Investigating and concentrating iron chromium nickel ores of the Malkinskii deposit and of manganese ores of the Labinskii deposit in Northern Caucasus. V. A. Glazkovskii. *Int. Mekhanicheskoi* ... *Eksperimentii Mekhanicheskoi Inst. Met.* ... *Coke and Agglomeration of Iron* ... 1932, 170-81. The Malkinskii deposit consists of magnetite, hematite and brown iron ore. It contains Fe $41-29$, Ni $0.20-0.40$, Co $0.08-0.11$, SiO_2 ..., Al_2O_3 ..., CaO ..., MgO ..., MnO $0.05-0.08$, Cr_2O_3 ..., P_2O_5 ... and loss on heat treating ... It is possible to prep. Fe concentrates by flotation and magnetic sepn.; Ni is left in the tailings. The approx. compn. of the Labinskii ore is SiO_2 ..., Fe ..., Mn $12-32-15-77$, MnO ..., S ..., P $0.05-0.11$ and H_2O ... The ore can be concd. to produce silicomanganese or ferromanganese.

V. A. Bashtlugk

PROCESSES AND PROPERTIES INDEX

Copper-containing magnetite deposits of the Urals and
their exploitation   V. A. Glazkovskii   Sverdl Gord 9,
No. 8, 96-101 (1930). The deposits contain 20% Fe;
Cu can be obtained as a by-product.   p. 11 M

A S M S L A   METALLURGICAL LITERATURE CLASSIFICATION

ALADINSKIY, P.I.; ARONSKIND, S.Sh.; GLAZKOVSKIY, V.A.; KVASKOV, A.P.;
    SUVOROV, F.S.; SHMANENKOV, I.V., redaktor; BASHANOV, V.A.,
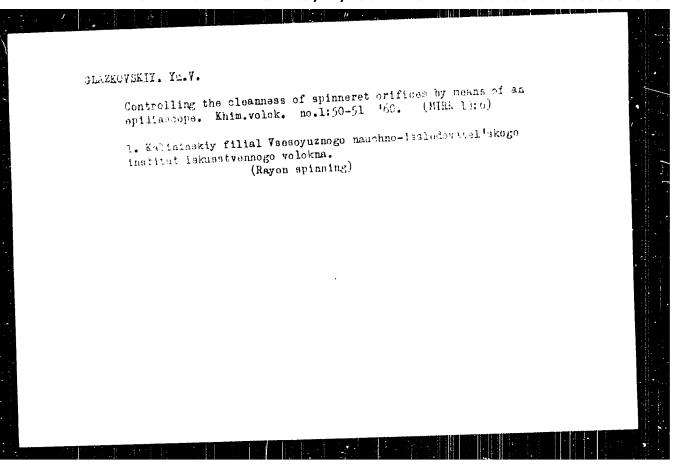   redaktor; SERGEYEVA, N.A., redaktor; MANINA, M.P., tekhnicheskiy
    redaktor

[Results of the organization and work of an ore-dressing laboratory]
Opyt organizatsii i raboty obogatitel'noi laboratorii. Trudy lab.
geol.upr. no.3:3-57 '52. [Microfilm]   (MLRA 7:11)
        (Ore dressing)

GLAZKOVSKIY, V.A.; ROZHKOVA, Ye.V., redaktor; RAZUMNAYA, Ye.G., redaktor;
    BABINTSEV, N.I., redaktor; POPOV, M.D., tekhnicheskiy redaktor.

    [Geological and mineralogical basis for metallurgical assaying
    of iron ores from deposits of different genesis]Geologo-minera-
    logicheskie osnovy tekhnologicheskoi otsenki rud mestorozhdenii
    zheleza razlichnogo geneziea. Moskva, Gos. nauchno-tekhn. izd-vo
    lit-ry po geologii i okhrane nedr. 1954. 181 p. (MLRA 7:12)
            (Iron ores)

GLAZKOVSKIY, Yu.V.

Controlling the cleanness of spinneret orifices by means of an opillascope. Khim.volok. no.1:50-51 '60. (MIRA 13:6)

1. Kalininskiy filial Vsesoyuznogo nauchno-issledovatel'skogo institut iskusstvennogo volokna.
                        (Rayon spinning)

GORYACHKO, G.V.; LARIONOV, N.I.; GLAZKOVSKIY, Yu.V.

Ultrasonic cleaning of spinnerets. Khim.volok. no.1:51-52
'60.   (MIRA 13:6)

1. Kalininskiy pedinstitut (for Goryachko, Larionov). 2. Kalininskiy
filial Vsesoyuznogo nauchno-issledovatel'skogo instituta iskusst-
vennogo volokna (for Glazkovskiy).
                    (Rayon spinning)
          (Ultrasonic waves--Industrial applications)

MIKHAYLOVA, G.S.; GLAZKOVSKIY, Yu.V.; GRAFOV, V.V.

Internal dyeing of cuprammonium fiber using ultrasonic dispersion of pigments. Khim.volok. no.2:61-62 '62.   (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut steklyannogo volokna.
                    (Dyes and dyeing---Rayon)

ADOV, P.L.; NI...TOV. I.V.; GLA KOVS..Y, Yu,V.

Using the chemical and spectral analysis methods in studying
the process of alkali saponification of polyacrylonitrile.
Izv. vys. ucheb. zav.; tekh. tekst. prom. no.4:51-57 '65.
(MIRA 18:9)

1. Markovskiy tekstil'nyy institut.

GLAZMAK, Edward, ren.,inz.

Two new construction concepts for filters. Przegl gorn 17 no.12:
647-652 '61.

S/081/62/000/023/045/120
B166/B101

AUTHOR: Glammak, Edward

TITLE: Two new continuous filter designs

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 597, abstract
              23176 (Przegl. górn., v. 17, no. 12, 1961, 647-652 [Pol.])

TEXT: The multi-section vacuum filter is a modified drum vacuum filter in
which the fixed, suspension-filled trough is absent. The filter is designed
in the form of a horizontal drum, having its outer surface divided into
segments by longitudinal partitions. The segments are closed at the ends,
forming trough-shaped cells on the drum's surface. Inside these cells are
located the filtering elements which consist of two perforated plates
representing two sides of an isosceles triangle placed with its base on the
bottom of the trough-shaped cell. The suspension to be separated drops from
above into each cell in succession when the vacuum filter drum is rotated
on its axis; from the cell the filtrate is sucked inside the drum. The
operating cycle of this filter is the same as that of an ordinary drum vacuum
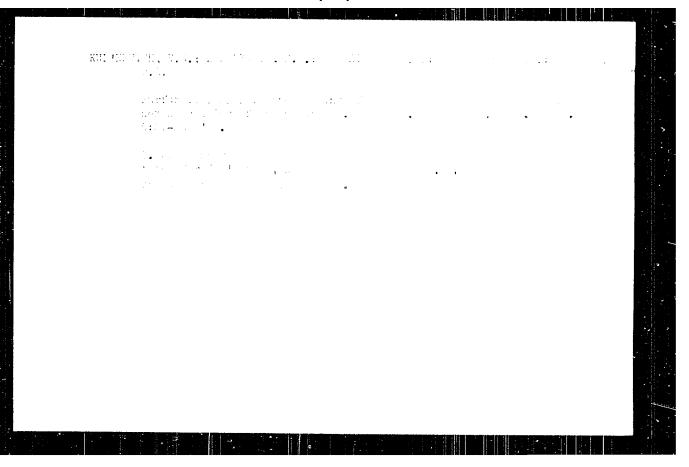filter. The horizontal continuous filter is a plate rotating about its

Card 1/2

5/04:/4./00c/023/045/120
3166/E101

Two new continuous filter designs

vertical axis. Vertical cylinders with perforated walls are mounted around the circumference of the plate and, inside these cylinders the filter mesh is placed. When the plate rotates the lower holes in the cylinders join up in succession with the pipelines along which the suspension and wash waters are arriving. The filter cake is removed from the cylinder by means of a Z-shaped knife fixed at the center of each cylinder which is actuated by meshing with a rear wheel. [Abstracter's note: Complete translation.]

Card 2/2

GLAZMAN, B.A.; SAVINYKH, A.G.; GLADKOVA, A.A.; LYUKHANOV, G.F.; KUNDIN, V.M.;
        MERTINS, I.P.

        Automation of hydrolysis processes. Gidroliz. i lesokhim. prom.
        17 no.7:25-28 '64.   (MIRA 17:11)

        1. Krasnodarskiy gidroliznyy zavod (for Glazman, Savinykh, Gladkova,
        Lyukhanov). 2. Proyektno-konstruktorskoye byuro Severo-Kavkazskogo
        soveta narodnogo khozyaystva (for Kundin, Mertins).

L 9785-66

ACC NR: AP5028541   SOURCE CODE: UR/0286/65/000/020/0151/0151

AUTHORS: Kavalerov, A. A.; Miroshnichenko, P. A.; Norinskiy, Ye. Ya.; Sidorov, K. I.; Glazman, B. M.; Krymchanskiy, F. G.; Ivanov, I. I.

