GURVICH, I.I.

Effective velocity in the method of refracted waves. Trudy MGRI 36:78-86 '59. (MIRA 15:5)
(Seismic prospecting)

3(4, 6) PHASE I BOOK EXPLOITATION SOV/2256

Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki

Prikladnaya geofizika; sbornik statey, vyp. 22 (Applied Geophysics; Collection of Articles, Nr 22) Moscow, Gostoptekhizdat, 1959. 217 p. 3,000 copies printed.

Ed.: N.K. Polshkov; Exec. Ed.: N.N. Kus'mina; Tech. Ed.: A.S. Polosina.

PURPOSE: This collection of articles is intended for geophysicists in both industrial and research organizations.

COVERAGE: The book contains articles on improved methods for interpreting seismic-exploration data obtained by means of reflected and refracted waves. A number of articles deal with the evaluation of gravity anomalies. Individual articles discuss a method of dividing a gravitational field into its components by means of a computer, gamma radiation in boreholes, density of rocks of the Precambrian basement in the eastern part of the Russian Platform, and the use of templates in micro-logging. There are 74 figures and 35 tables. There are 95 references: 89 Soviet and 6 English.

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AVAILABLE: Library of Congress

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PUZYREV, Nikolay Nikitovich; GURVICH, I.I., red.; KUPALOV-YAROPOLK, I.K., red.; KUZ'MINA, N.N., vedushchiy red.; POLOSINA, A.S., tekhn.red.

[Interpretation of data in seismic refraction surveying] Interpretatsiia dannykh seismorazvedki metodom otrazhennykh voln. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1959. 451 p. (MIRA 13:1)
(Prospecting--Geophysical methods)
(Seismic waves)

PHASE I BOOK EXPLOITATION SOV/5508

Gurvich, Il'ya Isidorovich

Seysmicheskaya razvedka (Seismic Prospecting) Moscow, Gostoptekhizdat, 1960. 504 p. Errata slip inserted. 5,150 copies printed.

Reviewer: L. A. Ryabinkin, Candidate of Technical Sciences, Docent; Ed.: Ryabinkin, Lev Aleksandrovich; Scientific Ed.: N. N. Kuz'mina; Tech. Ed.: E. A. Mukhina.

PURPOSE: This textbook has been approved by the Ministry of Higher and Secondary Special Education of the USSR for use by students of geophysics in geological prospecting, mining, and petroleum institutes. It may also be used by geologists and geophysicists working in seismic prospecting.

COVERAGE: The textbook presents the physical and geological principles

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of seismic prospecting, and examines the basic problems of the theory of time-distance curves of reflected, refracted, and other waves. The theory of the main apparatus contained in a recording channel is reviewed and modern seismic instruments briefly described. Methods of interpreting seismic observations and basic methods and techniques of field operations are discussed. There is a brief review of the conditions under which seismic prospecting is carried out in certain regions of the Soviet Union. The authors thank L. A. Ryabinkin. There are 327 references: 278 Soviet (including 6 translations), 46 English, 2 French, and 1 German.

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GIL'BERSHTEYN, P.G.; GURVICH, I.I.

Using perforated materials for two-dimensional seismic modeling.
Izv.vys.ucheb.zav.; geol.i razv. 3 no.1:139-156 Ja '60.
(MIRA 13:7)
1. Moskovskiy geologorazvedochnyy institut im.S.Ordzhonikidze i Trest "Geofizneftesuglerazvedka".
(Geological modeling) (Seismic waves)

AUTHOR: Gurvich, I. I.

S/552/60/000/028/004/006
H000/H000

TITLE: Methods of computing and evaluating correlation systems for seismic prospecting observations

SOURCE: Prikladnaya geofizika (sbornik statey), no. 28, 1960, 50-69

TEXT: The main problems discussed in this article are: 1) classification of correlation systems; 2) relations needed for establishing complete correlation systems for continuous tracking of the wave in a given area; and 3) methods of estimating economic feasibility of the observation systems. The results obtained apply mainly to the selection and evaluation of correlation systems for use with the refracted waves method. The article describes computation methods permitting the design of various types of correlation systems to satisfy preformulated requirements, and strongly suggests the possibility that systems using nonsuperposed shot points, though rarely used at present, may prove to be economically and operationally quite advantageous. There are 9 figures.

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GURVICH, I.I.

Using seismic methods in petroleum prospecting in China. Trudy MGRI 38:146-154 '60. (MIRA 14:5)
(China--Seismic prospecting)

GURVICH, I.I.

Theory of the grouping of explosions in seismic prospecting.
Prikl. geofiz. no.29:20-38 '61. (MIRA 14:6)
(Seismic prospecting)

GURVICH, I.I.

Subscreen reflections of waves in seismic prospecting. Izv. vys. ucheb. zav.; geol. i razv. 4 no.1:100-116 Ja '61. (MIRA 14:7)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.
(Seismic prospecting)

GURVICH, I.I.; GIL'BERSHTEYN, P.G.

Determination of the absorption constants of seismic waves. Geofiz. razved. no.4:3-14 '61. (MIRA 14:7)
(Seismic prospecting)

GIL'BERSHTEYN, P.G.; GURVICH, I.I.

Normal reflection of lateral waves in perforated materials for seismic modeling. Geofiz. razved. no.9:3-7 '62. (MIRA 15:9)
(Seismic prospecting--Models)

GURVICH, I.I.; CHZHAO BIN [Chao Ping]

Relationship between the amplitude of seismic vibrations and the weight of the charge. Razved.i prom.geofiz. no.44:12-18 '62.
(MIRA 15:7)

(Seismic prospecting) (Explosions)

GIL'BERSHTEYN, P.G.; GURVICH, I.I.

Velocity of elastic waves in the materials with holes for seismic modeling. Izv.vys.ucheb.zav.; geol. i razv. 5 no.5:116-131 My '62. (MIRA 15:6)

1. Trest Geofizneftеuglerazvedka i Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.

(Seismic waves)

ZNAMENSKIY, V.V.; RYABINKIN, L.A.; PETROV, L.V.; VARTANOV, S.P.; GAGEL'GANTS, A.A.; KOTLYAREVSKIY, B.V.; LOZOVSKAYA, I.F.; LYAKHOVITSKIY, F.M.; MAR'IN, N.I.; OSTROVSKIY, V.D.; PARIYSKAYA, G.N.; RIKHTER, V.I.; RUBO, V.V.; SLUTSKOVSKIY, A.I.; TARUTS, G.M.; TURCHANENKO, N.M.; SHMIDT, N.G.; SHNEYERSON, M.B.; GURVICH, I.I., red.; BORUSHKO, T.I., red.izd-va; GUROVA, O.A., tekhn. red.

[Instructions for seismic prospecting]Instruktsiia po seismorazvedke. Moskva, Gosgeoltekhizdat, 1962. 95 p. (MIRA 15:12)

1. Russia (1923- U.S.S.R.)Ministerstvo geologii i okhrany nedr. (Seismic prospecting)

S/169/63/000/002/097/127
D263/D307

AUTHORS: Gil'bershteyn, P. G. and Gurvich, I. I.

TITLE: The velocities of elastic waves in perforated materials for seismic modeling

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 20, abstract 2D122 (Izv. vyssh. uchebn. zavedeniy. Geol. i razvedka, 1962, no. 5, 116-131)

TEXT: A description is given of experiments aimed at a study of the velocities of elastic waves in duralumin, plexiglass and brass, used for seismic ultrasound modeling. The main results of the investigation are as follows: The velocity of longitudinal waves v_p in perforated sheets varies linearly with the number of holes, Q, and may be calculated from a quoted empirical formula. The latter must include a parameter η_p, determined experimentally for the materials tested. The dependence of transverse wave velocities v_s on

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The velocities of ...

the extent of perforation is also linear in certain range of Q's; this is less clearly pronounced than for longitudinal waves. Calculation of the velocity V_s should be carried out with the aid of experimentally obtained graphs. The velocity ratio v_p/v_s in the perforated materials studied is found to vary from 1.77 to 1.60. In duralumin V_p/V_s is a linearly decreasing function of Q. In plexiglass, the decreasing character of the relation of V_p/V_s with Q appears from $Q > 0.2$. Perforated plates submerged in water are characterized by higher velocities than plates surrounded by air. The Dependence $V_p(Q)$ determined for this case demonstrates the possibility of applying perforated plates for simulating thin layers with directional elastic properties in the solution of three-dimensional problems. Anisotropy of v_p is clearly shown in materials with a square grid of apertures, and increases with increasing number of holes. A definite value of Q exists below which the anisotropy is practically not observed. Application of many types of

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The velocities of ...

grids allows simulation of either isotropic or anisotropic media. It was not possible to find dispersion of the velocity V_p between 30 and 115 kc/s in plexiglass and between 25 and 250 kc/s in duralumin. The authors observed a non-parallelism of phase hodographs, caused by selective absorption of high frequencies, as a result of which the apparant velocity of later phases appear somewhat lower (by 2 - 3%). The velocity of surface waves depends on Q. This relationship is shown less distinctly than for longitudinal waves. [Abstracter's note: Complete translation.]

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GURVICH, I.I.; GLOGOVSKIY, V.M.

Calculation of static corrections to observation hodographs of reflected waves. Geofiz. razved. no.11:3-15 '63. (MIRA 16:8)

(Seismic prospecting)

GURVICH, I.I.; MOROZENKO, Yu.P.

Theory of the converters of seismic recording. Izv. vys. ucheb. zav.; geol. i razv. 6 no.4:128-136 Ap '63. (MIRA 16:6)

1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.
(Seismometry)

GURVICH, Il'ya Isidorovich; RYABINKIN, L.A., red.

[Seismic prospecting] Seismorazvedka. Izd.2., i dop. Moskva, Nedra, 1964. 439 p. (MIRA 17:11)

GURVICH, I.I.;GIL'BERSHTEYN, P.G.

Studying seismic waves reflected from under a strata with increased wave-propagation velocity using two-dimensional models. Geofiz. razv. no. 15:3-19 '64. (MIRA 17:7)

GURVICH, I.I.

Methods for determining the parameters of the spherical center of longitudinal seismic waves. Izv.vys.ucheb.zav.; geol. i razv. 8 no.10:116-124 O '65.

(MIRA 19:1)

1. Moskovskiy geologorazvedochnyy institut imeni Ordzhonikidze.

L 25547-66 EWT(l)/EWA(h) GW

ACC NR: AP6005835 SOURCE CODE: UR/0387/65/000/010/0045/0056

AUTHOR: Gurvich, I. I.

ORG: Moscow Geological Prospecting Institute imeni S. Ordzhonikidze (Moskovskiy geologorazvedochnyy institut)

TITLE: Theoretical basis for a spherical radiator of seismic waves

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 10, 1965, 45-56

TOPIC TAGS: seismic wave, wave mechanics, [redacted]

ABSTRACT: A frequency theory is proposed for a spherical radiator of seismic waves located in an infinite absolutely elastic isotropic medium, assuming that the Lamé's constants λ, μ and density ρ are given. The radiator is a spherical cavity with center at point of origin acted upon by a radially external pressure $p(t)$, where t is time. It is shown that this radiator has the properties of a resonance filter which converts the complex spectrum $S_p(\omega)$ of the function $p(t)$ to the spectrum $S_u(\omega)$ of soil displacement $u(t)$ recorded far from the source. The natural frequency of the radiator is dependent only on its radius and the velocity of transverse waves. Relative attenuation is determined by the ratio between the velocities of transverse and longitudinal waves. The input-output curve of the radiator, which gives the ampli-

UDC: 534.1:550.834

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ACC NR: AP6005835

2

tude of harmonic components of soil displacement as a function of the weight Q of the charge, may have a complex form at low velocity ratios. The amplitude of soil displacement increases as Q for light charges and as the cube root of Q for heavy charges. There may be a reduction in the amplitude with an increase in the weight of the charge for certain ranges of variations in velocity ratios and charge weights. The maximum in the input-output curve of the radiator with charge increase shows a shift toward the low frequency range which is proportional to the cube root of Q while the level of the frequency response increases as the cube root of Q^2. The frequency response of the radiator approaches a resonance form as the velocity ratio v_s/v_p decreases. At the same time, the maximum of the frequency response shifts toward lower frequencies. The radiator acts as an integrator when $v_s/v_p = 0$. A transient of the radiator has the form of a damped sine curve with parameters which depend on the radius of the radiator and the properties of the ambient medium. The authors are grateful to students K. F. Vrubel' and A. P. Zayats for assistance with the calculations. Orig. art. has: 6 figures, 40 formulas.

SUB CODE: 08,20/ SUBM DATE: 10Apr65/ ORIG REF: 008/ OTH REF: 007

Card 2/2 UVR

ACC NR: AP6010063 SOURCE CODE: UR/0387/66/000/003/0033/0043

AUTHOR: Gurvich, I. I. (Doctor of technical sciences); Molotova, L. V.; Levyant, V. B.

