Vladimir, sanitetski kapetan I klase; POLJAK, Boris, higijenicar

Inoculation of epidemic hepatitis. (Analysis of an epidemic of hepatitis in the commune of Motovun in 1959.). Vojnosanit. pregl. 21 no.5:350-353 My '64

1. Epidemiolosko odeljenje, Higijensko-epidemiloski odsek, Zagreb.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F.

Results of a biometric study of Entamoeba gingivalis (Gros, 1849) in connection with the intensity of feeding in the body of the host. Zool.zhur. 39 no.4:509-513 Ap '60. (MIRA 13:11)

1. Chair of General Biology and Parasitology, S.M.Kirov Military Academy, Leningrad.
(Entamoeba gingivalis)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F.

Two cases of isolation of Dientamoeba fragilis and the species independence of these amebae. Med. paraz. i paraz. bol. 32 no.3:323-329 My-Je'63 (MIRA 17:3)

1. Iz kafedry biologii s parazitologiyey imeni akademika Ye.N. Pavlovskogo Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova (nachal'nik - prof. G.S. Pervomayskiy).

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F.

A new species of parasitic amoebae from the mouth cavity of swine (Entamoeba suigingivalis, sp.n.). Zool.zhur. 38 no.3: 481-483 Mr '59. (MIRA 12:4)

1. Chair of Biology and Parasitology, Military medical Academy (Leningrad).
(Leningrad--Amoeba) (Parasites--Swine)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

G

USSR / Zooparasitology. General Problems.

Abs Jour: Ref Zhur-Biol., No 6, 1959, 24197.

Author : Tumka, A. F.
Inst : Not given.
Title : Protozoa of the Oral Cavity (According to the Data of Examinations of Various Groups of Sick and Healthy Individuals).

Orig Pub: Stomatologiya, 1958, No 1, 12-17.

Abstract: Patients from various clinics of the Military Medical Academy and control groups of healthy individuals were examined. In 601 persons, soft deposits on teeth of purulent excretion of gingival pockets and other pathologic secretions were examined. In 501 individuals, Entamoeba gingivalis and Trichomonas elongata were discovered. Protozoa were especially frequently found in patients with periodontosis, inflammatory diseases of the

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

USSR / Zooparasitology. General Problems. G

Abs Jour: Ref Zhur-Biol., No 6, 1959, 24197.

Abstract: jaws and mucosa of the oral cavity. In a number of cases, amoebas and trichomonads were discovered beyond the limits of the oral cavity in the adjacent and communicating organs. In the examination of 112 patients with chronic diseases of lungs, trichomonads were discovered in 19 cases. -- G. G. Vasina.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F.

Parasitocenoses as one of the most important problems of parasitology developed by Academician E.N.Pavlovskii and his school. Zool. zhur. 43 no. 3:346-354 '64. (MIRA 17:5)

1. Chair of Biology with Parasitology, S.M.Kirov Military Medical Academy, Leningrad.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A. F., GNEZDILOV, V. G., ANDREYEV, M. F., POLYANSKAYA, L. S.

"Intestinal parasito-coenoses and their dynamics among dysentery and typhoid patients treated with antibiotics." p. 25

Desyatoye Soveshchaniye po parazitologicheskim problemam i prirodnoochagovym boleznyam. 22-29 Oktyabrya 1959 g. (Tenth Conference on Parasitological Problems and Diseases with Natural Foci 22-29 October 1959), Moscow-Leningrad, 1959, Academy of Medical Sciences USSR and Academy of Sciences USSR, No. 1 254pp.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F.

Protozoa of the oral cavity; based on material from studying various groups of patients and healthy persons. Stomatologiia 37 no.1:12-17 Ja-F '58. (MIRA 11:3)

1. Iz kafedry obshchey biologii i parazitologii (nach. kafedry - akad. Ye.N.Pavlovskiy) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(MOUTH--BACTERIOLOGY) (PROTOZOA)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F.

Pseudoprotozoal formations in mucus. Lab.delo 4 no.2:31-33 Mr-Ap '58. (MIRA 11:4)

1. Iz kafedry obshchey biologii i parazitologii imeni Ye.N.Pavlovskogo Voyennno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.
(MUCUS) (CILIA AND CILIARY MOTION)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

USSR/Zooparasitology - General Problems. G.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 48171

Author : Tumka, A.F.
Inst : -
Title : Protozoa in Chronic Tonsillitis.

Orig Pub : Vestn. oto-rino-laringologia, 1957, No 2, 78-83.

Abstract : In the contents of lacunae of the tonsils, which were removed by an operation in 72 patients, there were discovered Entamoeba gingivalis and Trichomonas elongata, which were infesting the oral cavity.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

PERVOMAYSKIY, G.S.; TUMKA, A.F.

Scientific meetings of the Leningrad Parasitological Society in 1963. Med.paraz. i paraz.bol. 33 no.3:380-381 My-Je '64.

(MIRA 18:2)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

PERVOMAYSKIY, G.S.; TUMKA, A.F.

On the 80th birthday of Academician Evgenii Nikanorovich Pavlovskii. Zhur.mikrobiol.,epid. i immun. 41 no.5:14-19 My '64.

(MIRA 18:2)

1. Voyenno-meditsinskaya ordena Lenina akademiya imeni Kirova.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001757430001-3

TUMKA, A.F. (Leningrad)

Trichomonal invasion of the lungs. Klin.med. 34 no.12:35-40 D '56. (MLRA 10:2)

1. Iz kafedry obshchey biologii i parazitologii imeni akad. Ye.N. Pavlovskogo (Nach. kafedry - akad. Ye.N.Pavlovskiy) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

(LUNGS, dis.
trichomoniasis)
(TRICHOMONIASIS
lungs)

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