ORG: none

TITLE: Earth digging machine for ditch digging. Class 84, No. 175895 [announced by Special Construction Bureau No. 1 of the State Committee on Construction, Road Building and Municipal Machinery Construction at GOSSTROY of the SSSR (Osoboye konstruktorskoye byuro No. 1 gosudarstvennogo komiteta stroitel'nogo, dorozhnogo i kommunal'nogo mashinostroyeniya pri GOSSTROYe SSSR)]
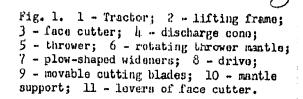
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 20, 1965, 151

TOPIC TAGS: earth handling equipment, construction equipment, tractor, transportation equipment

ABSTRACT: This Author Certificate presents a ditch digging machine. The machine includes a tractor and a supporting frame on which are mounted a cutter, a discharge cone, a thrower with rotating mantle, a plow-type wideners, and a drive (see Fig. 1). To decrease the metal and power requirements, the digger is con-

Card 1/2   UDC: 621.879.48.867.9

L 9785-66
ACC NR: AP5028541

Fig. 1. 1 - Tractor; 2 - lifting frame;
3 - face cutter; 4 - discharge conn;
5 - thrower; 6 - rotating thrower mantle;
7 - plow-shaped wideners; 8 - drive;
9 - movable cutting blades; 10 - mantle
support; 11 - levers of face cutter.

structed with a face cutter on the hub of which movable cutting blades are mounted.
These are automatically rotated when the face cutter rotation is reversed. The
cutter has a common drive with the thrower whose rotating mantle is mounted on a
central support. A second feature has the rotation mechanism for the movable
blades executed in the form of a pneumatic cylinder which is mounted in the sleeve
of the lifting frame and which acts on levers rigidly connected to the blades of
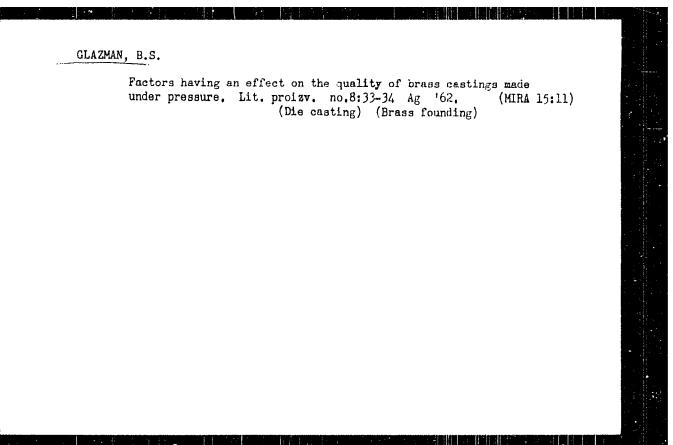the face cutter. Orig. art. has: 1 figure.

SUB CODE: 13/   SUBM DATE: 09Jul64

Card 2/2

GLAZMAN, B.S.; YELISHEV, A.P.

Precision casting of 3Kh2B8 steel. Lit. proizv. no.6:44-45 Je '61.
                                        (MIRA 14:6)
            (Precision casting)

GLAZMAN, B.S.

Factors having an effect on the quality of brass castings made
under pressure. Lit. proizv. no.8:33-34 Ag '62.   (MIRA 15:11)
                    (Die casting) (Brass founding)

SUBJECT   USSR / PHYSICS   Card
AUTHOR   GLAZMAN, E. S.
TITLE   · The Effective Output Circuit of a Television Radio
PERIODICAL   Radiotechnika, 11, Issue 7, 3-12 (19..)
              Issued: / 1957   reviewed: /

The present work deals with the possibilities of suppression of the lower
lateral band and with the determination of the selective frequency character-
istic of a television transmitter. The realization of a television set,
which at extremely high frequencies amounts to a fraction of a percent of the
boundary frequency of the channel, necessitates special measures for the
suppression of the emitted radiation of low frequencies. This problem is solved
in the following manner according to the construction of the output unit of the
television transmitter: 1.) By using special intermediate frequency filters in the
transmitter. 2.) By the utilization of the summary selective properties of the
inter-cascade-circuits of the transmitter. The construction and the possibilities
for the application of both methods are discussed in short. There are two delibe-
rations concerning the construction of the electric circuit systems of the broad
band cascades of the transmitter. Among other things a comparison of resonance
curves shows that, in the case of a simultaneous decline of the characteristic
on the edge of the band, e.g. by one db conditions otherwise being the same,
the transmission bands of a three-circuit set of coupled circuit-filters are 1.5
or twice as wide respectively as in the case of a single band filters, by making
the circuit systems of the pre-cascades of the broad band cascades are comple-

Radiotechnika, 11, fasc. 7, ...   CARL ...

cated the nominal power of the ... is ... ly ... minished. The increase of selectivity of the ... circuit ... input circuit of the transmitter ... with ... the resulting energy coefficients. The ... of the ... transmitter with increased selectivity, to that ... The ... tivity of this circuit system by a single ... of the ... tuned circuits in the anode circuit is not useful. It is of greater advantage to construct the circuit system in form of a band filter with the largest peaks at the transmission boundaries of the band. The ... diagram of such a filter as well as its equivalence scheme are discussed on the basis of a drawing. Finally, the equivalent resistance of the tube which is ... by this circuit system, is determined. A further advantage offered by the above discussed ... is the protection of the output of the television transmitter against the frequency of the sound emitter in the case of the operation of a common antenna. Experimental verification resulted in a sufficiently accurate agreement with theoretically computed relations. The selective circuit system warrants a noticeable broadening of the transmission band of the end cascade without any reduction of its power. The here discussed scheme was realized in many television stations of the Soviet Union.

INSTITUTION:

GLADKIN, E. S.

E. S. GLADKIN: "Absorber of the faster wave for television transmitters."
Scientific Session Devoted to "Radio Day", May 1956, Transactions, Moscow,
9 Sep. 56

Analyzed are the peculiarities of the operating regions of generators in an
echo-absorber circuit. The analysis carried out shows that an echo-absorber reduces
the wave reflection level by 20 - 25 times at the central frequency and by
5 - 7 times at the edges of the working frequency band in the most unfavorable
case (for operation in one television channel). This permits a considerable
simplification in the construction and regulation of all antenna-feeder
apparatus in all television radio stations.

GLAZMAN, E.S.

Feeder-echo absorber for television transmitters. Radiotekhnika 14
no.2:3-16 F '59.   (MIRA 12:1)
            (Television--Transmitters and transmission)

Source: Mathematical Reviews,

GLAZMAN, I. M.

Glazman, I. M. On the spectrum of linear differential operators. Doklady Akad. Nauk SSSR (N.S.) 80, 153

Glazman, I. M. On the character of the spectrum of one-dimensional singular boundary problems. Doklady Akad. Nauk SSSR (N.S.) 87, 5-8 (1952). (Russian)

Let $S(A)$ be the spectrum of an operator A and let $D(A)$ be the discrete part and $C(A)$ the continuous part of the spectrum... Let l be a differential operator on $(0, \infty)$ and L a corresponding self-adjoint operator. The author proves a number of theorems. I. If $q(x) \to 0$ as $x \to \infty$, then $S(L)$, with $l = -D^2 q(x) [0, \infty)$, contains $\lambda > 0$. If $\int q(x)$ ... limsup ... limit integral, for $x \to \infty$, is finite, then for all $\lambda > 0$, $C(L) \cap [\lambda, \lambda + \epsilon] = 0$. II. Let

$$ l x = \sum_{k} (-1)^k \, p_k(x) \, x^{(k)} ... $$

and let $p_k(x) \to 1$, $p_k^{(m)}(x) \to 0$ for $k = 0, 1, \dots, n$; $m = 0, 1, \dots$, $k = 1$. Then $S(L) = [0, \infty]$. III. Let II hold and

$$ \lim f_i(x) = 0, \quad i = 1, \dots, n - 1. $$

Then $(-\infty, 0) \cap C(L) = 0$. Many further results are given.
N. Levinson (Cambridge, Mass.)

PA 245772

GLAZMAN, I. M.

USSR/Mathematics - Eigenvalues   11 Nov 52

"The Character of the Spectrum of Multidimensional Singular Boundary-Value Problems," I. M. Glazman, Khar'kov Polytech Inst imeni Lenin

"Dok Ak Nauk SSSR" Vol 87, No 2, pp 171-174

Investigates the disposition of the continuous part of the spectrum of the boundary-value problem connected with the multidimensional differential operation of the second order of the following form. $L_n u = -\Delta u + q(P)u$, considered in the entire n-dimensional Euclidean speace. Cites allied work of A. M. Molchanov ("Dok Ak Nauk SSSR" 83, 17 (1952)). Submitted by Acad A N Kolmogorov 10 Sep 52.

$\mathcal{GLAZMAN}, I.M.$

U S S R

MS
C2

Glazman, I. M. On on application of the method of decomposition to multidimensional singular boundary problems. Mat. Sb. N.S. 35(77), 231–246 (1954). (Russian)

The author extends to the multidimensional case the method of decomposition previously considered by the author [Dokl. Akad. Nauk SSSR (N.S.) 80, 133–156 (1951); 87, 5–8 (1952); MR 13, 654; 14, 1088] for the study of the nature of the spectrum for one-dimensional singular boundary-value problems.

The operator $l[u] = -\Delta u + q(P)u$ considered in a domain Ω is called singular if Ω is unbounded or if $q(P)$ is not continuous in $\overline{\Omega}$. The case where Ω is bounded by a closed surface σ is considered and the unbounded Ω is denoted by $\Omega(\sigma, \infty)$. Self-adjoint operators L associated with l on $\Omega(\sigma, \infty)$ are considered. The effect on the continuous spectrum is considered for a change in σ. A change in $l = l_1$ to $l = l_2$ by modifying $q = q_1(P)$ to $q_2(P)$, where $q_2(P) - q_1(P) \to 0$ as $P \to \infty$ leaves the continuous spectrum of L_2 identical with that of L_1 if the domain of L_2 is that of L_1. Further results are given.

N. Levinson (Cambridge, Mass.).

$\mathfrak{X} \ast \mathbb{P}/\mathfrak{N}$

GLAZMAN, I.M.

USSR/ Mathematics - Spectral functions

Card 1/1   Pub., 22 - 6/62

Authors   : Glazman, I. M., and Nayman, P. B.

Title   : On the convex cover of orthogonal spectral functions

Periodical : Dok. AN SSSR 102/3, 445 - 448, May 21, 1955

Abstract   : Some problems are discussed connected with the construction of a set of
all spectral functions of a differential system:

$$-y'' + q(x)y - \lambda y = 0, \quad y'(0) = hy(0) \quad (0 \leqslant x < \infty)$$

which is considered as a convex set of functions. Definitions of a spec-
tral, and an orthogonal spectral function are given. Seven references:
6 USSR and 1 Swiss (1940-1954).

Institution : V. I. Lenin Polytechnical Institute, Kharkov, and The Aviation Institute,
Kharkov.

Presented by: Academician S. L. Sobolev, January 27, 1955

AKHIYEZER, N.I., prof. (Khar'kov); GLAZMAN, I.M. (Khar'kov)

Certain classes of continuous functions generating Hermite-positive kernels. Uch.zap.KHGU 80:205-217 '57.