ORG: Moscow Geological-Mining Institute imeni S. Ordzhonikidze (Moskovskiy geologorazvedochniy institut); Nizhnevolzhsky Institute of Geology and Geophysics, Academy of Sciences, SSSR (Nizhnevolzhskiy institut geologii i geofiziki Akademiya nauk SSSR); Institute of Earth Physics, Academy of Sciences, SSSR (Institut fiziki Zemli Akademiya nauk SSSR)

TITLE: Experimental amplitude characteristics of explosions

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 3, 1966, 33-43

TOPIC TAGS: longitudinal wave, explosive charge, sound wave, seismic wave, ~~propagation~~

ABSTRACT: A comparison was made between experimental and theoretical amplitude characteristics of explosion nuclei in sand-clay deposits. The theoretical analysis was based on the theory of spherical emission of longitudinal waves. Seismological sections of underground layers down to 60 m are shown, giving the relative velocities of pressure waves (v_p) and sound waves (v_s) as a function of the respective layer compositions (sand, clay, soil or sandstone) and the positioning of the explosion nucleus below the earth. Model spectra of seismic wave reflections are shown with the corresponding amplitude spectra (amplitude as a function of frequency--from 0 to 60 cps), for charges

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ACC NR: AP6010063

weighing from 0.1 to 6.5 kg. Characteristic parameters for conditions in the vicinity of the charge nuclei are tabulated for the different seismic sections with charge depths to 35 m and charge weights to 500 kg. These parameters were: the ratio $(v_s/v_p)_a$; $v_s/k\pi = g$ where k is the radial coefficient of the nucleus of the explosion, obtained from the formula

$$R=kQ^{1/3}$$

where R is the radius and Q is the weight of charge. The frequency coefficient of the nucleus g was about 40 $sec^{-1}kg^{1/3}$ for damp sand-clay deposits. The values for $(v_s/v_p)_a$ ranged from 0.3 to 0.7, as determined from the amplitude curves. These were systematically higher than $(v_s/v_p)_s$ which were determined directly from seismic explosions. Both theoretical and experimental values of K agreed closely and ranged from 1.4 to 3.8 $m\text{-}kg^{-1/2}$. Orig. art. has: 7 figures, 2 tables, 7 formulas.

SUB CODE: 08/ SUBM DATE: 01Jun65/ ORIG REF: 010/ OTH REF: 001

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L 31999-66 EWT(1)/EWP(m) WW/GW

ACC NR: AP6013161 SOURCE CODE: UR/0387/66/000/004/0015/0024

AUTHOR: Gurvich, I. I. (Doctor of technical sciences) 63 B

ORG: Moscow Geological Survey Institute im. S. Ordzhonikidze (Moskovskiy geologo-razvedochnyy institut)

TITLE: Excitation function of an explosive spherical radiator

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 4, 1966, 15-24

TOPIC TAGS: shock wave, seismic wave

ABSTRACT: Excitation functions expressed in pressures over the surface of an equivalent spherical radiator were investigated on the basis of experiments conducted by McDonal, et al. (1958). The solutions based on three different assumptions were evaluated and compared with the experimental data. The assumptions made were that 1) the duration of the explosive action applied to the surface of an equivalent radiator is small in comparison to its period of natural vibration; 2) the explosive effect (T_0) applied to the radiator surface is nearly constant during the time equal to its period of natural vibrations; and 3) the magnitude of explosive effect decreases considerably during the time of the same order of magnitude as T_0. The investigation shows that 1) there is a certain correspondence between the reduced spectra based on the frequency theory of a spherical radiator located in the absorbing medium and the reduced spectra

UDC: 534.14:550.834

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L 31999-66
ACC NR: AP6013161

of a direct longitudinal wave excited by the explosion in clay shales; 2) the comparison of the computed and observed spectra of direct waves permits the determination of the source and medium; 3) the frequency coefficient (γ) of the source is equal to 280 $sec^{-1} \cdot kg^{1/3}$ and its radius coefficient is 0.90 m $kg^{-1/3}$ for the explosions in compact clay shales; and 4) the magnitude of initial displacement on the equivalent surface of a radiator is 0.4 cm. Orig. art. has: 6 figures, 24 formulas.

SUB CODE: 08/ SUBM DATE: 05Jul65/ ORIG REF: 007/ OTH REF: 004

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L 34986-66 EWT(1)
ACC NR: AP6026257 SOURCE CODE: UR/0387/66/000/005/0043/0051

AUTHOR: Gurvich, I. I. (Doctor of technical sciences)

ORG: Moscow Geological Prospecting Institute im. S. Ordzhonikidze (Moskovskiy geologorazvedochnyy institut)

TITLE: Spectra of waves from a spherical source in a homogeneous absorbing medium

SOURCE: AN SSSR. Izvestiya. Fizika zemli, no. 5, 1966, 43-51

TOPIC TAGS: absorption spectrum, spectrum analysis

ABSTRACT: On the basis of the frequency theory of a spherical source the author has computed the reduced amplitude spectra of a direct wave for a homogeneous absorbing medium in which the decrement of absorption is not dependent on frequency. Computations of spectra are presented for the case when pressure is described by an impulse function. The amplitude spectra have one maximum, corresponding to the frequency ω_m, whose value is dependent on the parameters of the focus, medium and distance from the source to the point of observation. All the theoretical reduced spectra $\Gamma_\eta(\omega/\omega_0)$ (a function describing the reduced amplitude spectrum of the rate of displacement $\eta(t)$ of the woil) have a logarithmic steepness. The form of the Γ_η spectrum near its maximum is dependent on the values of the ratio v_s/v_p and the parameter ϵ. The results presented make it

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ACC NR: AP6026257

possible to use these spectra for comparison with the spectra of direct and secondary waves in the case of homogeneous and nonhomogeneous media and their use for determination of the parameters of a shot focus and medium. Orig. art. has: 6 figures and 15 formulas. [JPRS: 36,553]

SUB CODE: 20 / SUBM DATE: 05Jul65 / ORIG REF: 006 / OTH REF: 003

Card 2/2 BLG

ACC NR: AT6031368 EWT(1) GD/GW

SOURCE CODE: UR/0000/66/000/000/0034/0041

AUTHOR: Vasil'yev, Yu. F.; Gil'bershteyn, P. G.; Gurvich, I. I.; Ivakin, B. N. 31 B+1

ORG: none

TITLE: Perforated materials for two-dimensional seismic modeling

SOURCE: AN SSSR. Institut fiziki Zemli. Geoakustika; ispol'zovaniye zvuka i ul'trazvuka v seysmologii, seysmorazvedke i gornom dele (Geoacoustics; the use of sound and ultrasound in seismology, seismic prospecting, and mining). Moscow, Izd-vo Nauka, 1966, 34-41

TOPIC TAGS: seismic modeling, perforated material, seismic wave, ~~model~~, elastic wave, ~~propagation~~ Wave Propagation

ABSTRACT: A description is given of the use of perforated materials for controlling density and elasticity in ultrasonic seismic-wave modeling experiments conducted in the Institute of Physics of the Earth of the Academy of Sciences USSR and the Moscow Geological Prospecting Institute. Parametric measurements were made on two-dimensional sheets of duralum, brass, iron, and plexiglass containing perforations (d = 1—10 mm) arranged in triangular, hexagonal, and rectangular grids. The ratio of the dominant wavelength to the distance (which ranged from 2.5 to 20 mm) between the perforations varied from 4 to 50 depending upon the type of sheet and the nature of the experiment. Experiments were conducted to establish: 1) the possibility of recording regular

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ACC NR: AT6031368

longitudinal and shear waves, 2) the relationship between the effective elastic-wave propagation velocities and the size, number, and shape of the perforations, 3) the dispersion velocities, 4) the absorption of the elastic-wave energy, and 5) the possible appearance of velocity anisotropy and absorption in sheets with different perforation patterns. The results of experiments showed that under certain conditions regular longitudinal, shear, and surface waves arise in perforated materials and propagate with characteristic velocities almost without dispersion or attenuation as determined by the coefficient of effective absorption. Thus, perforated materials under specific conditions behave like a macrohomogeneous, nonideal, elastic medium to which can be imparted isotropic, anisotropic, or smoothly changing properties. The applicability of these materials in seismic modeling is determined by the appropriateness of the elastic, density, and absorbing properties of the rock to the analogous parameters, which can be controlled in perforated sheets by changing the perforation pattern. The accuracy of reproducing properties in these models is very high, reaching 1—2% in the case of velocity. Orig. art. has: 4 figures. [DM]

SUB CODE: 08/ SUBM DATE: 28Mar66/ ORIG REF: 007/ ATD PRESS: 5088

Card 2/2 afs

ACC NR: AP6036357 SOURCE CODE: UR/0387/66/000/011/0036/0044

AUTHOR: Gurvich, I. I.

ORG: Moscow Geologic Prospecting Institute im. S. Ordzhonikidze (Moskovskiy geologorazvedochnyy institut)

TITLE: Use of experimental data to determine the spectrum of the seismic pulse of an explosion near the focus

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 11, 1966, 36-44

TOPIC TAGS: underground explosion, seismic wave, [illegible]

ABSTRACT: The application of the frequency theory of explosion generation developed by I. I. Gurvich [Izv. AN SSSR. Fizika Zemli, no. 10, 1965; Izv. VUZ'ov. Geologiya i razvedka, no. 10, 1965] to determine the spectral composition of an undistorted seismic signal on the basic of analysis of seismic records obtained at great distances from the focus is examined. The spectrum S_y, of an undistorted explosion-generated signal Y(t), observed in a nonhomogeneous medium far from the source, can, according to the principles of similarity, be computed from the amplitude curve expressing the dependence of the spectral components of the observed signal on the weight Q of the charge. The form of the equations used to compute the spectrum of the undistorted signal depends on the magnitude of the physical value Y(t), for which the spectrum is being sought. The frequency interval (Ω_1, Ω_n) in which spectrum

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S_y' can be found is determined both by the frequency band (ω_1, ω_n) of the recording apparatus and the medium between the focus and the observation point as well as by the range of change of the relative weight $q = (Q/Q_1)^{1/3}$ of the charges used in the experiments. The frequency interval (Ω_1, Ω_n) can be substantially broadened by using charges corresponding to a rather broad range of q values. The computed spectrum S_y'' may differ somewhat from the actual spectrum owing to the failure to take into account distortions arising in the immediate proximity of the focus when the size of the emitter and, consequently, the weight of the charge are changed. In this event the high-frequency components of the computed spectrum would be higher than the actual values. Orig. art. has: 29 formulas and 3 figures.

SUB CODE: 08/ SUBM DATE: 29Jan66/ ORIG REF: 009/ OTH REF: 001/
ATD PRESS: 5106

ACC NR: AP7001909 SOURCE CODE: UR/0387/66/000/012/0011/0027

AUTHOR: Gil'ber shteyn, P. G.; Gurvich, I. I.; Pochtovik, V. S.

ORG: Moscow Geological Prospecting Institute im. S. Ordzhonikidze (Moskovskiy geologo-razvedochnyy institut); Geofiznefteuglerazvedka Trust (Trest Geofiznefteuglerazvedka)

TITLE: Model investigations of a two-dimensional seismic waveguide with sharp boundaries

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 12, 1966, 11-27

TOPIC TAGS: seismic modeling, interference wave, ultrasonic seismoscope, seismologic instrument

ABSTRACT: Two-dimensional seismic waveguide model investigations were conducted in which the kinematic and amplitude characteristics of interference waves were examined in relation to the thickness of the layer. Duralum models (1000 x 500 x 2 mm) were used. A perforated band with a triangular network of apertures served as the waveguide layer. Rochelle salt crystals (6 x 6 x 6 mm) acted as receivers, while an ultrasonic seismoscope recorded both narrow (60 kc) and broad (600 kc) bands. The effect of changing the location of the source relative to the layer on the amplitude of the interference waves both within the layer and in the surrounding medium was studied. In the case of a solid low-velocity layer a very

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ACC NR: AP7001909

intense interference was observed when the source was inside the layer. When the source was outside the layer, a surface wave was generated whose amplitude diminished rapidly with distance from the layer boundary. Orig. art. has: 12 figures and 2 formulas.

SUB CODE: 08/ SUBM DATE: 22Mar66/ ORIG REF: 012/ OTH REF: 007
ATD PRESS: 5111

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ACC NR: AP7006220

SOURCE CODE: UR/0387/67/000/001/0076/0085

AUTHOR: Gurvich, I. I.