(MIRA 12:11)

(Functions, Continuous)

AUTHOR: Glazman, I.M.   20-2-3/62

TITLE: An Analogue of the Extension Theory of Hermitian Operators and a
              Non-Symmetric Onedimensional Boundary Value Problem on a Half-Axis.
              (Ob odnom analoge teorii rasshireniy ermitov/kh operatorov i nesi-
              metricheskoy odnomernoy krayevoy zadache na poluosi)

PERIODICAL: Doklady Akad.Nauk SSSR, 1957, Vol.115, Nr 2, pp. 214-216

ABSTRACT: H signifies here Hilbert's space, J - a certain adjungation opera-
              tor in H (i,e, an operator defined everywhere in H, which satisfies
              the conditions $(Jf, Jg) = (g,f)$ and $J^2 f = f$ for any f and g from H.)
              First the author gives several definitions: 1) A linear operator
              acting in H is called J -symmetric, when $(Af,Jg) = (f,JAg)$ applies
              to all f and g from the definition domain D_A of the operator A. The
              J-symmetric operator A with a definition domain dense in H is cal-
              led J-selfadjoined, when $JAJ^* = A^*$ applies. 3) A linear operator A a-
              cting in H is called dissipative, when for any $f \in D_A$ the condition
              Im $(Af,f) \geq$ applies. In this paper altogether 5 theorems are given:
              Theorem 1) In order that a dissipative J-symmetric operator with a
              definition domain dense in H is J - selfadjoined, it is necessary
              and sufficient that its defect number is equal to zero.
              Theorem 2) Any J-symmetric operator A with a definition domain den-
              se in H permits an extension to a dissipative operator $\widetilde{A}$ self-ad-
              joined in J.
              Theorem 3) When the condition Im $p_k(x) \geq 0 (k = 0,1,\ldots\ldots n; 0 \leq x \leq \infty)$

Card 1/2

GLAZMAN, I. M., Doc Phys-Math Sci--(diss) "Direct Methods
of Qualitative Spectrum Analysis of Singular Differential
Operators." Khar'kov, 1958. 21 pp, (Min Higher Ed Uk SSR.
Khar'kov Order of Labor Red Banner State Univ im A. M.
Gor'kiy), 150 copies, bibliography at the end of the text
(25 titles). (KL, 40-58, 112)

1

AUTHOR: Glazman, I.M.   SOV/42-13-3-7/41

TITLE: On the Developability in Terms of the System of Eigenelements
            of Dissipative Operators (O razlozhimosti po sisteme sobstvennykh
            elementov dissipativnykh operatorov)

PERIODICAL: Uspekhi Matematicheskikh Nauk, 1958, Vol 13, Nr 3, pp 179-181 (USSR)

ABSTRACT: The system $\left\{\varphi_k\right\}_{k=1}^{\infty}$ of elements of the Hilbert space H is

            called a base of Riesz for its closed linear closure if for

            every $f = \sum_{k=1}^{n} c_k \varphi_k$ there holds the inequality

$$m \sum_{k=1}^{n} |c_k|^2 \leq \|f\|^2 \leq M \sum_{k=1}^{n} |c_k|^2,$$

            where M and m are positive constants independent of f.
            The author improves a result due to Mukminov [Ref 2] .
            Theorem: Let A be a bounded dissipative operator with the
            system of eigenelements $\left\{\varphi_k\right\}_{k=1}^{\infty}$, $(\varphi_k, \varphi_k) = 1$. Let $\left\{\lambda_k\right\}_{k=1}^{\infty}$

            be the corresponding sequence of eigenvalues. If

Card 1/2

On the Developability of the System of Eigenelements   SOV/42-13-3-7/41
of Dissipative Operators

$$\sum_{j,k=1}^{\infty} \frac{\operatorname{Im}\lambda_j \operatorname{Im}\lambda_k}{|\lambda_j - \overline{\lambda}_k|^2} < \infty \qquad (j \neq k),$$

then the system $\left\{\varphi_k\right\}_{k=1}^{\infty}$ is a base of Riesz for its closed

linear closure.
There are 3 Soviet references.

SUBMITTED: February 21, 1957

Card 2/2

AUTHOR: GLAZMAN,I.M.   20-3-1/59

TITLE: Oscillation Theorems for Differential Equations of Higher
           Order and the Spectrum of the Corresponding Differential
           Operators (Ostsillyatsionnye teoremy dlya differentsial'nykh
           uravneniy vysshikh poryadkov i spektr sootvetstvuyushchikh
           differentsial'nykh operatorov)

PERIODICAL: Doklady Akademii Nauk/ SSSR,1958, Vol.118, Nr.3, pp.423-426 (USSR)

ABSTRACT: Given the equation

$$(1) \quad l[y] \equiv \sum_{k=0}^{n} (-1)^{n-k} \left[p_k(x) y^{n-k} \right]^{n-k} = \lambda y \quad (p_0(x)=1, 0 \le x < \infty).$$

Lemma: Let $\widetilde{L}$ be a selfadjoint operator generated by the
operation l and U be the negative part of the spectrum of $\widetilde{L}$.
In order that the set U is bounded from below and discrete,
it is necessary and sufficient that for every $\varepsilon > 0$ there
exists an α such that the quadratic functional

$$\phi_\varepsilon [y] \equiv \int_\alpha^\infty l[y]\bar{y} \, dx + \varepsilon \int_\alpha^\infty |y|^2 \, dx$$

is non-negative. In order that U is finite, it is necessary
and sufficient that for a certain α: $\phi_0[y] \ge 0$.

Card 1/4

Oscillation Theorems for Differential Equations of Higher   20-3-1/59
Order and the Spectrum of the Corresponding Differential
Operators

Definition: (1) is called oscillatoric if for every α there
exists a solution of (1) which at the right of α has more
than one n-tuply zero.

Theorem: In order that (1) is non-oscillatoric for $\lambda = \lambda_o$, it
is necessary and sufficient that the part of the spectrum of
$\widetilde{L}$ which lies at the left of $\lambda = \lambda_o$ is an infinite set.

Theorem: For every $\delta > 0$ let $\int_{M_{k\delta}} |p_k^*(x)| \, dx < \infty$ $(k = 1, 2, \ldots, n)$.

Here let $p^*(x)$ be the negative part of the function $p(x)$
and let $M_{k\delta}$ be the set of values of x for which $|p^*(x)| \geqslant \delta$.

Then for $\lambda < 0$, (1) is non-oscillatoric.

Let $p_k(x) = a_k =$ const and K_a denote the set of points
$Q(a_1, a_2, \ldots, a_n)$ of the n-dimensional coefficient space which
correspond to the equations (1) being non-oscillatoric for
$\lambda = 0$. By the transformation $x = \ln t$, $y = x^{\frac{1-n}{2}} \cdot z$ the

Card 2/4   functional $\phi_o[y]$ which corresponds to an equation (1) with

Oscillation Theorems for Differential Equations of Higher   20-3-1/59
Order and the Spectrum of the Corresponding Differential
Operators

constant coefficients is brought to the form

$$\Phi_0[z] = \int_{\alpha'}^{\infty} |z_t^{(n)}|^2 \, dt + \sum_{k=1}^{n} \int_{\alpha'}^{\infty} b_k \, t^{-2k} \, |z_t^{(n-k)}|^2 \, dt$$

where b_k ere linear functions of the a_k:

(2) $b_k = \varphi_k(a_1, \ldots, a_k)$ $(k=1, 2, \ldots, n)$

Theorem: Let K_b be a convex set arising from K_a by the trans-
formation (2). Let $b_k' = \lim_{x \to \infty} \inf p_k(x)$ and $b_k'' = \lim_{x \to \infty} \sup p_k(x)$.

If $Q(b_1', b_2', \ldots, b_n') \in K_b$, then for $\lambda = 0$, (1) is non-oscillatoric.

If $Q(b_1'', b_2'', \ldots, b_n'') \overline{\in} K_b$, then for $\lambda = 0$, (1) is oscillatoric.

Card 3/4   Theorem: For $q(x) \gtrless -\alpha_n^2 x^{-2n}$ the equation

Oscillation Theorems for Differential Equations of Higher   20-3-1/59
Order and the Spectrum of the Corresponding Differential
Operator

(3) $(-1)^n y^{(2n)} + q(x)y = \lambda y$

is non-oscillatoric and for $q(x) < -(\alpha_n^2 + \delta)x^{-2n}$, $\delta > 0$

it is oscillatoric. Here $\alpha_n = \dfrac{(2n-1)!!}{2^n}$.

Further four theorems on the equation (3) are given.
6 Soviet and 2 foreign references are quoted.

ASSOCIATION: Kharkov Polytechnical Institute im.V.I.Lenina (Khar'kovskiy
            politekhnicheskiy institut im.V.I.Lenina)
PRESENTED: By S.N.Bernshteyn, Academician, 15 July 1957
SUBMITTED: 15 July 1957
AVAILABLE: Library of Congress

Card 4/4

AUTHOR: Glazman, I.M. (Kharkov)   20-119-3-5/65

TITLE: On the Negative Part of the Spectrum of Onedimensional and
             Multidimensional Differential Operators on Vector Functions
             (Ob otritsatel'noy chasti spektra odnomernykh i mnogomer-
             nykh differentsial'nykh operatorov nad vector-funktsiyami)

PERIODICAL: Doklady Akademii Nauk, 1958, Vol 119, Nr 3, pp 421-424 (USSR)

ABSTRACT: The author generalizes his results of [Ref 1] . Let $\vec{L}_2(0,\infty)$

             be the Hilbert space of the vector functions $\vec{y}(x)= \{y_k\}_{k=1}^m$

             $(m < \infty)$ with the scalar product

             $$(\vec{y},\vec{z}) = \int_0^\infty \sum_{k=1}^m y_k(x)\overline{z_k(x)}dx$$

             and $l[\vec{y}]$ a differential operation

             (1) $l[\vec{y}] = (-1)^n \vec{y}^{(2n)} + Q(x)\vec{y}$ $(0 \leqslant x < \infty)$

             where $Q(x)$ is an Hermitian matrix of m-th order. The smallest

Card 1/3

On the Negative Part of the Spectrum of Onedimen-
sional Differential Cperators on Vector Functions
and Multidimensional

20-119-3-5/65

and the highest eigenvalue of $q(x)$ are $\mu(x)$ and $\nu(x)$ respectively. Let $\tilde{L}$ denote an arbitrary self-adjoint extension of the operator with a minimum definition domain which is generated in $\vec{L}_2$ $(0,\infty)$ by (1). Let be $f^*(x) =$

$= \min\{0, f(x)\}$.

Theorem: Let M_δ be the set of all x for which $|\mu^*(x)| \geqslant \delta$
If for each $\delta > 0$ there holds the inequality $\int_{M_\delta} |\mu^*(x)| dx < \infty$

then the negative part of the spectrum of $\tilde{L}$ is bounded from below and discreet.

Theorem: The negative part of the spectrum of $\tilde{L}$ consists of finitely many eigen values, if one of the following conditions is satisfied a) $\mu(x) \geqslant -d_n^2 x^{-2n}$ for large x, $d_n =$

$= \dfrac{(2n-1)!}{2^n}$ b) for each $\delta > 0$ it is $\int_{M_\delta} x^{2n-1} |\mu^*(x)| dx < \infty$.

where M_δ is the set of all x, for which $|\mu^*(x)| \geqslant (d_n^2 - \delta) x^{-2n}$

Card 2/3

On the Negative Part of the Spectrum of Onedimen-   20-119-3-5/65
sional and Multidimensional Differential Operators on Vector Functions

for a certain $p \geqslant 1$ it holds $\int_0^\infty x^{2np-1} \left| \mu \, f(x) \right|^p dx < \infty$.

Theorem: If for a $\delta > 0$ and a natural r for sufficiently

great x it holds: $\nu(x) < - \dfrac{1}{4x^2} - \dfrac{1}{4x^2 \ln^2 x} \cdots - \dfrac{1+\delta}{4x^2 \ln^2 x \ldots \ln_r^2 x}$,

where $\ln_k x = \ln \ln_{k-1} x$, then the negative part of the spectrum
of $\bar{L}$ consists of finitely many eigen values.
A third theorem contains conditions under which the negative
part of the spectrum of $\bar{L}$ consists of infinitely many values.
The fourth theorem is a generalisation of the first one to
differential operators of the type $l[\vec{u}] = -\Delta \vec{u} + Q(p) \vec{u}$.
Card 3/3   There are 8 references, 5 of which are Soviet, and 3 American.
ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina
              (Kharkov Polytechnical Institute imeni V.I. Lenin)
PRESENTED: October 24,1957, by S.N.Bernshteyn, Academician
SUBMITTED: October 24, 1957

32444

S/044/61/000/010/008/051
C111/C222

16.3400

AUTHORS: Glazman, I.M., and Zhikhor', N.A.

TITLE: The reversion of singular dissipative differential operators
of second order

PERIODICAL: Referativnyy zhurnal. Matematika, no. 10, 1961, 21,
abstract 10 B 100. ("Uch. zap. Khar'kovsk. gos. ped. in-t",
1957, 21, 9-24)

TEXT: In the $L^2(0,\infty)$ the author considers the differential operator L
generated by the differential expression $l(y) = - y'' + q(x)y$
(closure of the operator $L_1 y = l(y)$ given on the finite functions), where
$q(x)$ is a complex-valued function with a non-negative imaginary part which
is summable on every finite interval $[0,1]$. It is proved that for
Im $\lambda < 0$ for the corresponding equation

$$- y'' + q(x)y = \lambda y \qquad (1)$$

the basic results of Weyl remain true, i.e. there occours the case either
of the boundary point or the boundary circle. In the first case (1) has
only one (up to a constant factor) solution of $L^2(0,\infty)$, in the second
Card 1/2

$32uiii$

The reversion of singular dissipative ...
$$S/044/61/000/010/008/051$$
$$C111/C222$$

case all solutions of (1) belohg to $L^2(0,\infty)$. Furthermore the author investigates complete dissipative extensions L of the operator L which satisfy the conditions $\tilde{L} \supseteq L$, $\quad \text{Im}\,(\tilde{L}f,f) \geqslant 0$

$$f \in D_{\tilde{L}}\ , \quad (\tilde{L} - \lambda L)D_{\tilde{L}} = L^2(0,\infty)\ .$$

$\mathcal{X}$

It is stated that in the case of the boundary point all such extensions are given by boundary conditions of the type $y'(0) = hy(0)$, $\text{Im}\,h \geqslant 0$, and that the resolvent of an arbitrary such extension is a bounded integral operator with a Carleman kernel ; in the case of the boundary circle the resolvent of an arbitrary such extension is a kernel of Hilbert-Schmidt.

[Abstracter's note : Complete translation.]

Card 2/2

GLAZMAN, I. M.; SKACHEK, B. Ya.

On the discrete part of the Laplacian spectrum in regions
of limiting cylindricality. Dokl. AN SSSR 147 no.4:760-763
D '62.   (MIRA 16:1)

1. Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina.
Predstavleno akademikom S. N. Bernshteynom.

    (Operators(Mathematics))   (Eigenvalues)

AM4036551   BOOK EXPLOITATION   S/

Glazman, Izrail' Markovich

Direct methods in qualitative spectrum analysis of singular differential operators
(Pryamy*ye metody* kachestvennogo spektral'nogo analiza singulyarny*kh differ-
ential'ny*kh operatorov), Moscow, Fizmatgiz, 1963, 338 p. illus., biblio.,
index. 6,500 copies printed.

TOPIC TAGS: qualitative spectral analysis, singular differential operator,
mathematics, Schroedinger operator, differential equation

PURPOSE AND COVERAGE: This monograph presents the fundamentals and uses of direct
methods of investigating the nature of the spectrum of singular differential opera-
tors. It covers journal literature of the past 10-15 years. The Schroedinger oper-
ator occupies a central place among the operators that are considered. The book
can be of interest not only to the mathematician, but also to the physicist. It
is within the reach of students in the advanced courses and graduate students wish-
ing to get acquainted with qualitative spectral theory of differential equations.

TABLE OF CONTENTS [abridged]:

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AM4036551

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Introduction -- 9
Ch. I. Method of splitting and general theorems on the spectrum -- 17
Ch. II. Spectrum of unidimensional two-member differential operators -- 130
Ch. III. Spectrum of unidimensional differential operators of a general type -- 197
Ch. IV. Spectrum of multidimensional differential operators -- 221
Ch. V. Spectrum of the Schroedinger differential operator and solutions of
    equations -- 264
Ch. VI. Some additional problems of qualitative spectral analysis -- 298
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SUB CODE: MA   SUBMITTED: 24Oct63   NR REF SOV: 069

OTHER: 042   DATE ACQ: 16Apr64

Card 2/2

ACCESSION NR: AP4043894   S/0179/64/000/004/0126/0128

AUTHOR: Glazman, I. M. (Khar'kov); Shteynvol'f, L. I. (Khar'kov)

TITLE: Eliminating the natural frequencies of a vibrating system in the dangerous resonance zones by variation of its parameters

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 4, 1964, 126-128

TOPIC TAGS: vibration, natural frequency, resonance, resonance elimination, vibrating system, programming, rigidity

ABSTRACT: A method is described for eliminating the natural frequencies from the dangerous resonance zone of linearly rotating vibrating systems with a finite number of degrees of freedom. This problem is solved by using digital computers on the basis of the Jacoby-Silvester theorem (F. R. Gantmakher). S is considered to be a simple or complex rotating vibrating system with a finite number of degrees of freedom. The matrix of the S system is designated as A=A(u) so that the squares of the natural frequency of the S system are the roots of the equation:

$$\mathrm{Det}\ (A\ [u] - \lambda I) = 0 \tag{1}$$

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ACCESSION NR: AP4043894

The authors first determine whether the existing rigidity is sufficient. If not, it may then be assumed that the rigidity varies either in one direction or in both directions. Systems of equations are then evolved for these cases as a basis for computer programs. For one direction:

$$D_1(u_1,\ldots,u_m), \quad D_2(u_1,\ldots,u_m),\ldots, \quad D_n(u_1,\ldots,u_n) \qquad (2)$$

And considering the rigidity to be constant:

$$P_1(u), \quad P(u),\ldots,P_n(u) \qquad (3)$$

For two directions:

$$\Delta_1(u_1,\ldots,u_m), \quad \Delta_2(u_1,\ldots,u_m),\ldots, \quad \Delta_n(u_1,\ldots,u_m) \qquad (4)$$

And considering the ridigity to vary:

$$(5)$$

$$(\max_u \min_x F(x,v) > 0$$

Card   2/3

ACCESSION NR: AP4043894

"The programming was performed by A. A. Motornaya, E. M. Livshitz and A. I. Kononenko to whom the author wishes to express his thanks". Orig. art. has: 8 equations.

ASSOCIATION: none

SUBMITTED: 10Nov63   ENCL: 00

SUB CODE: ME, DP   NO REF SOV: 002   OTHER: 000

Card 3/3

ACCESSION NR: AP4016497

S/0020/64/154/005/1011/1014

AUTHOR: Glazman, I. M.