ORG: Moscow Geological Prospecting Institute im. S. Ordzhonikidze (Moskovskiy geologorazvedochnyy institut)

TITLE: Dependence of spectra of seismic waves in an absorbing medium on the weight of the charge

SOURCE: AN SSSR. Izvestiya. Fizika Zemli, no. 1, 1967, 76-85

TOPIC TAGS: seismic wave propagation, ~~borehole shooting~~, geologic exploration, earth crust, SPECTRUM ANALYSIS, LONGITUDINAL WAVE

Abstract: By investigating the spectral characteristics of longitudinal waves generated by a spherical emitter in a homogeneous absolutely elastic or absorbing medium, the author has shown that borehole shooting can be modeled by such an emitter (Izv. AN SSSR. Fizika zemli, no. 10, 1965; Ibid., no. 5, 1966; Ibid., no. 2, 1966; Ibid., no. 4, 1966). On the basis of this research, the spectral characteristics of direct waves generated in a detonation of different size charges and recorded at a point in the medium quite distant from the source are examined. Families of amplitude spectra of the displacement rate as a function of the relative weight q of the charge are first computed in order to establish an arbitrary arrangement of source and receiver in an infinite absorbing medium. Each of the families corresponds to a definite form of the excitation function p(t) and the velocity ratio m near the

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source. Each family of spectra break down into two subgroups corresponding to supercritical ($q^3 >> 1$) and subcritical ($q^3 << 1$) charges. At $q^3 >> 1$ a definite dependence of the maximal frequency (f_{max}) of the spectrum on the weight of the charge is observed; at $q^3 << 1$ the frequency (f_{max}) is only slightly dependent on q. Experimental data indicate that subcritical charges are usually used in seismic prospecting. Comparison of theoretical and observed spectra helps in determining such focal properties as: 1) the form of the excitation function in the source; 2) velocity ratio; and 3) the frequency coefficient of the focus g. The absorption decrement along the path from the source to the point of observation may also be computed. When using subcritical charges the absorption decrement can be determined from the dominant period and travel time of the wave under study. The frequency of the oscillation recorded at the given point can only be controlled by changing the excitation conditions of subcritical charges. To do this, either the weight of the charge must be increased or the frequency coefficient of the focus must be reduced. Orig. art. has: 4 figures and 19 formulas.

[DM]

SUB CODE: 08/ SUBM DATE: 29Jan66/ ORIG REF: 010/

SINITSKIY, Vitaliy Petrovich; [redacted], Isay Markovich; VYSOTSKIY, A.A., retsenzent; USTINOVICH, B.P., retsenzent; SINELOBOV, M.A., red.; GRECHISHCHEVA, V.I., tekhn. red.

[Biological foundations and technology of the tapping] Biologicheskie osnovy i tekhnologiia podsochki. Moskva, Goslesbumizdat, 1961. 251 p.
(Turpentining) (MIRA 16:2)

GURVICH, I.S.

[Ethnology and the problems of the reorganization of the economy, culture, and way of life of the peoples of the Soviet Far North] Etnografiia i protsessy rekonstruktsii khoziaistva, kul'tury i byta malykh narodov Krainego Severa. Moskva, 1960. 16 p.

(Siberia--Ethnology) (MIRA 14:7)

GURVICH, Il'ya Samoylovich, nauchnyy sotrudnik, kand.istor.nauk; KUZAKOV, Kuz'ma Grigor'yevich, nauchnyy sotrudnik, kand.ekon. nauk; SLAVIN, S.V., doktor ekonom.nauk, otv.red.; SERGEYEV, M.A., red.izd-va; DOROKHINA, I.N., tekhn.red.

[The Koryak National Area; studies in geography, history, ethnology and economics] Koriakskii natsional'nyi okrug; ocherki geografii, istorii, etnografii, ekonomiki. Moskva, Izd-vo Akad.nauk SSSR, 1960. 301 p. (MIRA 14:2)

1. Sektor Severa Instituta etnografii AN SSSR (for Gurvich).
2. Sektor prirodnykh resursov i ekonomiki Severa Soveta po izucheniyu proizvoditel'nykh sil pri Prezidiume AN SSSR (for Kuzakov).
(Koryak National Area)

GURVICH, I. S.

GURVICH, I. S.

report presented at The Sixth International Congress on Anthropological and Ethnological Sciences, Paris 31 July-7 August 1960.

"L'ETHNOGRAPHIE ET LES PROBLEMES DE LA REORGANISATION DE L'ECONOMIE, DE LA CULTURE ET DU MODE DE VIE CHEZ LES PEUPLES DE L'EXTREME NORD DE L'URSS"

L 15625-63

ACCESSION NR: AP3006670 S/0286/63/000/008/0030/0030

44

AUTHOR: Gurvich, I. S.

TITLE: Circuit for measuring the tolerable inverse voltage in a semiconductor. Class 21, No. 153978

SOURCE: Byul. izobreteniy i tovarny*kh znakov, no. 8, 1963, 30

TOPIC TAGS: transistor, semiconductor, inverse voltage, peak inverse voltage, breakdown voltage

ABSTRACT: An Author's Certificate has been issued for a circuit intended for the measurement of the tolerable inverse voltage in a semiconductor. The device measures the peak allowable inverse voltage across a semiconductor junction under high ambient temperatures (50—60C), using the circuit shown in Fig. 1 of the Enclosure. In this circuit

$$I = P_{allow}/E-E_1,$$

where I is total current, E is test voltage, and E_1 is the net opposed voltage in the control unit.

Card 1/2

GURVICH, I. S.

"Ethnic changes in Northeastern Siberia during the last three centuries."

report presented at the 8th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

SHITSKOVA, A.P., otv. red.; GURVICH, L.S., red.

[Sanitary and chemical control in the field of water reservoir protection] Sanitarno-khimicheskii kontrol' v oblasti okhrany vodoemov. Moskva, 1964. 250 p.
(MIRA 18:4)

1. Moscow. Nauchno-issledovatel'skiy institut sanitarii i gigiyeny.

L 8887-66 EWT(1)/EWA(h) TG

ACC NR: AP5026969 SOURCE CODE: UR/0103/65/026/010/1845/1852

AUTHOR: Gurvich, I. S. (Vilnius)

ORG: None

TITLE: Operational capacity of discrete components

SOURCE: Avtomatika i telemekhanika, v. 26, no. 10, 1965, 1845-1852

TOPIC TAGS: reliability theory, logic circuit, probability

ABSTRACT: The author proposes a method for calculating the working capacity of components in discrete devices by plotting values proportional to the charges of the input and output current pulses along the coordinate axes for the transfer characteristics of a logic element (ferrotransistor cell). The operational capacity of the components is analyzed by using a piecewise linear approximation of the actual input-output transfer characteristics. The probability that a component is operative is calculated from the possible scatter in transfer characteristics. Several circuits typical of ferrotransistor cells are examined As an example of application of the method, data are given from analysis of the operating capacity of a ferrotransistor cell with specific parameters. Graphs are given for probabilities of the working capacity of a ferro-transistor cell as a function of ambient temperature for a branching circuit, an exclusion circuit, and an "OR" gate. It is found that a temperature increase results in increased load capacity and reduced resistance to interference. The operational reliability of discrete components is considered. The cases of gradual and

Card 1/2

UDC 62-504.2:621:3.019.3

L 8887-66

ACC NR: AP5026889

instantaneous failures and breakdowns are studied. Use of the transfer characteristics of components should have a good future in the calculation of the reliability of discrete devices since this method can be used to account for the effect which the electrical circuitry has on the operational capacity and working reliability of its individual components. The method may also be extended to other types of discrete components. Author considers it his duty to thank B. S. Sotskov for a number of valuable comments during completion of this work. Orig. art. has: 6 figures, and 21 formulas.

SUB CODE: 09 / SUBM DATE: 06Jan65 / ORIG REF: 003

Card 2/2 nda

DENISENKO, P.P.; GURVICH, I.Ya.

Use of the central cholinolytic agent metamisyl in the treatment of narcomanias (morphinism). Vop. psikh. i nevr. no.9:464-471 '62. (MIRA 17:1)

1. Otdel farmakologii Instituta eksperimental'noy meditsiny (zav. - deystvitel'nyy chlen AMN SSSR, prof. S.V. Anichkov) i 2-ya psikhonevrologicheskaya bol'nitsa Novgorodskoy oblasti "Podgornoye" (glavnyy vrach - D.I. Al'perovich).

GURVICH, I. YA.

USSR/Agriculture Mar/Apr 49
Reforestation
Drought, Control

"Forestation in the Stalin Plan for Combatting Drought and Crop Failures," I. Ya. Gurvich, 11½ pp

"Iz v-s Geograf Obshch" Vol LXXXII, No 2

Article is divided into four sections: (1) Quotes from Molotov's speech of 6 Nov 48 on subject plan, (2) reviews history of protective forest belts in Russia from Peter I to 1941; (3) discusses plan itself; and (4) attempts to minimize achievements of capitalist countries in this field.

[redacted] 48/49[illegible]

[illegible]VICH, I. Ya.

Forests and Forestry

Estimates of the lumber reserves in the world's forests. Izv. Vses. geog. ob-va, 79, No. 5, 1947.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

GURVICH, I. Ya.

21904. GURVICH, I. Ya.

Sovremennyye mirovaya lesnaya baza. Trudy Vtorogo Vsesoyuz. geovgr. S"yezda T.P.M., 1948,s. 413-25

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

GURVICH, I. YA. : YEVPAT'YEVSKIY, MP

Drainage

Planning forest improvement through drainage. Les. khoz. 5 no. 9, 1952

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

USSR / Forest Science. Forest Management. K-3

Abs Jour : Ref. Zhur - Biologiya, No 17, 1958, No. 77503

Author : Gurvich, I. Ya.
Inst : Leningrad Scientific-Research Institute of Forest Management
Title : The Result of Soviet Forest Management for Forty Years

Orig Pub : Byul. nauchno-tekhn. inform. Leningr. n.-i. in-ta lesn. kh-va, 1957, No 4, 13-21

Abstract : No abstract given

Card 1/1

USSR / Forestry. Forest Economy. K

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No. 100172

Author : Gurvich, I. Ya.
Inst : Leningrad Sci. Res. Inst. of Forest Economy
Title : Ways to Increase the Productivity of Danish Forests

Orig Pub : Byul. nauchno-tekhn. inform. Leningr. n.-i. in-ta lesn. kh-va, 1958, No 5, 41-45

Abstract : No abstract given

Card 1/1

GURVICH, I.Ye., kand.tekhn.nauk; PSHENISNOV, A.V.

Automatic devices for setting conditions for rolling in of engines. Avt.i trakt.prom. no.7:40-41 Jl '57. (MIRA 10:11)

1. Gor'kovskiy avtozavod.

(Automobiles--Engines)

GURVICH, I. Z.

35469. Klinika perforativnogo infarkta mezhzheludochkovoy peregorodki serdtsa. Vrachеb. delo, 1949, No. 11, stb. 1037-40.

Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

GURVICH, K., inzhener-polkovnik v otstavke.

Raising sunken ships. Tekh.molod. 21 no.7:32-34 Jl '53. (MLRA 6:8)
(Salvage)

GURVICH, K., inzhener-polkovnik v otstavke

Miniature submarines in the Second World War. Voen.znan. 36 no.8:37-38 Ag '60. (MIRA 13:7)
(World War, 1939-1945--Naval operations)
(Submarine boats)

GURVICH, L., inzh.

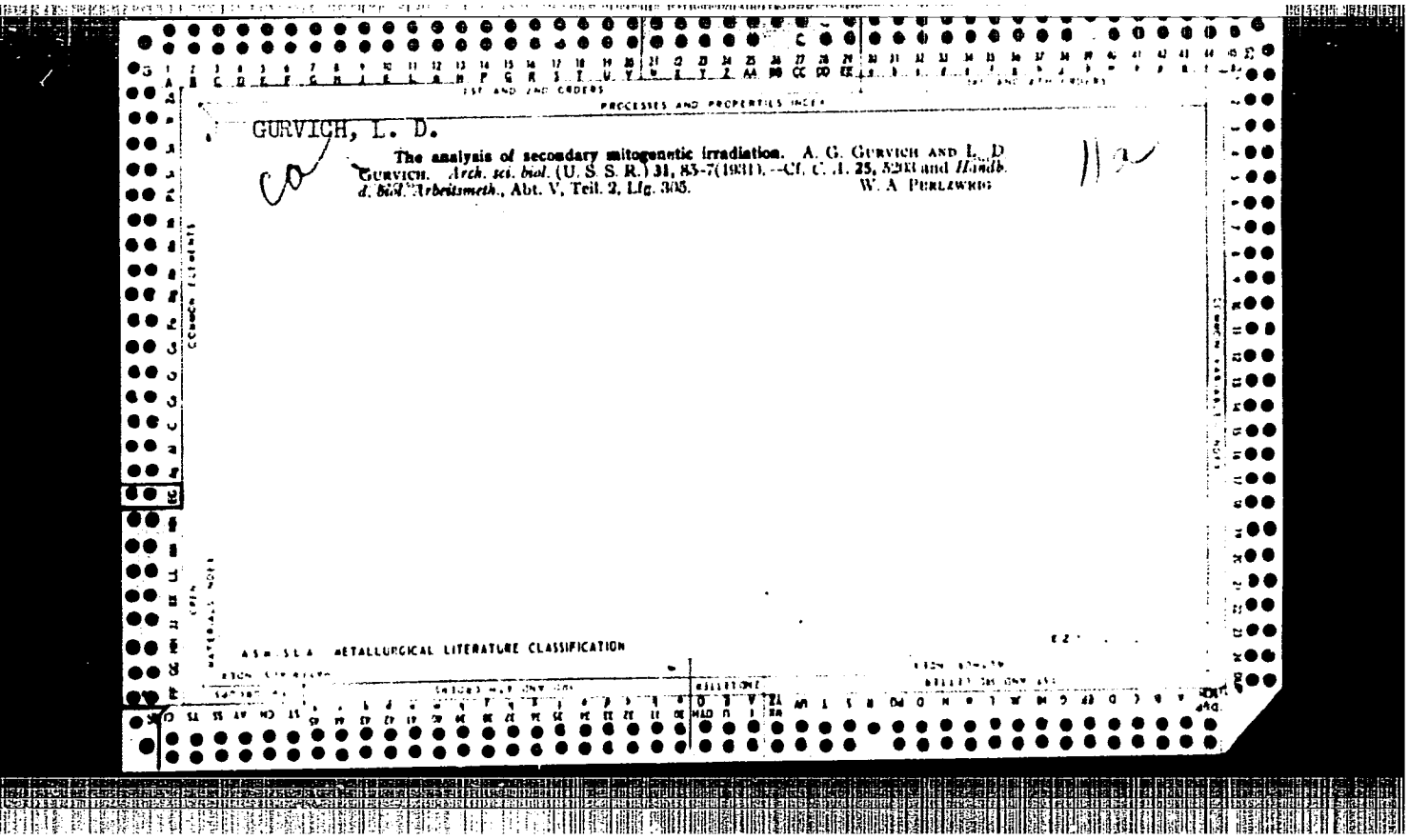
Magnetic modulator for a photoelectric cell. Radio no.7:48 Jl '65. (MIRA 18:9)

Nauchny osnovy pererabotki nefti /The Scientific Principles of Petroleum Refining/, 3rd Edition, Moscow-Leningrad, 1940.

No. 444, 16 Aug 55

GURVICH, L.G.; BESPALOVA, N.S.

Role of thermal peaks in the formation of defects. Atom. energ. 18 no.1:76-77 Ja '65. (MIRA 18:2)



GURVICH, L. D.

The analysis of secondary mitogenetic irradiation. A. G. Gurvich and L. D Gurvich. *Arch. sci. biol.* (U. S. S. R.) 31, 83-7(1931).—Cf. C. A. 25, 5291 and *Handb. d. biol. Arbeitsmeth.*, Abt. V, Teil 2, Lfg. 305. W. A Perlzweig

112

GURVICH, L. D.

GURWITSCH, A.: GURWITSCH, L.

Die mitogenetische Strahlung und die Autokatalyse der Krebszelle

Zschr. f. Krebsforsch., 36, #2-3, 319-341, 1932

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L, 1939 p 412

GURVICH, L. D.

GURWITSCH, A.; GURWITSCH, L.

Die mitogenetische Spektralanalyse, Das Spektrum der Nucleinsäurespaltung

Biochem. Zschr., 246, 1932

Report of the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, Moscow-Leningrad, 1939, p 412

GURVICH, L. D.

GURWITSCH, A.; GURWITSCH, L.

Die Fortleitung des mitogenetischen Effektes in Lösungen und die Beziehungen zwischen Fermenttätigkeit und Strahlung.

Biochem. Zschr., 246, 1-3, 127-133, 1932

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L, 1939 p 412

GURVICH, L. D.

GURWITSCH, A.; GURWITSCH, L.

Die mitogenetische Strahlung, Berlin

Springer, 384, 1932

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, Moscow-Leningrad, 1939 p 412

GURVICH, A G.: GURVICH, L. D.

Mitogeneticheskoye izlucheniye izd.

2-e VIEM(All-Union Inst. of Experimental Medicine imeni A. M. Gor'kiy), 335, Leningrad 193-

Report on theResearch Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy for 1933-1937, Medgiz, Moscow-Leningrad 1939 p 412

GURVICH, L. D.
GURWITSCH, L.; GURWITSCH, L.

Das mitogenetische Regime der Krebszellen

Acta cancer, v. 1, fasc. 2, 1934

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L, 1939, p 412

GURVICH, L. D.

GURWITSCH, L.

Le spectre mitogenétique fibres proprioceptives du nerf

Ann. de Physiol., 10, 1, 137-140, 1934

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L., 1939, p 413

GURVICH, A. G.: GURVICH, I. D.

Mitogeneticheskoye vozbuzhenie tsentralnoy nervnoy sistemy

Arkhiv biologicheskikh nauk, 35, ser. B 1, 127-140, 1934

Report of the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy for 1933-1937, Medgiz, Moscow-Leningrad 1939 p 412

GURVICH, L. D.

Mitogeneticheskiy spektr pri vozbuzhdenii propriotseptivnykh volokon nerva

Arkhiv Biologicheskikh Nauk, 35, ser. B, v. 1, 141-143, 1934

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L., 1939, p 413

GURVICH, A. G.; GURVICH, L. D.

Mitogeneticheskaya metodika, ee teoreticheskiye osnovy i oblast' primeneniya

Byulleten' VIEM, 6-7, 29-32, 1935

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L, 1939, p 41

GURVICH, L. D.

GURVICH, A. G.; GURVICH, L. D.

itogeneticheskiy analiz nervnogo vozbuzhdeniya.

VIEM, 103 str., s ill., M-L-1935

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L- 1939, p 412

GURVICH, L. D.

GURWITSCH, A.; GURWITSCH, L.

Der Feldbergiff in seiner Anwendung auf sas Problem der Zellteilung

Acta Biotheoretica, ser. A., v. III, 1936

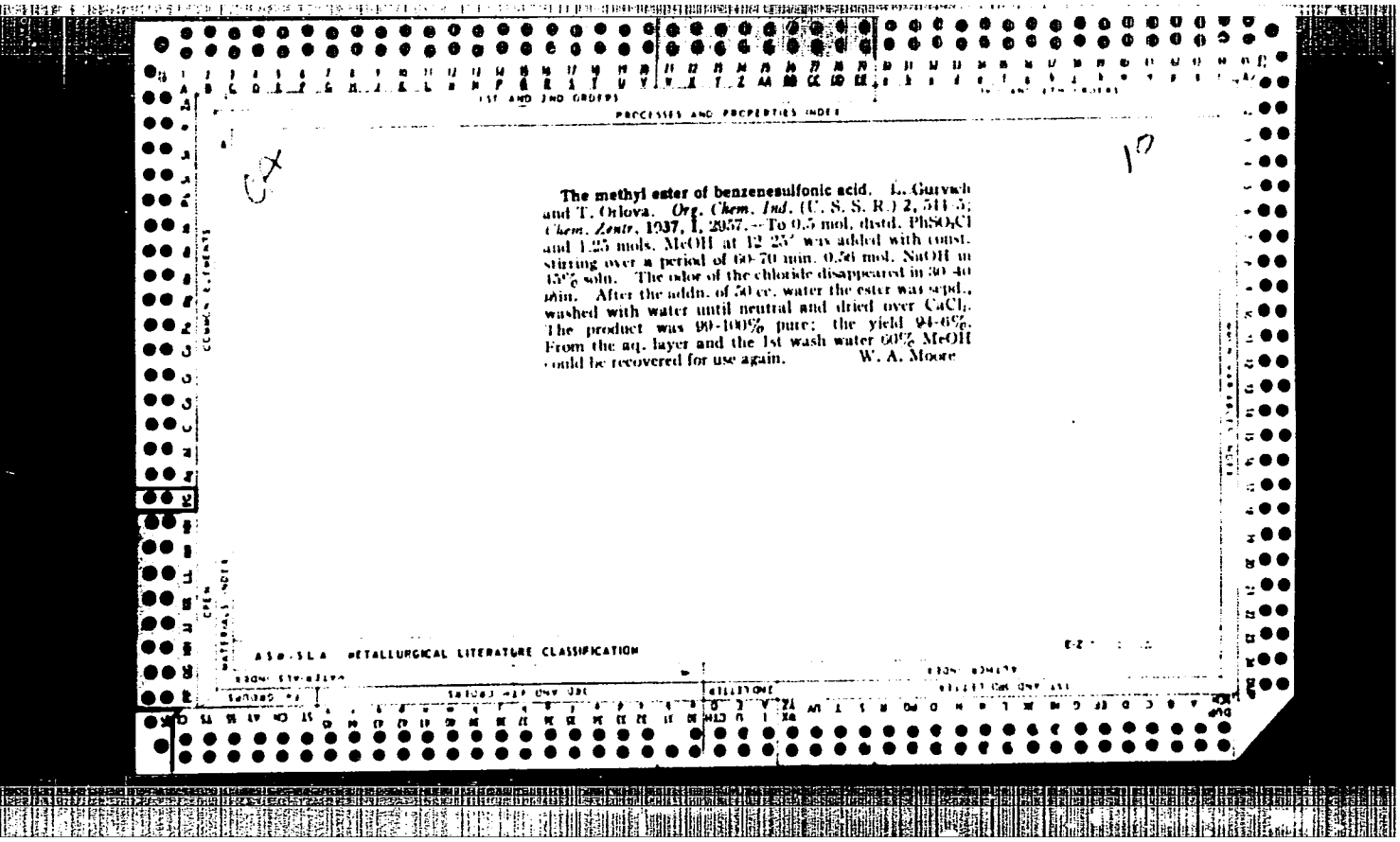
Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM), for 1933-1937, Medgiz, M-L, 1939, p 413

GURVICH, L. D.

GURWITSCH, A; GURWITSCH, L. Die mitogenetische Sekundärstrahlung.

Protoplasma, 25. 1-15, 1936

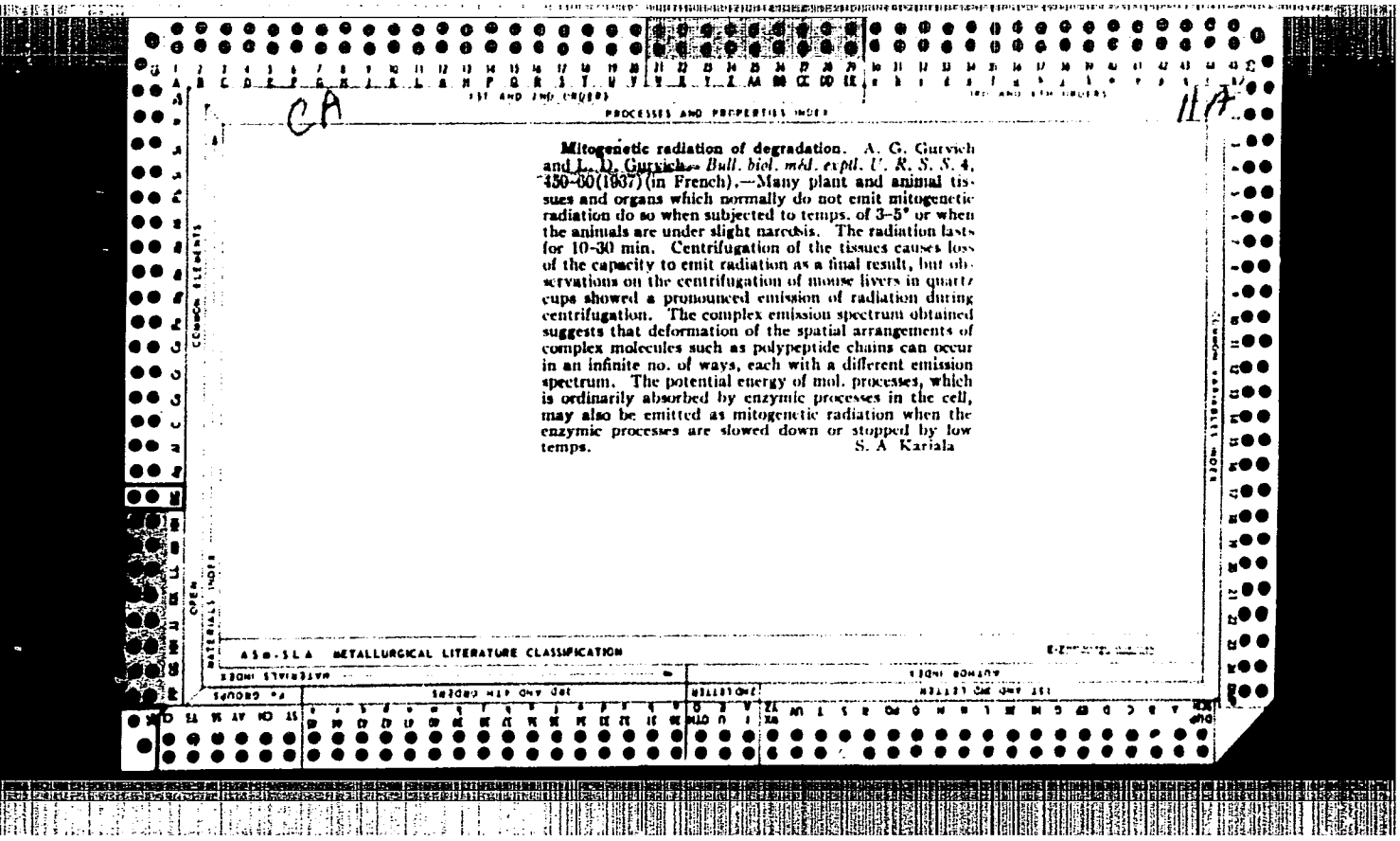
Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L, 1939, p 4;3