TITLE: On gradient relaxation for non-quadratic functionals

SOURCE: AN SSSR. Doklady*, v. 154, no. 5, 1964, 1011-1014

TOPIC TAGS: non-quadratic functional, gradient relaxation, Euclidean space, Hilbert space, descent method

ABSTRACT: The method of descent, proposed by L. V. Kantorovich (DAN 48, no. 7, 1945) was investigated by him and other authors for the case of a positive definite quadratic functional in Euclidean or Hilbert space. Beyond the boundaries of the class of such functionals, the method of descent presents a problem. The present paper is devoted to one particular question of the problem of descent. Its basic aim is the effective construction of a universal algorithm of gradient relaxation for the class K of all functions $\Phi(x)$ of point x $(x_1, x_2, .., x_p)$ of Euclidean space E_p, which satisfy the following three conditions: (1) $\Phi(x)$ is twice continuously differentiable; (2) $\Phi(\infty) = \infty$; (3) $\Phi(x)$ has a unique stationary point $\overset{v}{x}$. The known methods of gradient relaxation for quadratic

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ACCESSION NR: AP4016497

functionals do not carry over to this case. Thus, for example, the method of least descent would require at each step, for the determination of the next factor of complete relaxation, the solution of non-linear equation, which itself requires an infinite computation process. Realization of a stationary procedure of grad-ient relaxation would require an initial evaluation of an upper bound for the maximum M of the operator norm of the Hessian matrix

$$H(x) = \left(\frac{\partial^2 \Phi}{\partial x_i \partial x_k}\right)^p_{i, k=1}$$

in the region $\Omega \subset \mathcal{E}_p$ of all x satisfying $\Phi(x) < \Phi(x_o)$. An effective construction of an auxiliary algorithm for such an estimate, valid for the whole class K, would again require, it seems, the construction of a minimizing sequence (now for the functional $- \| H(x) \|$ and with estimates of the rapidity of convergence, which leads to a vicious circle. In the general case of a non-stationary relaxation process

$$x_{n+1} = x_n - \gamma_n \nabla \Phi(x_n), \quad (n = 0, 1, 2, \ldots) \qquad (3)$$

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ACCESSION NR: AP4016497

which will be called length of the relaxation path the sum of the series

$$\sum_{n=0}^{\infty} |x_{n+1} - x_n|. \tag{4}$$

The algorithm described in this article may be utilized for the construction of minimizing sequences in variation problems. Orig. art. has: 10 equations.

ASSOCIATION: Fiziko-tekchnicheskiy institut nizkikh temperatur, akademii nauk USSR (Physico - Engineering Institute of Low Temperature, Academy of Science, USSR).

SUBMITTED: 25Sep63   DATE ACQ: 12Mar64   ENCL: 00

SUB CODE: MA   NO REF SOV: 005   OTHER: 002

Card 3/3

L 55956-65   EWT(d)/T   Pg-4/Ph-4   IJP(c)

ACCESSION NR: AP5010818   UR/0020/65/161/004/0750/0752

AUTHOR: Glazman, I. M.

TITLE: Relaxation on surfaces with saddle points

SOURCE: AN SSSR. Doklady, v. 161, no. 4, 1965, 750-752

TOPIC TAGS: algorithm, numerical method

ABSTRACT: Algorithms are constructed for the minimization of functionals $\phi(x)$ of the vector $x(x_1, x_2, \ldots, x_p)$ of a Euclidean space $\mathcal{E}_p$, with saddle points. The basic algorithm $\mathfrak{A}_1$ is universal for a class S of all functionals $\phi(x)$ with the

L 55956-65

ACCESSION NR: AP5010818

R_i is constructed, and it is proved that, for any polynomial $P(z)$ not having multiple roots, the sequence z_k constructed according to this algorithm will converge to one of the roots of $P(z)$ with any arbitrary initial approximation z_0. Orig. art has: 2 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk SSSR (Physico-technical Institute, Academy of Sciences SSSR)

L 04205-67   EWT(1)
ACC NR: AP6030006   SOURCE CODE: UR/0020/66/169/005/1026/1029

AUTHOR: Glazman, I. M.; Mitin, V. N.

ORG: Kharkov Polytechnical Institute im. V. I. Lenin (Khar'kovskiy politekhnicheskiy institut); Physico-Technical Institute of Low Temperature AN UkrSSR (Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR)

TITLE: The tuning out of vibration systems as a problem in convex programming

SOURCE: AN SSSR. Doklady, v. 169, no. 5, 1966, 1026-1029

TOPIC TAGS: linear programming, algorithm, optimal control, resonance damping

ABSTRACT: If Q is a vibration system with m degrees of freedom and m rigidities, and considering this system to be an elastic bar-conductor with rigidities u_u and moments of inertia I_k $(k=1,2,\ldots,m)$, the problem studied is that of selectively tuning Q out of the resonance danger zone $(0,\beta)$, the interval of squares of possible frequencies from external effects. This problem consists in altering a given number p of its rigidities such that the square λ of the least natural frequency of the system will satisfy the inequality $\lambda \geq \beta$. An algorithm is constructed for the solution of the problem of optimal tuning and also an algorithm for the solution of an analogous problem with supplementary limitations. These algorithms are realized by the use of rational opera-

L 04205-67
ACC NR: AP6030006

tions only, they have an exponential rate of convergence, and they provide for caging in attaining a given degree of accuracy. They are adapted for computer use. The authors thank L. I. Shtenvol'f for phasing the problem in terms of the $\lambda \geq \beta$ inequality. Presented by Academician A. Yu. Iahlinskiy on 27 November 1965. Orig. art. has: 14 formulas.

SUB CODE: 12,09/   SUBM DATE: 25Nov65/   ORIG REF: 005/   OTH REF: 001

Card 2/2

GLAZMAN, M.G.;   ORLOV, N.G. kandidat meditsinskikh nauk, glavnyy vrach.

Study of stable strains of staphylococci; author's abstract. Zhur.mikro-
biol.epid.i immun. no.2:53-54 F '53.   (MLRA 6:5)

1. Bol'nitsa imeni Baumana.   (Staphylococcus)

USSR/Medicine - Antibiotics

FD-2319

Card 1/1   Pub 146 - 26/26

Author   : Glazman, M. G.; Liptkhova, L. P.

Title   : Ekmolin as a factor which reinforces the action of penicillin on
               resistant staphylococcus cultures

Periodical : Zhur. mikro. epid. i immun. No 2, 58, Feb 1955

Abstract   : Found that penicillin to which ekmolin has been added has a bac-
               teriostatic effect on staphylococci cultures that are otherwise
               resistant to penicillin and that penicillin and ekmolin exert a
               synergetic bacteriostatic action on staphylococci cultures.

Institution : Hospital imeni Bauman, Moscow

Submitted   : March 18, 1954

USSR/Microbiology - Antibiosi. and Synt asis Antibi gi   F 2

Abs Jour   : Referat Zhurn - Biol. No 16, 25 Aug 195 ,

Author   : Glazman, M.G., B lya--- l A
Title   The Study of My   r A   ty in Exp

Orig Pub   · Antibiotiki, 195 . , N

Abstract   Of 36 cultures of stap yu oral isolated   m p nts.
              35 were sensitive to myc n, 10 to per   tto
              streptomycin, 31 to biomycin. Of 2? s a e   es
              tinal bacilli, 1 we e s-nsitive to myce i   h rep-
              tomycin, 10 to biomycin. Not a single one was per il
              lin sensitive. Of 94 microbial associations isolated
              from the mucus of patients and consisting of grampositi-
              ve and gramnegative flora), 77 were sensitive to mycerin.
              2 to penicillin, 32 to streptomycin, 49 to biomycin.
              Of 9 penicillin-resistant strains of proteus vulgaris.
              7 were sensitive to mycerin, 4 to streptomycin and 1 to
              biomycin. Mycerin was used in concentrations of

Card 1/2   - 28 -

USSR/Microbiology - Antibiosis and Symbiosis. Antibiotics   F-2

Abs Jour   :   Referat Zhurn - Biol. No 16, 25 Aug 1957. 68470

0.3- 5 γ/ml. A synergistic action of mycerin with
penicillin and streptomycin was established. The
most clearly evident synergistic effect was noted in
combinations of mycerin with biomycin.

Card 2/2   - 29 -

GLAZMAN, M.G.

Determining plasma coagulation in whole blood. Lab.delo 2 no.5:28
S-O '56.   (MIRA 9:11)

1. Iz bol'nitsy imeni Baumana (flavnyy vrach - kandidat meditsinskikh
nauk N.G.Orlov), Moskva.
          (BLOOD--COAGULATION)

GLAZMAN, M.G.

Method for determining antibiotic sensitivity of microflora isolated
from the phlegm of the diseased. Lab.delo 2 no.6:17-18 N-D '56.
(MLRA 9:12)

1. Iz bol'nitsy imeni Baumana (glavnyy vrach - kandidat meditsinskikh
nauk N.G.Orlov), Moskva.
        (ANTIBIOTICS)   (MUCUS)   (MICRO-ORGANISMS)

GLAZMAN, M.G.

Detection of yeast cells in sputum during antibiotic therapy. Zhur.
mikrobiol.epid. i immun.,supplement for 1956:41-42 '57 (MIRA 11:3)

1. Iz gorodskoy bol'nitsy No.29 imeni Baumana.
        (YEAST) (SPUTUM)

GLAZMAN, M.G.

Comparative effect of neomycin antibiotics with penicillin,
streptomycin, and chlortetracycline on some pathogens of sup-
purative infections [with summary in English]. Antibiotiki 3
no.6:110-111. N-D '58.   (MIRA 12:2)

1. Bol'nitsa imeni Baumana (glavnyy vrach - kand. med. nauk
N.G. Orlova).
                    (ANTIBIOTICS)
                    (SUPPURATION)
                    (BACTERIA, EFFECT OF DRUGS ON)

BARYSHNIKOVA, O.L.; GLAZMAN, M.G.

Mycerin in clinical practice. Antibiotiki 4 no.3:105-107
My-Je '59.   (MIRA 12:9)

1. Gorodskaya bol'nitsa No.29 imeni Baumana (glavnyy vrach
N.G.Orlov).
              (ANTIBIOTICS, ther. use,
                  mycerin (Rus))

GLAZMAN, M.G.

      Experimental study of monomycin. Antibiotiki 7 no.5:464-467 My '62.
                                   (MIRA 15:4)
    1. Gorodskaya bol'nitsa No.29 imeni Baumana (glavnyy vrach N.G.Orlov).
                  (ANTIBIOTICS)

GLAZMAN, M.S.

    Social and political life at the Institute of Forestry in
    1907-1910. Nauch.trudy LTA no.95:115-126 '61.   (MIRA 16:2)
        (Leningrad—Students)   (Leningrad—History)

CHALENKO, N.F.; GLAZMAN, M.Yu.

New developments in the clothing industry enterprises of the Kiev
Economic Council. Leh.prom. no.3:57-59 Je - Ag '62.   (MIRA 16:2)

1. Otraslevoye konstruktorskoye buyro tresta shveynoy promyshlennosti
Kiyevskogo soveta narodnogo khozyaystva.
                  (Kiev Economic Region—Clothing industry)

TYAGUNOVA, Z.A.; KUBAREVA, Yu.A.; GLAZMAN, R.A.