PROCESSES AND PROPERTIES INDEX

The methyl ester of benzenesulfonic acid. L. Gurvich and T. Orlova. *Org. Chem. Ind.* (U. S. S. R.) 2, 511-5; *Chem. Zentr.*, 1937, I, 2957.—To 0.5 mol. distd. $PhSO_2Cl$ and 1.25 mols. MeOH at 12-25° was added with const. stirring over a period of 60-70 min. 0.56 mol. NaOH in 15% soln. The color of the chloride disappeared in 30-40 min. After the addn. of 50 cc. water the ester was sepd., washed with water until neutral and dried over $CaCl_2$. The product was 99-100% pure; the yield 94-6%. From the aq. layer and the 1st wash water 60% MeOH could be recovered for use again. W. A. Moore

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



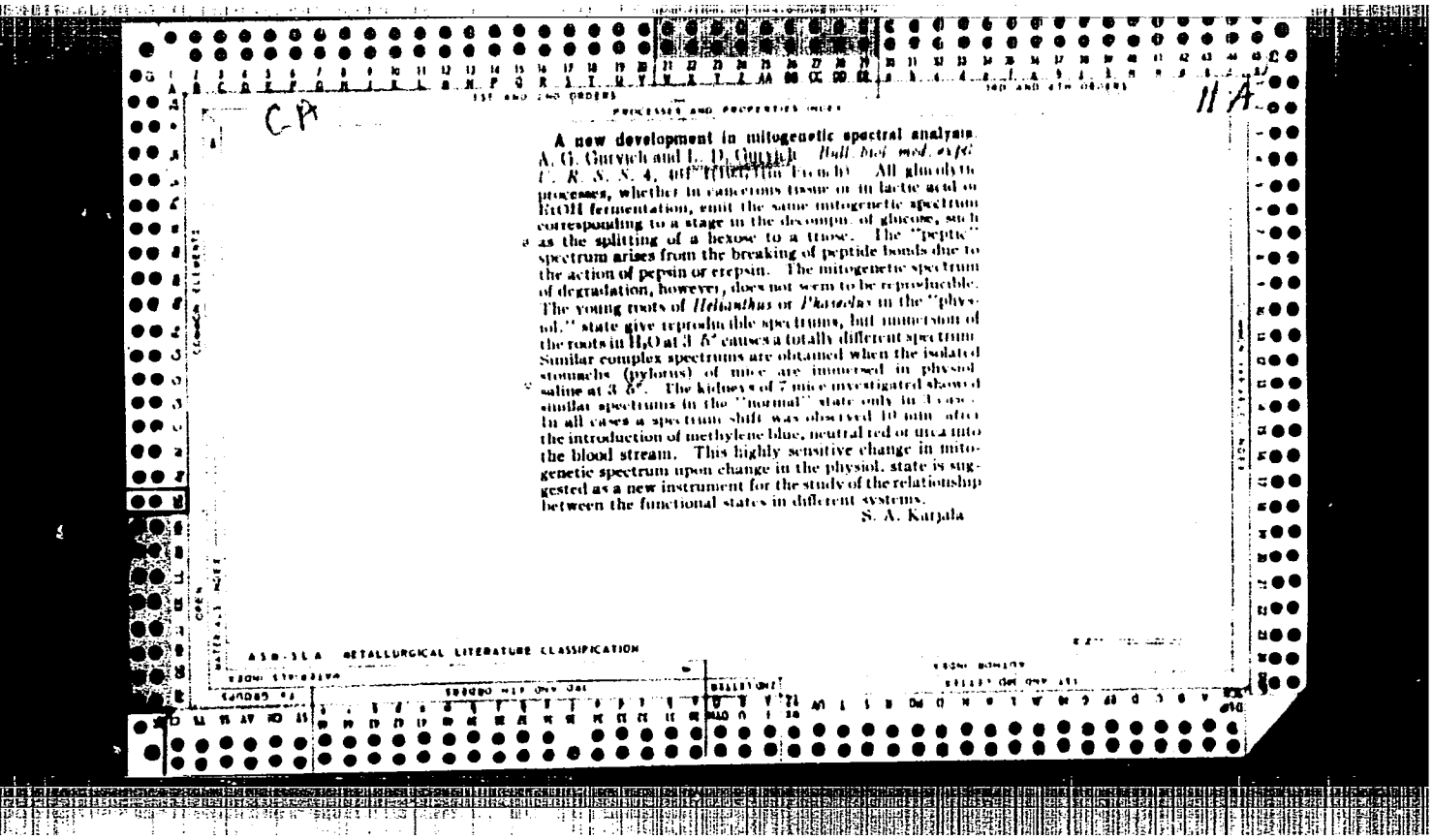
CA

11A

PROCESSES AND PROPERTIES INDEX

Mitogenetic radiation of degradation. A. G. Gurvich and L. D. Gurvich. *Bull. biol. méd. exptl. U. R. S. S.* 4, 450–60 (1937) (in French).—Many plant and animal tissues and organs which normally do not emit mitogenetic radiation do so when subjected to temps. of 3–5° or when the animals are under slight narcosis. The radiation lasts for 10–30 min. Centrifugation of the tissues causes loss of the capacity to emit radiation as a final result, but observations on the centrifugation of mouse livers in quartz cups showed a pronounced emission of radiation during centrifugation. The complex emission spectrum obtained suggests that deformation of the spatial arrangements of complex molecules such as polypeptide chains can occur in an infinite no. of ways, each with a different emission spectrum. The potential energy of mol. processes, which is ordinarily absorbed by enzymic processes in the cell, may also be emitted as mitogenetic radiation when the enzymic processes are slowed down or stopped by low temps. S. A. Kariala

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



A new development in mitogenetic spectral analysis. A. G. Gurvich and L. D. Gurvich. *Bull. biol. med. exptl. U. R. S. S.* 4, 407-[illegible] (in French). All glycolytic processes, whether in cancerous tissue or in lactic acid or EtOH fermentation, emit the same mitogenetic spectrum corresponding to a stage in the decompn. of glucose, such as the splitting of a hexose to a triose. The "peptic" spectrum arises from the breaking of peptide bonds due to the action of pepsin or erepsin. The mitogenetic spectrum of degradation, however, does not seem to be reproducible. The young roots of *Helianthus* or *Phaseolus* in the "physiol." state give reproducible spectrums, but immersion of the roots in H_2O at 3° causes a totally different spectrum. Similar complex spectrums are obtained when the isolated stomachs (pylorus) of mice are immersed in physiol. saline at 3°. The kidneys of 7 mice investigated showed similar spectrums in the "normal" state only in 3 cases. In all cases a spectrum shift was observed 10 min. after the introduction of methylene blue, neutral red or urea into the blood stream. This highly sensitive change in mitogenetic spectrum upon change in the physiol. state is suggested as a new instrument for the study of the relationship between the functional states in different systems.

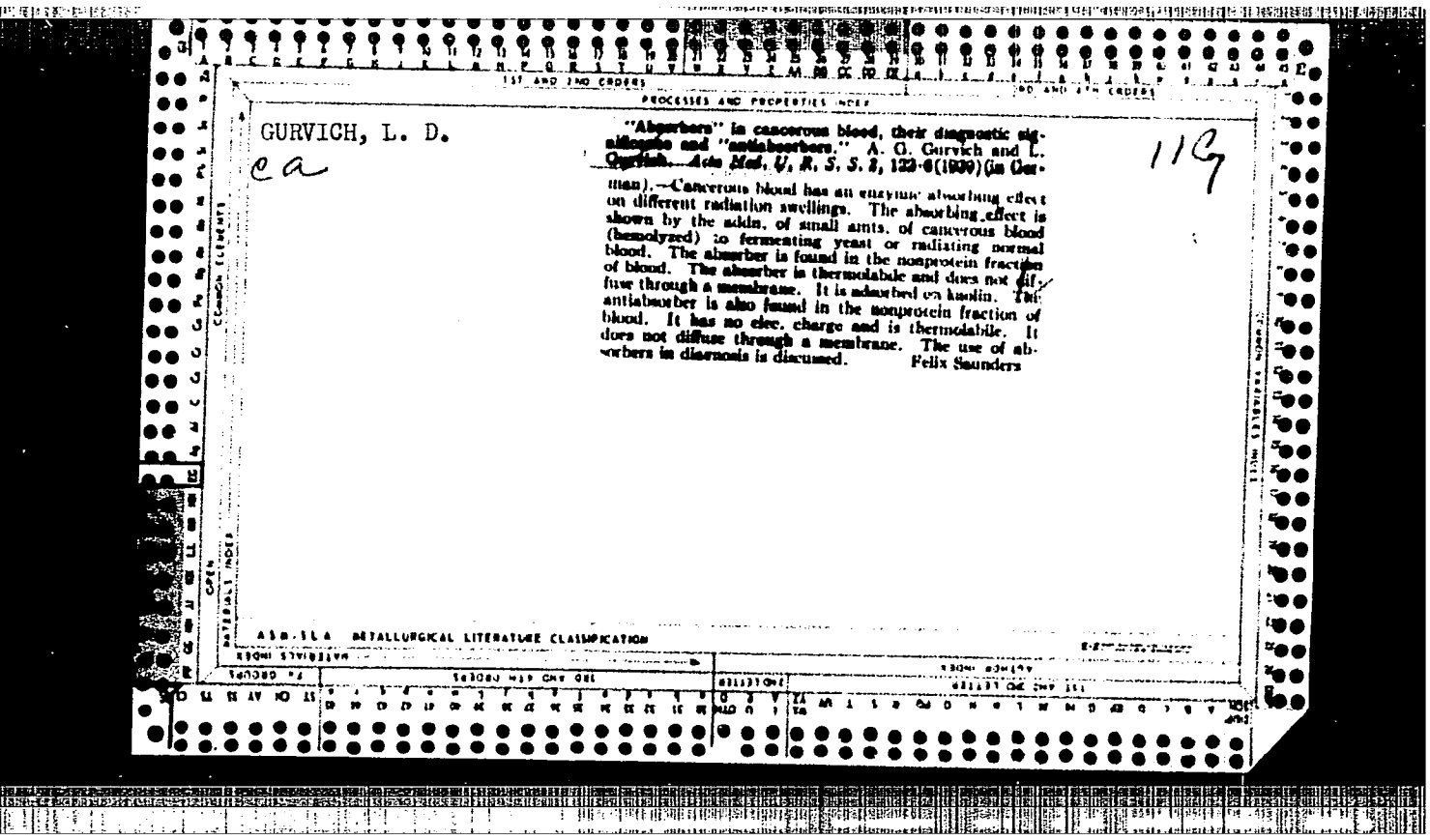
S. A. Karjala

GURVICH, A. G.; GURVICH, L. D.

Mitogeneticheskiy analiz biologii rakovoy kletki

VIEM, 79, M., 1937

Report on the Research Work of the All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy (VIEM) for 1933-1937, Medgiz, M-L, 1939, p 413



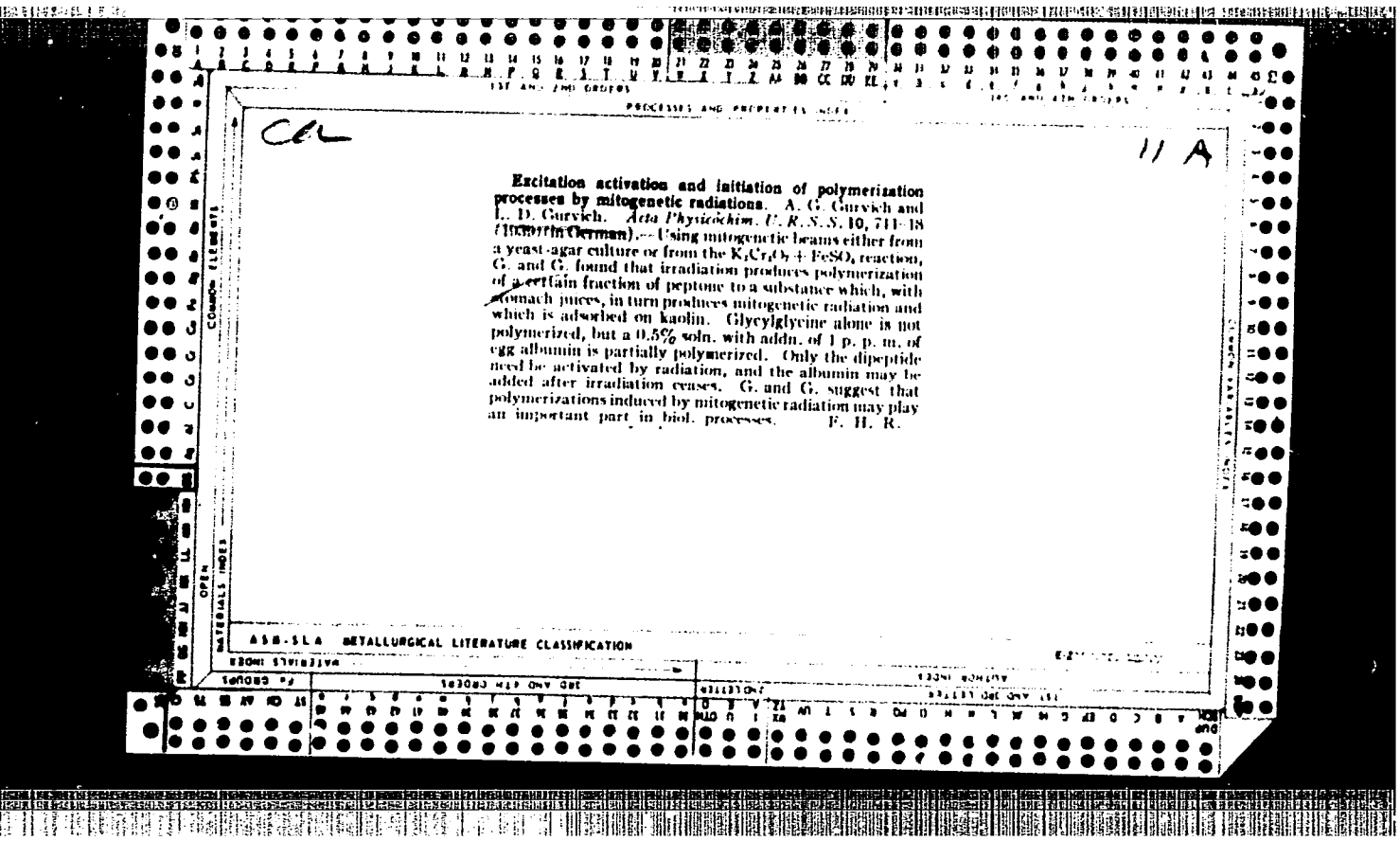
GURVICH, L. D.

ca

"Absorbers" in cancerous blood, their diagnostic significance and "antiabsorbers." A. G. Gurvich and L. Gurvich. *Acta Med. U. R. S. S.* 2, 122-6(1939)(in German).—Cancerous blood has an enzyme absorbing effect on different radiation swellings. The absorbing effect is shown by the addn. of small amts. of cancerous blood (hemolyzed) to fermenting yeast or radiating normal blood. The absorber is found in the nonprotein fraction of blood. The absorber is thermolabile and does not diffuse through a membrane. It is adsorbed on kaolin. The antiabsorber is also found in the nonprotein fraction of blood. It has no elec. charge and is thermolabile. It does not diffuse through a membrane. The use of absorbers in diagnosis is discussed.
Felix Saunders

11G

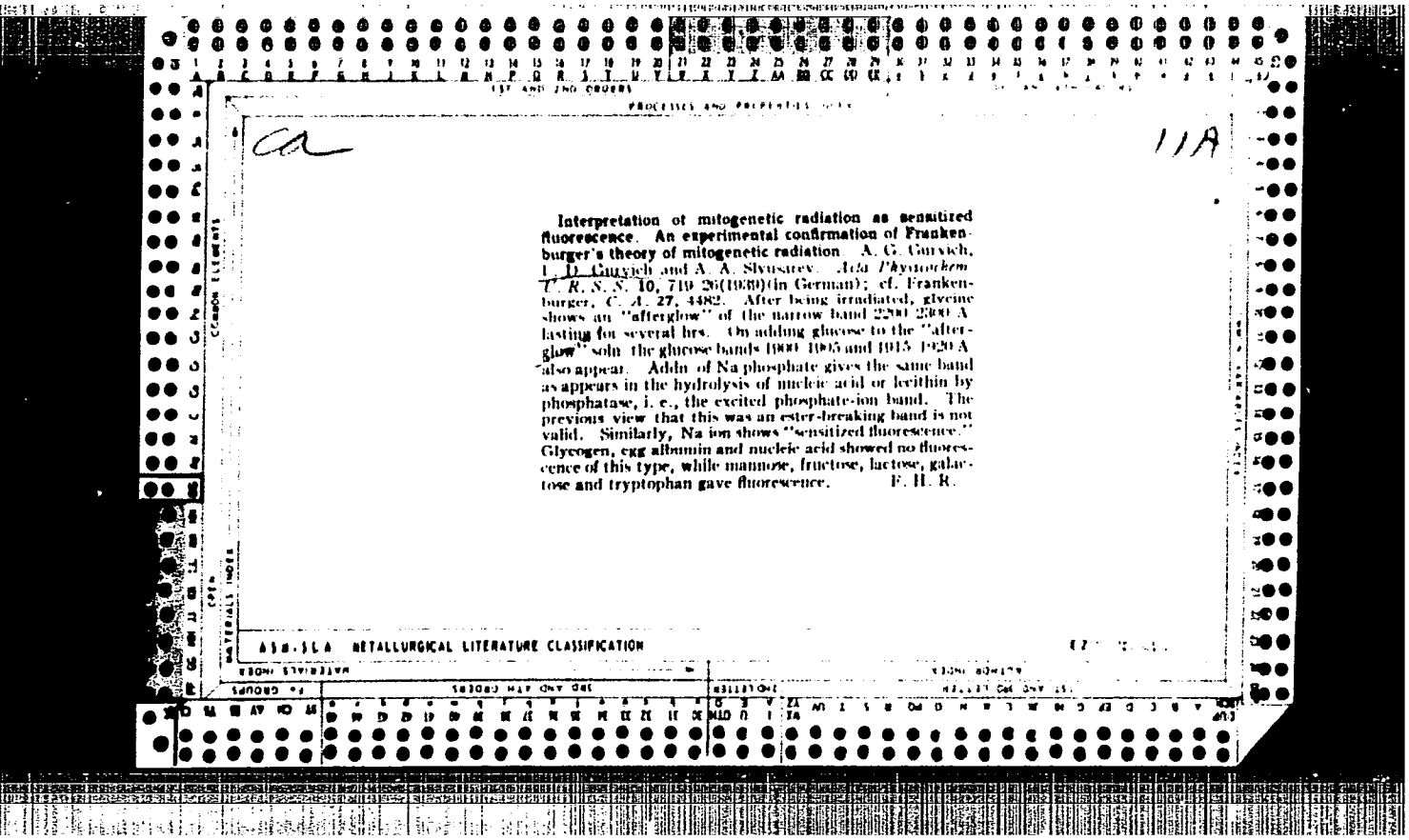
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



11 A

Excitation activation and initiation of polymerization processes by mitogenetic radiations. A. G. Gurvich and L. D. Gurvich. *Acta Physiochim. U. R. S. S.* 10, 711–18 (1939) (in German).—Using mitogenetic beams either from a yeast-agar culture or from the $K_2Cr_2O_7 + FeSO_4$ reaction, G. and G. found that irradiation produces polymerization of a certain fraction of peptone to a substance which, with stomach juices, in turn produces mitogenetic radiation and which is adsorbed on kaolin. Glycylglycine alone is not polymerized, but a 0.5% soln. with addn. of 1 p. p. m. of egg albumin is partially polymerized. Only the dipeptide need be activated by radiation, and the albumin may be added after irradiation ceases. G. and G. suggest that polymerizations induced by mitogenetic radiation may play an important part in biol. processes. F. H. R.

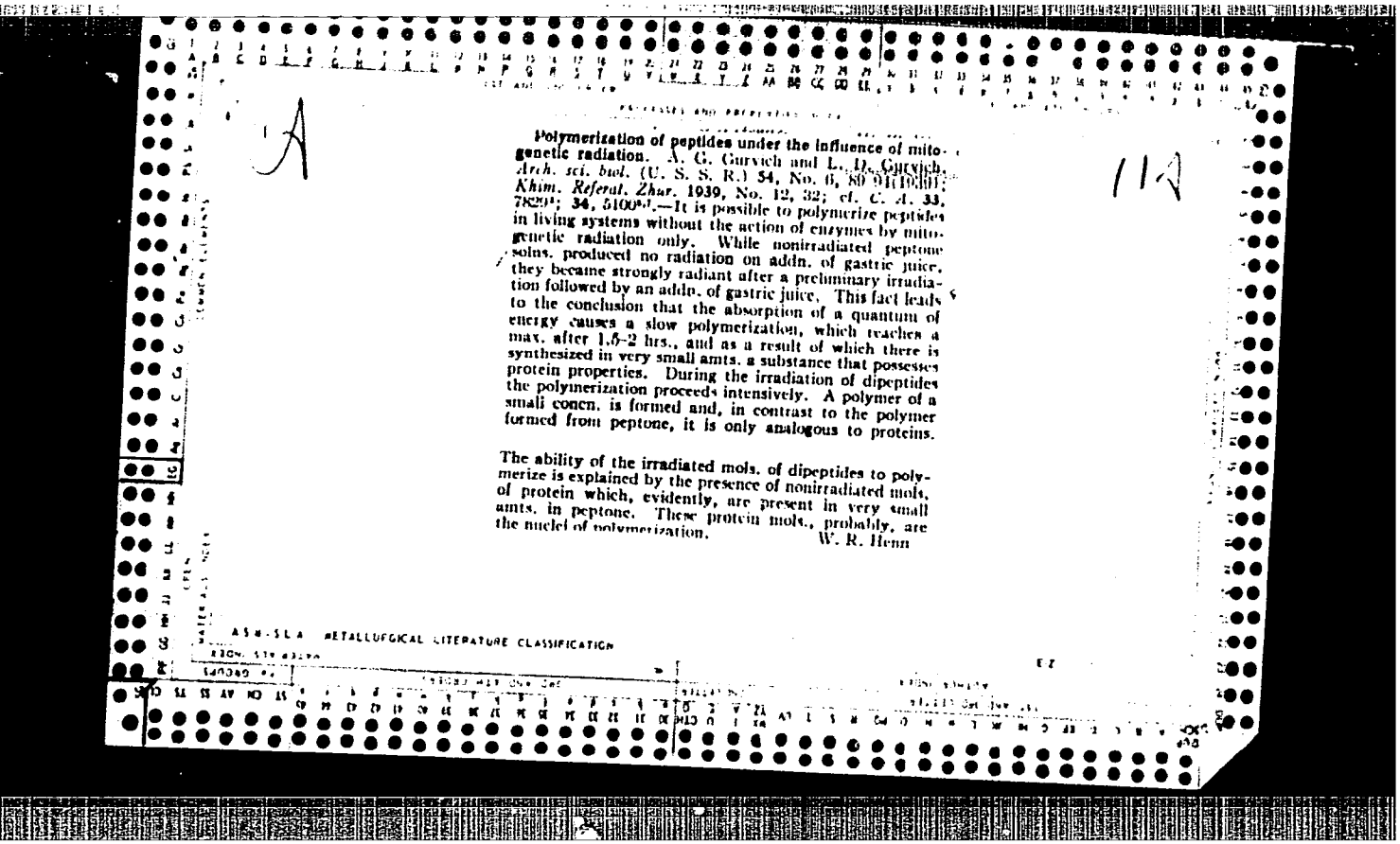
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



IIA

Interpretation of mitogenetic radiation as sensitized fluorescence. An experimental confirmation of Frankenburger's theory of mitogenetic radiation. A. G. Gurvich, I. D. Gurvich and A. A. Slyusarev. *Acta Physiochem. U. R. S. S.* 10, 719-26(1939)(in German); cf. Frankenburger, *C. A.* 27, 4482. After being irradiated, glycine shows an "afterglow" of the narrow band 2280-2300 A. lasting for several hrs. On adding glucose to the "afterglow" soln the glucose bands 1900-1905 and 1915-1920 A. also appear. Addn of Na phosphate gives the same band as appears in the hydrolysis of nucleic acid or lecithin by phosphatase, i. e., the excited phosphate-ion band. The previous view that this was an ester-breaking band is not valid. Similarly, Na ion shows "sensitized fluorescence." Glycogen, egg albumin and nucleic acid showed no fluorescence of this type, while mannose, fructose, lactose, galactose and tryptophan gave fluorescence. F. H. R.