Adoption of the continuous neutralization of hydrolyzates at the Krasnodar Hydrolysis Plant. Gidroliz.i lesokhim.prom. 12 no.2:15-17 '59.
(MIRA 12:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitnospirtovoy promyshlennosti (for Tyagunova, Kubareva). 2. Krasnodarskiy gidroliznyy zavod (for Glazman).
(Krasnodar--Hydrolysis)

GLADNEVA, A.N.; GIAZMAN, R.A.; GUREVICH, N.S.; MALINOVSKAYA, Ye.V.

Chemical composition and physical properties of some types of raw material for hydrolysis. Gidroliz i lesokhim.prom. 12 no.4: 17-20 '59. (MIRA 12:8)

1. Krasnodarskiy gidroliznyy zavod.
                    (Krasnodar—Hydrolysis)

Coagulation of the alkosol mercuric sulfide. K. Volkov and Yu. Glassman. *Univ. état Kiev, Bull. sci., Rec. chim.* 1, No. 4, 85-93 (in German (8) 4) (1935). HgS sol was prepd. according to Errera (cf. *C. A.* 18, 5). To 1 cc. of sol in 15 cc. of anhyd. EtOH, add small amts. of electrolyte until a ppt. forms 5 min. after addn. For most salts, increase in concn. hastens coagulation. At small concns., AlCl₃ and FeCl₃ cause coagulation, but at higher concns. they stabilize the sol. Addn. of benzene increases the mol. polarization of alc. and the sol becomes unstable. Further study of lyophobe organosols requires the detn. of dipole moments.   B. Z. Kamich

A S 4 . S L A   METALLURGICAL LITERATURE CLASSIFICATION

Isomerism of lyophobic colloids. I. The cinnabar alcosol. Yu. M. Glazman and O. M. Baram (Kiev Tech. Inst. Light Ind.). *J. Gen. Chem.* (U.S.S.R.) 16, 1815-12(1946)(in Russian). In a soln. of Hg(CN)₂ in EtOH, cooled in an ice-NaCl mixt., prolonged action of H₂S forms a HgS sol of orange-red color (I), different from the usual dark-brown sol (II); the latter does not at any appreciable rate go over into I above −18°, but between −21° and −78° the transformation is complete in 3-4 hrs., the slower the lower the temp. Interruption of the cooling after 5-10 min. satn. of the alcosol of II by H₂S and return to room temp. caused accelerated conversion into I, completed in 10-15 min. Consequently, low temp. is necessary only in the initial stages of the reaction between Hg(CN)₂ and H₂S; the subsequent stage of transition of II into I goes faster at a higher temp. By x-ray diffraction, I was shown to be identical with pure cinnabar, whereas II is known to be structurally metacinnabarite. In MeOH, PrOH, BuOH, and AmOH, transition of II into I takes place in the same temp. range as in EtOH. In alc. contg. 32% H₂O, the threshold temp. for the transition is −25°, with 80% H₂O, −28°; a 40% H₂O-alc. mixt. freezes before the threshold temp. is reached. The conversion does not take place in Me₂CO, the presence of which in an alc. suppresses the II → I transition altogether. The detg. factor for the initiation of the conversion appears to be a sufficient concn. of H₂S; in fact, the observed threshold temps. correspond to the same "threshold concn." of H₂S

in the various solvents, 1.513 mole/l.; this concn. cannot be attained in water or in water-rich alc., hence the failure to achieve conversion in these media. This factor does not, however, explain the neg. effect of Me₂CO in which the soly. of H₂S is somewhat higher than in alcs. Sol II when formed at a high temp. cannot be converted into I by subsequent cooling; only a sol formed from the very beginning at a low temp. is susceptible of conversion. This reactivity is tentatively ascribed to formation of low-stability HgS·H₂S complexes from which HgS crystallizes in the cinnabar lattice, in analogy to a certain extent with the usual artificial prepn. of cinnabar from black HgS by heating with alk. sulfides. The neg. effect of Me₂CO may be due to complex formation with H₂S precluding addn. of H₂S. Sol I cannot be obtained at any temp. from soln. of HgCl₂ or Hg(AcO)₂, probably because of decompn. of the HgS·H₂S complexes by the H ions liberated from H₂S; from this point of view, it is understandable that the conversion is possible only if the HgS is formed from the unionized. Hg(CN)₂.   N. Thon

CA

2

PROCESSES AND PROPERTIES INDEX

Coagulation of lyophobic organosols by electrolytes. I
Yu. M. Glazman (Technol. Inst. of Light Industry,
Kiev). J. Phys. Chem. (U.S.S.R.) 20, No. 8, 1946.
HgS sols in H₂O, EtOH, COMe₂, and EtOAc were prepd.
from Hg(CN)₂ and H₂S. They were coagulated by 18
different salts. The coagulating power of the cations in-
creased with valency (ratio 1:2:3:4) in the ratio 1:21:
515:2000 for water, 1:50:118:222 for EtOH, 1:10:1000
for COMe₂ (valency ratio 1:2:4), and 1:7:5:64 for
EtOAc, no quadrivalent ions were used in acetone and
ethyl acetate. The elec. cond. of the solns. used is given.
II. Ibid. 209-12. HgS sols in water and ethanol were
coagulated by 11 different Na salts. The largest ratio
of the coagulating concns. was 7 in water (for p-O₂NC₆H₄-
CO₂Na, NaClO₄) and 2.7 in EtOH (for CH₃ClCO₂Na,
NaBr). It is suggested that fewer anions are adsorbed
by HgS in EtOH, with its low dielec. const., than in water.

A.S.M.—S.L.A.   METALLURGICAL LITERATURE CLASSIFICATION

Lyophobic Organic Colloids. (In Russian) I. M. Glazman. Progress in Chemistry (USSR), v. 16, no. 2, 1947, p. 177-188.

Discusses theories concerning the stability of the above systems. Advances tentatively a hypothesis that all lyophobic colloid systems, organic or aqueous, should be considered from the same point of view. 41 ref.

CA

Acclimatization effect in the coagulation of hydrophobic colloids by electrolytes. Yu. M. Glazman and B. E. Tartakovskaya. *Kolloid. Zhur.* 11, 299-307 (1949). — A AgI sol (0.01 N + 5% excess of KI) was dialyzed in cellulose bags until its elec. cond. was 8×10^{-4}, and then electrodialyzed between cellulose membranes until κ was 4×10^{-6} ohm^{-1} cm.$^{-1}$. To 1 ml. of this sol so much coagulating electrolyte (I) was at once added (its final concn. was c_i) that the turbidity of the filtrate after 24 hrs. of coagulation was 1.6 that of H$_2$O, or I was added 1 drop daily until the filtrate taken 24 hrs. after the last drop had the 1.6 turbidity. In the 2nd case the final concn. c_i was less than c_1. From the earlier theory (*Kolloid Zhur.* 9, 241(1947)) $(c_1 - c_i)/c_1 = (1/kc_i) \ln(1 + e^{-kc_i} - e^{-kc_i})$, if $1/n$ is no. of drops used in the 2nd case and k is the const. of coagulation detd. from the exptl. relation between the concn. of I and the time t after which the filtrate had the 1.6 turbidity. For KCl, BaCl$_2$, and CeCl$_3$ k was 0.076, 5.12, and 150 l./millimol., and kc_i was 6.2–0.5 for all 3 electrolytes. As kc_i was independent of the nature of I, $(c_1 - c_i)/c_1$ also was identical (+0.28 to −0.30) for these salts, and the above equation was confirmed (1/n was 43–46). This proves that the rate of coagulation generally is an exponential function of the concn. of I, although expt. showed that very small amts. of I were less active than expected. In undialyzed AgI sols greater initial amts. of I were inactive, wherefore the above equation yielded greater values of $(c_1 - c_i)/c_1$ than found by expt.   I. J. Bikerman

Relation between the adsorption of coagulator ions and their concentration in solution. P. M. Strashesko and Yu M. Glazman (L. V. Pisarzhevskii Inst. Phys. Chem., Kiev). *Dopovidi Akad. Nauk Ukrain. R.S.R.* 1930, 293-5 (in Ukrainian).—The adsorption of $Sr(NO_3)_2$ (0.01-0.1 M) in coagulation of hydrosols of AgI (10 millimole/l.), HgS, and As_2S_3 (8 millimole/l.), was investigated by tagging with radioactive Sr^{90}. With c = concn. of $Sr(NO_3)_2$ corresponding to the coagulation threshold, the amts. adsorbed, at the concns. c, $5c$, and $10c$, are: on AgI, 47.0 microcmole/g. (4.17%), 184.7 (3.47), 315.1 (2.90); on HgS, 16.8 (5.16), 46.8 (2.87), 81.3 (2.56); on As_2S_3, 63.9 (12.58), 90.2 (3.55), 118.5 (2.33). The adsorption is practically instantaneous, and the Sr^{++} ions are held firmly by the coagulate.
N. Thon

CA

.2

Investigation by the tracer method of the coagulation of lyophobic sols by electrolytes. Adsorption of ions of the same sign. Yu. M. Glazman and D. N. Strazhesko (L. Y. Pisarzhevskii Inst. Phys. Chem., Kiev). *Doklady Akad. Nauk S.S.S.R.* 75, 411-13(1950). — The amt. of neg. ions PO_4^{---} and SO_4^{--} adsorbed by the neg. hydrosols of AgI (0.01 M) and HgS and As_2S_3 (0.001 M) was detd. by tagging the anions with radioactive P^{32} and S^{35}, resp. Both at the threshold of coagulation, and in the presence of a twofold excess of the electrolyte the amts. of anion adsorbed were insignificant; PO_4 was not adsorbed on AgI, and the amts. adsorbed on HgS and As_2S_3 were ~0.8 and ~0.4 millimole/g., resp.; adsorption of SO_4, none on AgI, ~ HgS, and ~2.1 millimole/g. on As_2S_3. Adsorption of such small amts. can play no role in coagulation, ion antagonism, etc. Pos. Sr^{++} ions (tagged with radioactive Sr^{90}) were adsorbed, at the threshold of coagulation, to the extent of 47.6 millimole/g. on AgI, 16.8 on HgS, and 63.9 on As_2S_3.