A38-51A METALLURGICAL LITERATURE CLASSIFICATION

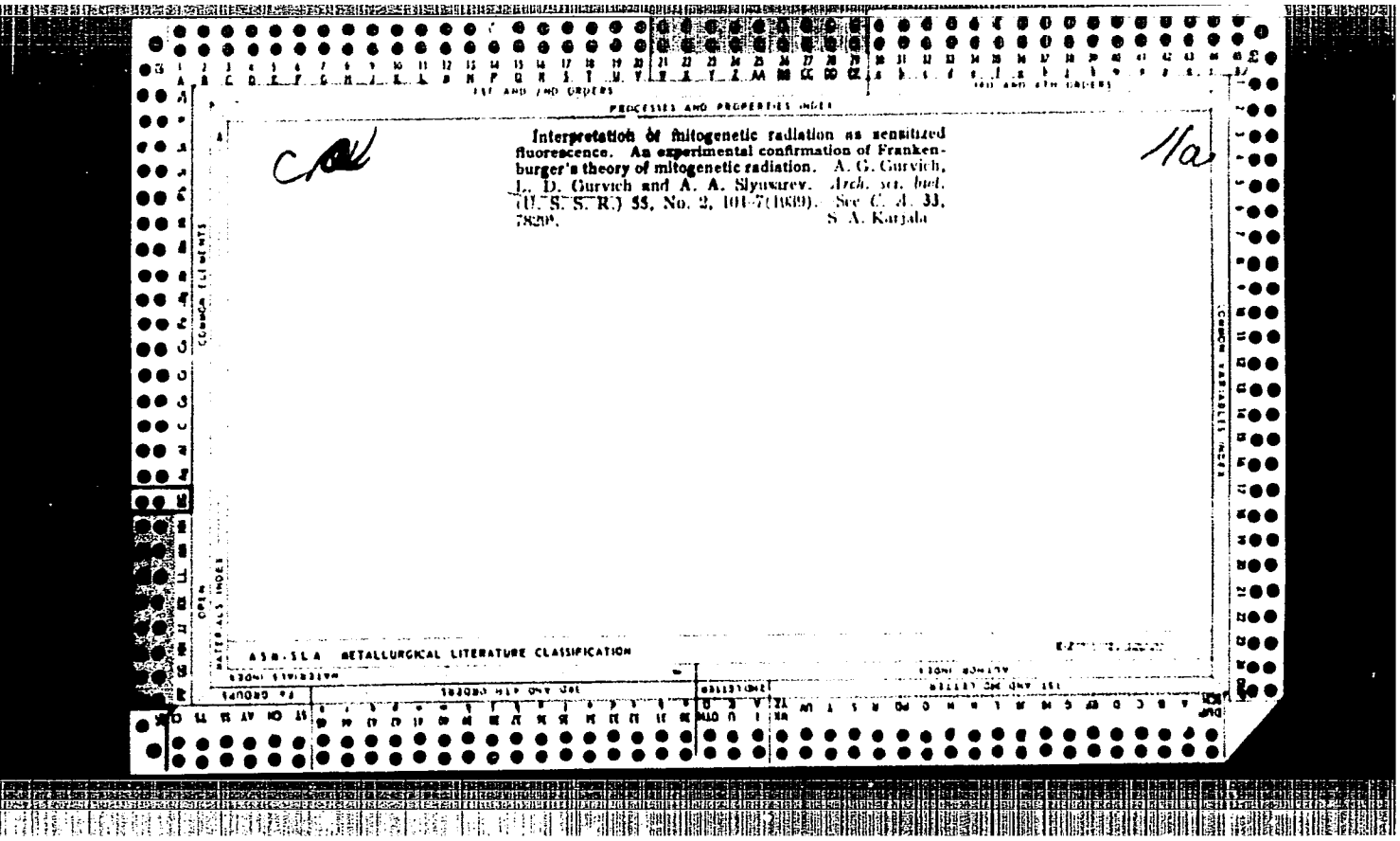


Polymerization of peptides under the influence of mitogenetic radiation. A. G. Gurvich and L. D. Gurvich. *Arch. sci. biol.* (U. S. S. R.) **54**, No. 6, 80–91(1938); *Khim. Referat. Zhur.* **1939**, No. 12, 32; cf. *C. A.* **33**, 7829[1]; **34**, 5100[9].—It is possible to polymerize peptides in living systems without the action of enzymes by mitogenetic radiation only. While nonirradiated peptone solns. produced no radiation on addn. of gastric juice, they became strongly radiant after a preliminary irradiation followed by an addn. of gastric juice. This fact leads to the conclusion that the absorption of a quantum of energy causes a slow polymerization, which reaches a max. after 1.5–2 hrs., and as a result of which there is synthesized in very small amts. a substance that possesses protein properties. During the irradiation of dipeptides the polymerization proceeds intensively. A polymer of a small concn. is formed and, in contrast to the polymer formed from peptone, it is only analogous to proteins.

The ability of the irradiated mols. of dipeptides to polymerize is explained by the presence of nonirradiated mols. of protein which, evidently, are present in very small amts. in peptone. These protein mols., probably, are the nuclei of polymerization.

W. R. Henn

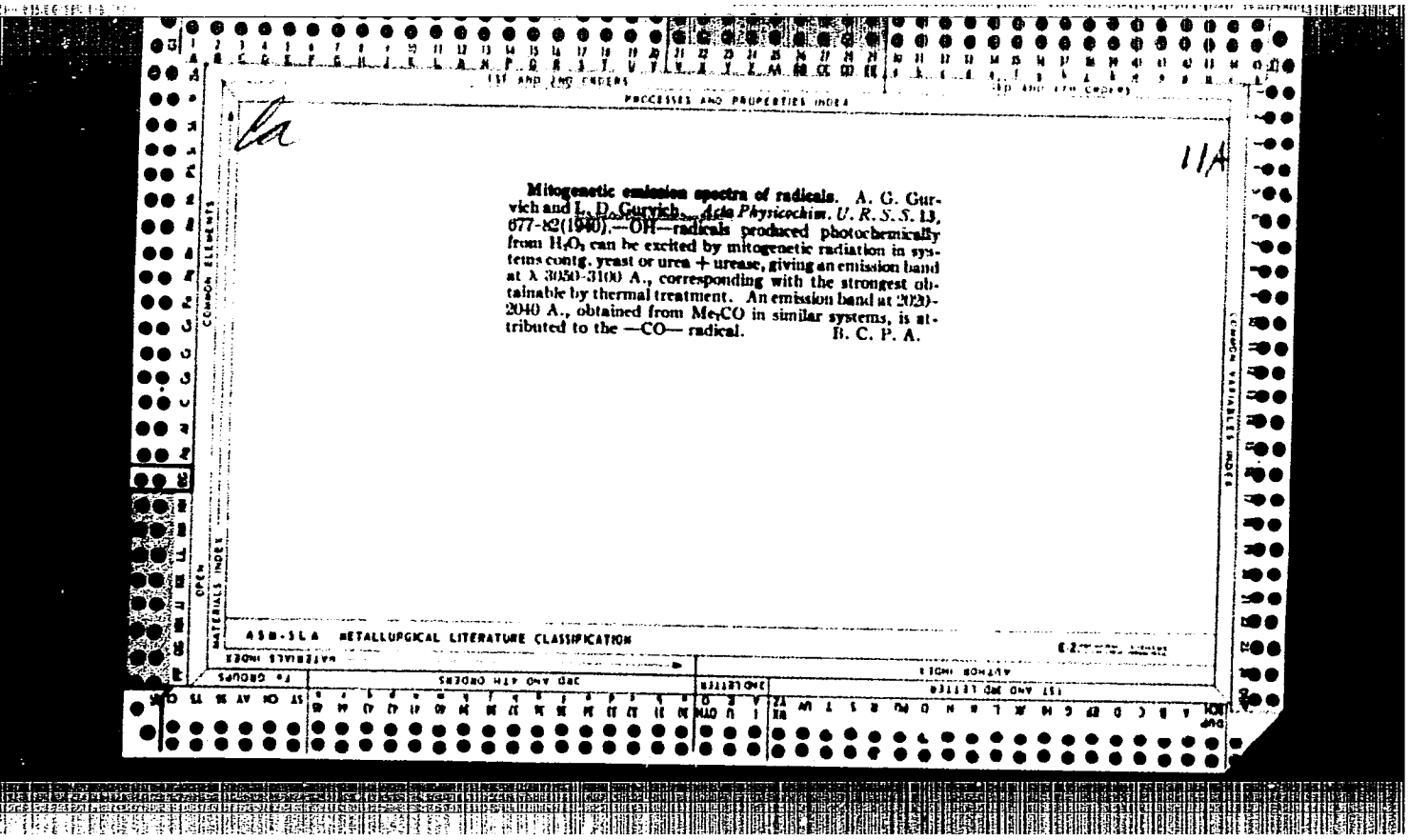
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



Interpretation of mitogenetic radiation as sensitized fluorescence. An experimental confirmation of Frankenburger's theory of mitogenetic radiation. A. G. Gurvich, L. D. Gurvich and A. A. Slyusarev. *Arch. sci. biol.* (U. S. S. R.) 55, No. 2, 101-7(1939). See C. A. 33, 7820⁹. S. A. Karjala

11a

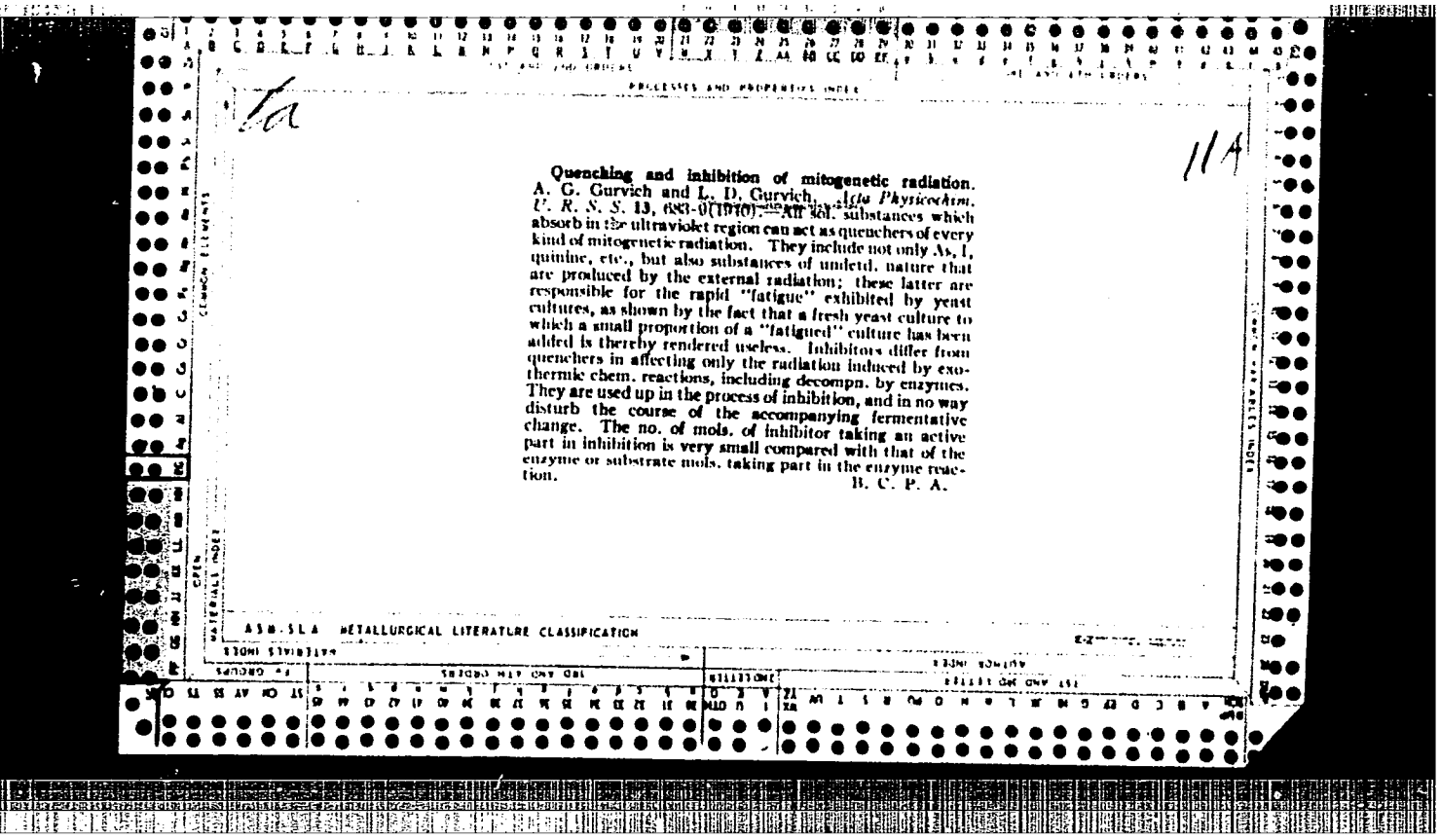
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1a

11A

Mitogenetic emission spectra of radicals. A. G. Gurvich and L. D. Gurvich. *Acta Physicochim. U. R. S. S.* 13, 677-82(1940).—OH—radicals produced photochemically from H_2O_2 can be excited by mitogenetic radiation in systems contg. yeast or urea + urease, giving an emission band at λ 3050-3100 A., corresponding with the strongest obtainable by thermal treatment. An emission band at 2020-2040 A., obtained from Me_2CO in similar systems, is attributed to the —CO— radical. B. C. P. A.