N. Thon

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Study of the electrolyte coagulation of lyophobic sols by the method of tagged atoms. I. Adsorption of ions having a charge of the same sign as the particles. Yu. M. Glazman, D. M. Strashesko, and B. P. Tertakov. Invest. *Khim.* U.S.S.R. 15, 161-71(1953)(Engl. translation). See C.A. 47. 9107i.   H. L. J.

GLAZMAN, Yu.M.

Nature of the stability of lyophobic organosols. Koll.zhur. 15 no.4:225-
233 '53.   (MLRA 6:8)
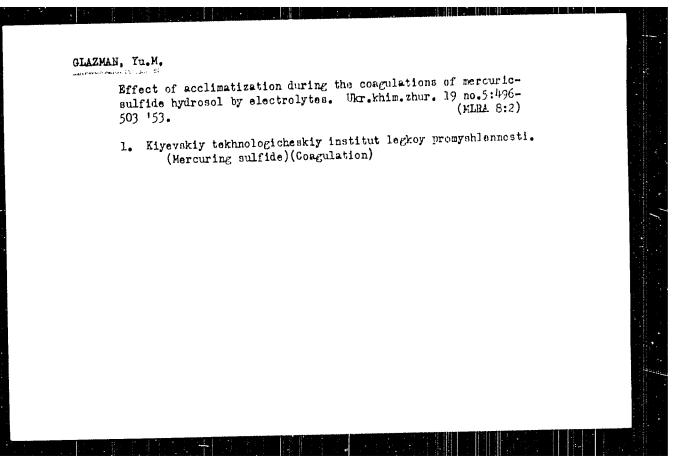
1. Tekhnologicheskiy institut legkoy promyshlennosti (Kiyev). (Colloids)
(CA 47 no.22:11886 '53)

GLAZMAN, Yu.M.

Nature of the "acclimatization" phenomenon during the coagulation of hydro-
phobic sols by electrolytes. Koll.zhur. 15 no.5:334-346 '53. (MLRA 6:9)

1. Kievskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Colloids)

GLAZMAN, Yu.M.

Effect of acclimatization during the coagulations of mercuric-sulfide hydrosol by electrolytes. Ukr.khim.zhur. 19 no.5:496-503 '53.
(MLRA 8:2)

1. Kiyevskiy tekhnologicheskiy institut legkoy promyshlennosti.
(Mercuring sulfide)(Coagulation)

GLAZMAN, Yu. M.

USSR/ Chemistry - Colloids

Card 1/2   Pub. 22 - 27/52

Authors   :   Glazman, Yu. M., and Dykman, I. M.

Title   :   Coagulation of lyophobic sols under the effect of electrolyte mixtures

Periodical :   Dok. AN SSSR 100/2 299-302, Jan 11, 1955

Abstract   :   It was established that when the process of coagulation of lyophobic
                 sols is not complicated by additional phenomena like adsorption,
                 chemical reaction, etc, the addition to the sol of two electrolytes
                 (differing in valence of the coagulating ions) will be expressed by
                 a plain synergism effect. The phenomena of instances where antagonism
                 may appear are discussed.

Institution :   The Technological Institute of Light Industry, Kiev

Presented by :   Academician A. N. Frumkin, July 29, 1954

Periodical :   Dok. AN SSSR 100/2, 299-302, Jan 11, 1955

Card 2/2   Pub. 22 - 27/52

Abstract   :   The antagonism was found to be in some way connected with the
                adsorption reactions which take place during the addition of elec-
                trolytes to the sol. The role of the colloidal-dispersion phase in
                the process of sol coagulation is explained. Seven references:
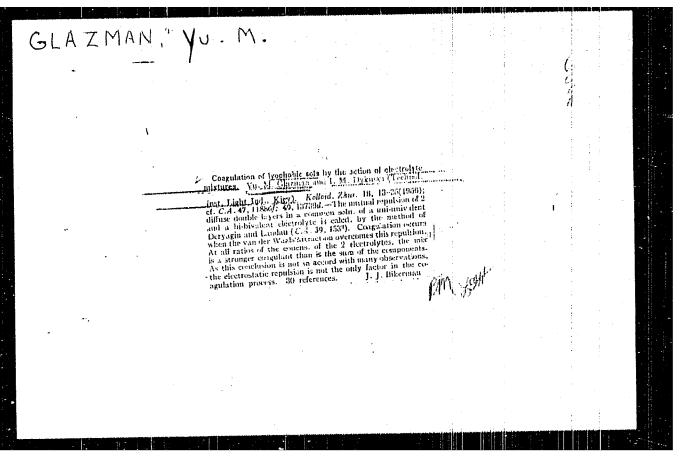   4 USSR, 2 German and 1 Dutch (1927-1946). Graph.

GLADMAN, Yu. M.; Zhel'vis, Ye. F.

"On the Nature of the Phenomenom of Assimilation in the Coagulation of Hydrophobic Colloids with Electrolytes. Coagulation of Sol of Prussian Blue (O prirode yavleniya pribykaniya pri koagulyatsii gidrofobnykh kolloidov elektrolitami. Koagulyatsiya zolya Berlinskoy lazuri) from the book Trudy of the Third All-Union Conference on Colloid Chemistry, pp. 341-348, Iz. AN SSSR, Moscow, 1956

(Report given at above Conference, Minsk, 21-3 Dec 5?)

Authors: Kiev, Technological Institute of Light Industry

GLAZMAN, Yu. M.

Coagulation of lyophobic sols by the action of electrolyte mixtures. Yu. M. Glazman and I. M. Dykman (Technol. Inst. Light Ind., Kiev). Kolloid. Zhur. 18, 13-25(1956); cf. C.A. 47, 1185d; 49, 13739d.—The mutual repulsion of 2 diffuse double layers in a common soln. of a uni-univalent and a bi-bivalent electrolyte is calcd. by the method of Deryagin and Landau (C.A. 39, 4534). Coagulation occurs when the van der Waals attraction overcomes this repulsion. At all ratios of the concns. of the 2 electrolytes, the mix. is a stronger coagulant than is the sum of the components. As this conclusion is not in accord with many observations, the electrostatic repulsion is not the only factor in the coagulation process. 30 references.   J. J. Bikerman

AUTHORS: Glazman, Yu. M., D...., I. M., Strel'tsova, .. A.,   20-117-5-29/54

TITLE: The Antagonism of Ions in the Coagulation of Lyophobe Sols by
             electrolytes (Ob antagonizme ionov pri koagulyatsii liofobnykh
             zoley elektrolitami).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 5, pp. 829-832 (USSR)

ABSTRACT: In a preliminary paper of the authors(reference 1) it was shown,
             that on the coagulation of lyophobe sols by a mixture of two
             symmetric electrolytes of the type 1 - 1 + 2 - 2 the synergism.
             effect must be taken into consideration almost in the whole range
             of their concentrations. At the same time the supposition was
             pronounced, that in the case of a differing composition of the
             electrolytes the computations may furnish quite different results.
             The present investigation is destined to examine the correctness
             of this assumption. The authors conducted computations analoguous
             to the ones mentioned in the preliminary paper, especially for the
             case of the coagulation of a sol by a mixture of electrolytes of
             the type $1_2 - 2 + 2 - 2$. At first a differential equation for the
             electrolytic potential in an arbitrary point of the solution is
             given. This potential Ψ is then, for the sake of convenience, re-
             placed by a dimensionless potential. Besides, the sol is here sup-
             posed to be strongly charged. The whole range of the possible con-
             centrations n_1 and n_2 is of identical interest for the problem

Card 1/2

The Antagonism of Ions in the Coagulation of Lyophobe Sols by   20-117-5 -29/54
Electrolytes.

investigated here. The parameter n_1 is here considered to be in-
finitely small, and it is sufficient to break off the series ex-
pansion with respect to n_1 after the first term. Then formulae cor-
responding to this approximation are written down. The course of
the computation is followed step by step and shows the subsequent
results; The rules of the coagulation of lyophobe sols by mixture
of electrolytes of the type $1 - 1$ +2 -2 and 1_2 -2 +2 - 2 are op-
posed to each other in a qualitative sense. In the first case the
synergism is substantiated theoretically and in the second case
the theory leads to a sharply pronounced antagonism. In the co-
agulation of lyophobe colloides there must be distinguished two
types of antagonisms: 1) An antagonism connected with the compet-
ition for the adsorption place on the surface of the colloidal
particles. 2) An antagonism caused by the electrostatic interaction
of the ions in the volume of the solution and in the electric
field of the colloidal particles. There are 3 references, 2 of
which are Slavic.

PRESENTED: June 10, 1957, by P. A. Rebinder, Academician

SUBMITTED: May 7, 1957

Card 2/2

GLAZMAN, Yu. V.

AUTHORS: Glazman, Yu. M., Strazhesko, D. N., Bisikalova, N. A.   78-1-21/43

TITLE: Investigation of the Coagulation of Lyophobe Sols Through Electro-
             lytes by Means of the Method of Marked Atoms (Issledovaniye koaguly-
             atsii liofobnykh zoley elektrolitami metodom mechenykh atomov).
             II. Adsorption of Cations by Positively Charged Colloidal Particles
             (II. Adsorbtsiya kationov polozhitel'no zaryazhennymi kolloidnymi
             chastitsami).

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 1, pp. 115-118 (USSR).

ABSTRACT: The aforesaid coagulation is always accompanied by phenomena of adsorp-
              tion. The question of the importance of the latter is still of topical
              interest for the theory of the stability of loyphobe colloids. It is,
              in particular, not clear whether an adsorption of indifferent ions
              which have a charge of the same sign as the colloidal particles, takes
              place and which role this adsorption plays in the mechanism of coagu-
              lation. The authors states in a previous report that the adsorption of
              indifferent anions was very small (up to 1 to 2 micro mol per 1 g
              disperse phase) with the coagulation of negative brine by electrolytes.
              It was interesting to clarify, in which way the cations will behave in
              coagulation in this respect, as mentioned in the sub-title. The present

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Investigation of the Coagulation of Lyophobe Sols Through
Electrolytes by Means of the Method of Marked Atoms.

7?-L-21/43

report is devoted to this problem. A voluminous experimental part
follows. Positively charged brine of ferric hydroxide and silver
iodide served for the investigation. The dialysis was carried out in
little bags of cellophane with frequent change of the water in the
exterior vessel, for 14 days. The chlorides of potassium, rubidium,
caesium, calcium, which were correspondingly marked with K^{42}, Rb^{86},
Cs^{134}, Ca^{45} served for the coagulation, as well as nitrates of sil-
ver and lanthanium (marked with Ag^{110} and La^{140}) served for the coa-
gulation. The coagulating concentrations were visually determined
(like in reference 1). The minimum concentration which was sufficient
for achieving the complete separation of the disperse sol phase from
the medium of dispersion, was denoted as threshold of coagulation
($C_{K.S.} = C_{p.k.}$). The usual (commercial) radio isotopes lead, in spite
of quite small quantities of contaminations, to somewhat unexpected
results which substantially differed from those given in the previous
report (reference 1): The adsorption of cations was quite important
in several cases. The isotopes were therefore - in addition - still
especially purified. The results obtained with such purified radioac-
tive preparations are given in table 1 and 2. They show that the ad-
sorption of cations with the coagulation of positively charged brine

Card 2/4

Investigation of the Coagulation of Lyophobe Sols Through Electro=   78-1-21/43
lytes by Means of the Method of Marked Atoms.

of ferric hydroxide and silver iodide is extremely small and that it
increases very slightly when a surplus of the coagulating electrolyte
is added to the colloidal solutions. Rubidium-, caesium-, and calcium-
ions are practically not adsorbed at all. The adsorption of potassium-
ions seems to be somewhat higher at first sight, but in reality any
radiochemical admixture was adsorbed from which the authors could ap=
parently not completely liberate the solution. The ion-adsorption of
lanthanium and silver was somewhat higher, apparently due to their spe=
cific adsorption power which is caused by structural pecularities of
their electron shells (reference "). Consequently, the results of the
present report prove, as well those of the previous paper (reference
1) that the adsorption of ions of the same sign, especially with the
coagulation of positively charged brine, is extremely small. Immedia=
te radiometric measurements of the adsorption of the opposed ions are
required, however, for a final judgement of the small adsorption power
of ions of the same sign and their rôle in the mechanism of various
phenomena of coagulation.
There are 2 tables, and 13 references, 8 of which are Slavic.

Card 3/4

Investigation of the Coagulation of Lyophobe Sols Through
Electrolytes by Means of the Method of Marked Atoms.

7-1-21/43

ASSOCIATION: Technological Institute for Light Industry (Tekhnologicheskiy Insti-
tut legkoy promyshlennosti).
Medical Institute im. A. A. Bogomolets, Kiyev (Meditsinskiy Institut
im. A. A. Bogomol'tsa, Kiyev)

SUBMITTED: May 18, 1957.

AVAILABLE: Library of Congress.

Card 4/4

69-58-2 -4/23

AUTHORS: Glazman, Yu.M.; Dykman, I.M.; Strel'tsova, Ye.A.

TITLE: The Coagulation of Lyophobic Sols by the Action of Electro-
lyte Mixtures. Communication 2. (O koagulyatsii liofobnykh
zoley pri deystvii smesey elektrolitov. Soobshcheniye 2)

PERIODICAL: Kolloidnyy zhurnal, 1958, Vol XX, Nr 2, pp 149-158 (USSR)

ABSTRACT: During coagulation of lyophobic sols, caused by the mixture
of two symmetrical electrolytes of the 1-1+2-2 type, a syn-
ergetic effect takes place within their concentration range.
The action of these two electrolytes is accompanied by two
contradicting factors. Synergism is caused by the addition
of the electrolyte and is connected with the compression of
a diffused ion atmosphere. A tendency toward antagonism is
caused by the screening of the antiions of the electrical
field. Electrolytes of the 1₂-2+2-2 type have also been
considered. The principal difference of the two types con-
sists in the fact that the side ion of the first of the two
electrolytes is bivalent. The theoretical calculation indi-
cates antagonism, whereas in the 1-1+2-2 type it indicates syn-
ergism. There are two types of antagonism during the coagu-
lation of lyophobic colloids: 1) the antagonism between

Card 1/2

69-58-2 -4/23

The Coagulation of Lyophobic Sols by the Action of Electrolyte Mixtures.
Communication 2

coagulating ions associated with competition for the sites
of adsorption on the surface of the colloid particles; 2)
the antagonism due to the mutual electrostatic interaction
of the ions in the bulk of the solution and in the electric-
al field of the colloid particles.
There are 8 references, 6 of which are Soviet, 1 French and
1 German.

ASSOCIATION: Kiyevskiy tekhnologicheskiy institut lëgkoy promyshlennosti
(Kiyev Technological Institute of   Light Industry)

SUBMITTED: February 23, 1957

1. Chemical compounds--Coagulation   2. Electrolytic compounds
--Applications

Card 2/2

GLAZMAN, Yu. M.

"The first mathematical theory of ion antagonism."

report presented at the Fourth All-Union Conference on Colloidal Chemistry,
Tbilisi, Georgian SSR, 12-16 May 1958   (Koll zhur, 20,5, p.677-9, '58, Taubman, A.B)

GRA_AM, Yu. I., Doc Chem Sci — (diss) "Study of the stability and formation of lyophilic solutions of electrolytes." Kiev, 195. 23 pp with diagram (Inst of General and Inorganic Chemistry of the Acad Sci UkSSR). 150 copies. List of author's works, pp 1-23.

(KL,25-60, 100)

SOV/69-21-3-3/25

5(4)

AUTHORS: Glazman, Yu.M., Strazhesko, D.N., Zhel'vis, Ye.F.,
            Chervyatsova, L.L.

TITLE: Changes in the Adsorption of Potential-Determining
            Ions During Coagulation of Lyophobic Sols by In-
            different Electrolytes

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 3, pp 263-271
            (USSR)

ABSTRACT: The present investigation concerns the role of the
            potential-determining ions during the coagulation
            process of lyophobic sols, caused by indifferent
            electrolytes with coagulating ions of different
            valency. Objects of the investigation were the ne-
            gatively charged sols AgJ, HgS and As_2S_3 (negatively charged)
            and $Fe(OH)_3$ (positively charged). In comparing the
            magnitudes of the activities of the intermicellar
            liquids of the investigated sols with the activities
            of the corresponding solutions after coagulation,

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Changes in the Adsorption of Potential-Determining Ions During
Coagulation of Lyophobic Sols by Indifferent Electrolytes

a marked additional adsorption of potential-deter-
mining ions could be noted in such a. The de-
sorption of inert ions, which is observed during
the coagulation of the Fe (OH), sol, is due to secon-
dary factors. Coagulation of lyophobic sols by in-
different electrolytes, in fact, affects not only
the external but also the inner portion of the colloid
particle double layer. The changes observed thereby
cannot be explained from the standpoint of a purely
electrostatic compression of the double layer. There
is a quantitative disparity between this conception
and the obtained data. The authors conclude by re-
commending the further study of the coagulation theory,
which is to consider the quantitative effect of elec-
trolytes on the surface potential of colloid particles.
Towards the end of the article, the authors mention
the Soviet scientists V.A. Kargin and A.I. Rabinovich
in connection with certain effects produced by poten-

Card 2/3

SOV/69-21-3-3/25

Changes in the Adsorption of Potential-Determining Ions During
Coagulation of Lyophobic Sols by Indifferent Electrolytes

tial-determining ions during the coagulation process.
There are 3 tables and 50 references, 24 of which are
Soviet, 14 German, 10 English and 2 French.

ASSOCIATION: Tekhnologicheskiy institut legkoy promyshlennosti
(Technological Institute of Light Industry)
Institut fizicheskoy khimii AN USSR im. L.V. Pisar-
zhevskogo, Kiyev (Institute of Physical Chemistry
of the AS of the UkrSSR imeni L.V. Pisarzhevskiy,
Kiyev)

SUBMITTED: 26 February 1958

Card 3/3

GLAZMAN, Yu. M. and STRAZLICK, D. L.

"The Significance of Adsorptional Phenomena in the Mechanism of Capillarity Lyophilic Colloid Electrolyte."

report presented at the Session on Colloid Chemistry, XII Mendeleyev Conference General and Applied Chemistry, Moscow, 1-15 March 1953.
(Koll. Zhur. v. 15, No. 5, pp. 189-91.)

PHASE I BOOK EXPLOITATION   SOV/5130

Konferentsiya po poverkhnostnym silam. Moscow, 1960.

Issledovaniya v oblasti poverkhnostnykh sil; sbornik dokladov na konferentsii po poverkhnostnym silam, aprel' 1960 g. (Studies in the Field of Surface Forces; Collection of Reports of the Conference on Surface Forces, Held in April 1960) Moscow, Izd-vo AN SSSR, 1961. 231 p. Errata printed on the inside of back cover. 2500 copies printed.

Sponsoring Agency: Institut fizicheskoy khimii Akademii nauk SSSR.

Resp. Ed.: A. V. Dumanskiy, Corresponding Member, Academy of Sciences USSR; Editorial Board: N. N. Zakharyev, B. A. Krotova, M. M. Kusakov, B. V. Deryagin, P. S. Prokhorov, N. V. Churayev and G. I. Fuks; Ed. of Publishing House: A. L. Bankvitser; Tech. Ed.: Yu. V. Rylina.

PURPOSE: This book is intended for physical chemists.

Card 1/5

Studies in the Field of Surface Forces (Cont.)

COVERAGE: This is a collection of 25 articles in physical chemistry on problems of surface phenomena investigated at or in association with the Laboratory of Surface Phenomena of the Institute of Physical Chemistry of the Acad[emy] of Sciences USSR. The first article provides a detailed chronological account of the Laboratory's work from the [da]y of its establishment in 1934 to the present time. The remaining articles discuss general surface force problems, polymer adhesion, surface forces in thin liquid layers, surface phenomena in dispersed systems, and surface forces in aerosols. Names of scientists who have been or are now associated with the Laboratory of Surface Phenomena are listed with references to their past and present associations. Each article is accompanied by references.

TABLE OF CONTENTS:

Zakharyeva, N. N. Twenty-Five Years of the Laboratory of
Surface Phenomena of the IPKhAN SSSR (Institute of Physical
Chemistry of the Academy of Sciences USSR)   3

Card 2/8