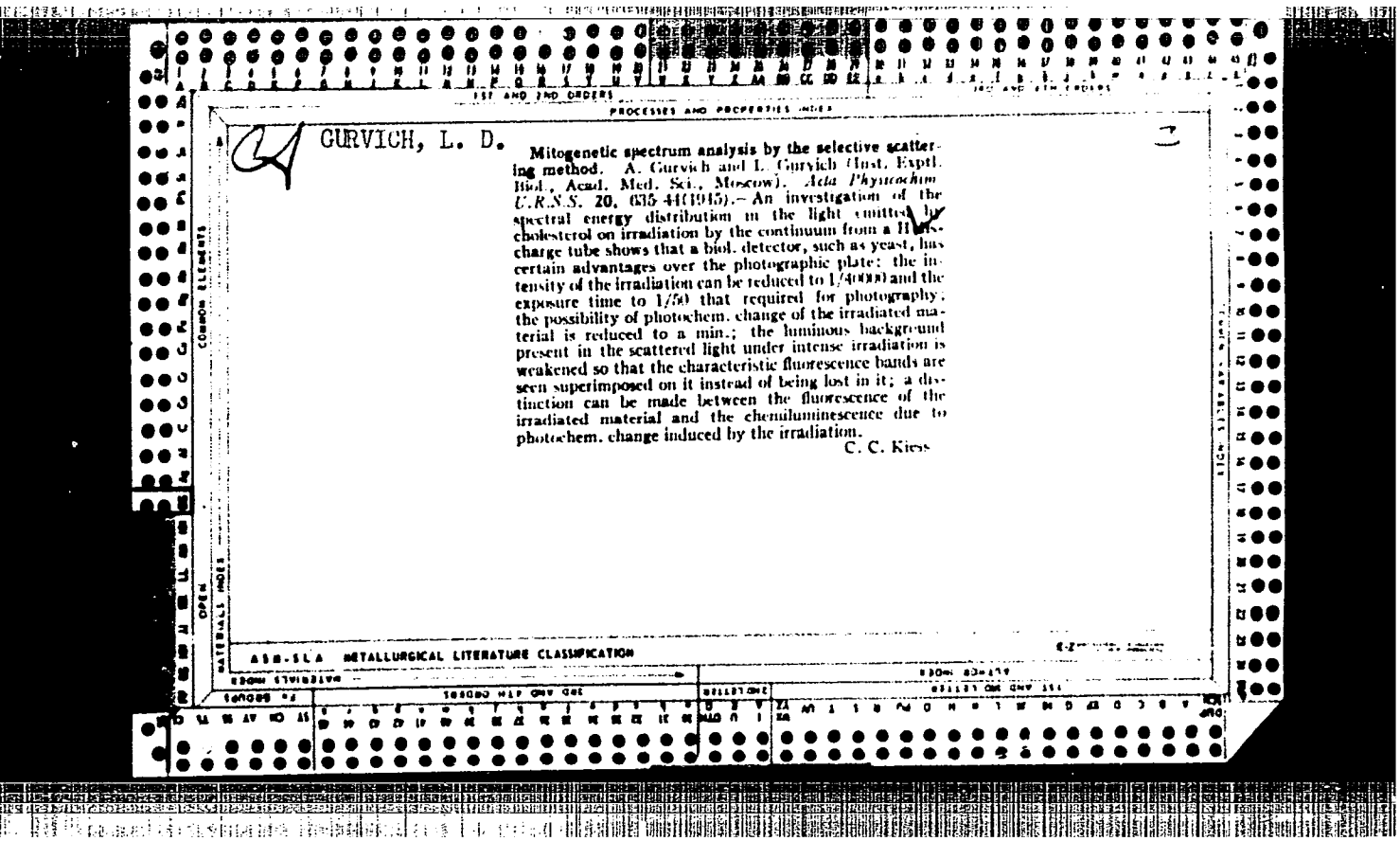


Quenching and inhibition of mitogenetic radiation. A. G. Gurvich and L. D. Gurvich. *Acta Physicochim. U. R. S. S.* 13, 683-0(1940).—All sol. substances which absorb in the ultraviolet region can act as quenchers of every kind of mitogenetic radiation. They include not only As, I, quinine, etc., but also substances of undetd. nature that are produced by the external radiation; these latter are responsible for the rapid "fatigue" exhibited by yeast cultures, as shown by the fact that a fresh yeast culture to which a small proportion of a "fatigued" culture has been added is thereby rendered useless. Inhibitors differ from quenchers in affecting only the radiation induced by exothermic chem. reactions, including decompn. by enzymes. They are used up in the process of inhibition, and in no way disturb the course of the accompanying fermentative change. The no. of mols. of inhibitor taking an active part in inhibition is very small compared with that of the enzyme or substrate mols. taking part in the enzyme reaction.
B. C. P. A.

GURVICH, L.

"Twenty Years of Mitogenetic Radiation." (p. 305) by Gurvich, A., Gurvich, L. (Moscow)

SO: Advances in Modern Biology (Uspekhi Sovremennoi Biologii) Vol. 16, No. 3, 1943.



GURVICH, L. D.

Mitogenetic spectrum analysis by the selective scattering method. A. Gurvich and L. Gurvich (Inst. Exptl. Biol., Acad. Med. Sci., Moscow). *Acta Physicochim. U.R.S.S.* **20**, 635-44(1945).—An investigation of the spectral energy distribution in the light emitted by cholesterol on irradiation by the continuum from a H discharge tube shows that a biol. detector, such as yeast, has certain advantages over the photographic plate: the intensity of the irradiation can be reduced to 1/4000 and the exposure time to 1/50 that required for photography; the possibility of photochem. change of the irradiated material is reduced to a min.; the luminous background present in the scattered light under intense irradiation is weakened so that the characteristic fluorescence bands are seen superimposed on it instead of being lost in it; a distinction can be made between the fluorescence of the irradiated material and the chemiluminescence due to photochem. change induced by the irradiation.

C. C. Kiess

UMAROV, S.U.; AVAK'YANTS, G.M.; GURVICH, L.G.

Range of secondary electrons in metals and dielectric materials following electron collisions. Trudy Fiz.-mat. inst. AN Uz. SSR 5 : 3-25 '53. (MLRA 9:1)

1.Deystvitel'nyy chlen AN UzSSR.
(Electrons)

[illegible], S. N., AVAK'YANTS, G. M. and [illegible], L. G.

"Angular Distribution of Reflected Ions,"

Dokl AN UzSSR, No 6, pp 12-17, 1953

A theoretical study of the distribution functions with respect to angles and energies of ions reflected from the surface of a solid body. (RZhFiz, No 4, 1954)

SO: Sum, No 606, 5 Aug 55

UMAROV, S. U., AVAK'YANTS, G. M., and [illegible], L. G.

"Distribution of Reflected Ions With Respect to Energies," Dokl. AN UzSSR, No 8, pp 23-27, 1953

A method for computation of energy distribution of ions reflected from the surface of a solid is presented. In the case of a single collision of an ion with an atom of the surface, a single energy value of the reflected ion corresponds to each reflection angle. In the case of a double collision multiple energy values correspond to a single reflection angle. The work is a continuation of the previous one (RZhFiz-7312 (1955). (RZhFiz, No 4, 1955)

SO: Sum, No 606, 5 Aug 55

GUREVICH, L. G. and Umarov, S. U.

"Contact Theory Metal-Semiconductor"
Dokl, AN UzSSR, No 11, 1954, 3-8

The volt-ampere characteristic of the contact metal-semiconductor is computed by simultaneous solution of Poission's equation and the equation of diffusion. At variance with works by S. I. Pekar (ZhETF, 10, 1210, 1940) and W. Z. Schottky (Z. Phys. 118, 539, 1942, the degree of ionization of impurities centers is accounted for. For boundary conditions the current through the contact and the variation of velocity of current carriers under the action of the electric field is taken into account. The condition of high voltage rectification was found to be a strong degree of ionization of impurity centers. (RZhFiz, No 9, 1955)

SO: Sum-No 787, 12 Jan 56

UMAROV, S.U.; GURVICH, L.G.

Theory of metal-semiconductor contacts. Trudy FTI AN Uz. SSR 6:20-23 '55. (MLRA 9:12)

1. Deystvitel'nyy chlen Akademii nauk Uzbekskoy SSR. (for Umarov). (Semiconductors) (Electric current rectifiers)

GURVICH, L.G.

USSR / Electronics

H

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9769

Author : Umarov, S.U., Avak'yants, G.M., Gurvich, L.G.
Inst : Not given
Title : Distribution of Reflected Ions by Angles and By Energies

Orig Pub : Tr. Fiz. - tekhn. in-ta, AN UzSSR, 1955, 6, 34-42

Abstract : The energy and angle distribution functions are found for the ions reflected from the surface of a solid body in the case of their normal incidents. For single collision between an ion and an atom, the angle distribution function of the ions has a δ-like character. Upon increase of the multiplicity of the collisions, the δ-nature of the function of distribution is lost. Bibliography, 6 titles.

Card : 1/1

GURVICH, L.G.; MAMATKULOV, R.; KHUDAYBERGENOVA, Z.

Tables for conversion of scattering angles and differential scattering cross sections used in the transition from the inertia center system to the observer's system. Trudy FTI AN Uz. SSR 6:62-71 '55. (MLRA 9:12)

(Particles, Elementary--Scattering)

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1578
AUTHOR UMAROV,S.U., GURVIČ,L.G.
TITLE On the Theory of the Contact Metal-Semiconductors.
PERIODICAL Žurn.techn.fis,26, fasc.10, 2179-2184 (1956)
Issued: 11 / 1956

In the present work the volt-ampère characteristics of the contact metal-semiconductors are computed in consideration of the current passing through this contact and of the degree of ionization of the admixture centers The computation carried out on this occasion does not take the influence exercised by the modification of the average kinetic energy of the electron gas under the effect of the electric field into account. In this case the passage of the current through the semiconductor system can be described by a system consisting of equations for the transport of electricity (diffusion equation) and a POISSON equation. This system of equations and the boundary condition at the contact are explicitly written down. A term neglected by PEKAR is here taken into account. The equations are then put into a new form by the help of a dimensionless length, field strength and concentration. The equations are further transformed and the solution can be set up in form of an infinite power series $y = \sum_{n=1}^{\infty} a_n x^n$. In the case of a weak ionization of the admixture centers the coefficients a_n are numerically equal to the coefficients computed by PEKAR. However, the coefficients a_n found here are consider-

Zurn. techn. fis, 26, fasc. 10, 2179-2184 (1956) CARD 2 / 2 PA - 1578

ably more simple.
The solution $\mathcal{E} = \gamma + \sum_{n=1}^{\infty} a_n (p-1)^n$ found converges at $p < 2$, i.e. within the domain of reduced concentration of carriers. On certain conditions the expression for field strength can be considerably simplified by the simple summation of the series. Also for the voltage drop in the layer near the contact an expression is written down and also for the additional potential jumps. The latter formula is considerably simplified in the case of total ionization of the admixture centers and also in the case of lacking ionization. With equal electric field strength at the contact the potential jump in the semiconductors with ionized admixture centers is considerable, i.e. a thousand and even ten thousand times greater. This is a consequence of the fact that the space charge layer in the semiconductors with ionized admixture centers extends to a far greater depth than in a semiconductor with little ionized admixtures. This is also confirmed by computations. Thus, blocking layers of great extent (which are able to warrant a sufficiently great voltage drop with inverse direction) can occur only in semiconductors with mostly ionized admixture centers. The semiconductors used in engineering (Ge, Se, Si) possess these properties.

INSTITUTION:

Gurvich, L.G.

USSR/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1317

Author : Gurvich, L.G., Umarov, S.U.
Inst :
Title : Effect of Surface Charges on the Properties of the Contact Between a Metal and a Semiconductor.

Orig Pub : Izv. AN UzSSSR, ser. fiz.-matem. n., 1957, No 1, 43-51

Abstract : A system of differential equations is written for the determination of the non-equilibrium concentration of the carriers, for the currents, and for the electric fields: diffusion equations for the currents, continuity equation, and the Poisson equation. The boundary conditions are determined from the quality of the differences in the carrier flux to the current flowing through the contact. The conditions are written for the case of free and completely filled surface band. The equations are solved in the linear approximation for the region where there is no

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USSR/Electricity - Semiconductors

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1317 G-3

space charge, and for the space charge region. The solutions are joined on the boundary of the space charge region. An equation is obtained for the length of this region. The current through the contact and the saturation current are calculated for the case of an empty band and a fully filled one. The results are in qualitative agreement with the results of investigations by Bochioreli (Referat Zhur Fizika, 1955, No 11, 2481) on the properties of electrolytically coated contacts.

Card 2/2

GURVICH, L.G.

Differential conductance and capacitance of the contact between the metal and semiconductor. Izv. AN Uz. SSR. fiz. -mat. nauk no.3:85-96 '58. (MIRA 11:10)

1.Fiziko-tekhnicheskiy institut AN UzSSR.
(Semiconductors)