

MOZRZYMAS, J.; RZEWUSKI, J.

Second order invariant differential equation in the spinor space.
Bul Ac Pol mat 9 no.3:225-228 '61.

1. Institute of Theoretical Physics, University, Wroclaw, and
Institute of Physics, Wroclaw Branch, Polish Academy of Sciences.
Presented by L. Infeld.

LOPUSZANSKI, J.; RZEWUSKI, J.

Functional formulation of the theory of reliability. Archiw
elektrotech 11 no.2:271-284 '62.

1. Instytut Fizyki Teoretycznej, Uniwersytet, Wrocław, i Instytut
Fizyki, Polska Akademia Nauk, Wrocław.

RZEWUSKI, J.

Quantum field theory without operators. *Bul Ac Pol mat* 11
no.1:31-36 '63

1. Institute of Theoretical Physics, University, Wroclaw.
Presented by L. Infeld.

RZEWUSKI, Jan

On functional formulation of the S-matrix theory. Acta
physica Pol 24 no.6:763-783 D '63.

1. Institute of Theoretical Physics, University, Wroclaw,
and Institute of Physics, Polish Academy of Sciences.

RZEWUSKI, Jan

S-matrix in terms of current operator. Acta physica Pol 27
no.2:235-243 F '65.

1. Institute of Theoretical Physics of the Wroclaw University
and Institute of Physics of the Polish Academy of Sciences.
Submitted October 24, 1964.

L 01912-67 T RO/JK

ACC NR: AP6035157

(A)

SOURCE CODE: PO/0081/65/019/002/0219/0220

DZIUBEK, Z.; WYSOCKA, B.; RZEWUSKA, S.; KOWALIK, G. and PIETRZYKOWSKI, J.
[Affiliation not given].

21
B

"Analysis of Food Poisonings from Two Districts of the Warsaw Region:
Nowy Dwor and Siedlce."

Warsaw, Przeład Epidemiologiczny, Vol 19, No 2, 1965; p 219-220.

Abstract: Data on 866 cases noted from 1959 to 1963, including 57 in adults.
Of these, 463 were food poisonings and 403 were nonspecific diarrheal gastro-
enteritis. Food poisoning occurred primarily in the summer. Data on severity,
hospitalization, and foods involved are given for several of the major outbreaks.
Presented at the 3rd Scientific Assembly of Polish Epidemiologists and Infec-
tologists, Krakow, 5-6 Oct 64. [JPRS]

TOPIC TAGS: digestive system disease, food sanitation

SUB CODE: 06 / SUBM DATE: none

Card 1/1 blg

POLAND

RZEWUSKI, Henryk

Institute of Nuclear Research (Instytut Badan Jadrowych), Swierk

Crakow, Postepy fizyki, No 5, Sept/Oct 1966, pp 525-536

"Metastable defects in germanium."

RZHANITSYN, A.R. (Moskva)

~~Studies of simplified methods of designing shells. Stroi.~~
mekh. i rasch. soor. 5 no.3:36-43 '63. (MIRA 16:6)

(Elastic plates and shells—Congresses)

BOKUNYAYEV, A.I., inzh., red.; SOKOLOV, N.M., kand. tekhn. nauk,
red.; RZHANITSYN, B.A., red.; KLIMOVA, G.D., red. izd-va;
MOCHALINA, Z.S., tekhn. red.

[Construction specifications and regulations] Stroitel'nye
normy i pravila. Moskva, Gosstroizdat. Pt. 3. Sec. B. ch. 5.
[Stabilization and artificial firming of soils; regulations
for the organization, performance, and acceptance of work]
Stabilizatsiia i iskusstvennoe zakreplenie gruntov; pravila
organizatsii, proizvodstva i priemki rabot (SNiP III-B.
5-62). 1963. 23 p. (MIRA 16:9)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam
stroitel'stva. 2. Nauchno-issledovatel'skiy institut osnova-
niy i podzemnykh sooruzheniy Akademii stroitel'stva i arkhi-
tektury SSSR (for Rzhantsyn). (Soil stabilization)

DOMANEVSKIY, N.A.; LOSIYEVSKIY, A.I.; MAKKAVEYEV, N.I.; MATLIN, G.M.; RZHANITSYN,
N.A.; AZROVA, A.G., redaktor.; BEGICHEVA, M.N., tekhnicheskii redaktor.

[Channel processes and improvement of the navigable course in open-channel rivers.] Ruslovye protsessy i putevye raboty. Moskva, Izd-vo "Rechnoi transport, "1956. 458 p. (Moscow. Tsentral'nyi nauchno-issledovatel'skii institut ekonomiki i ekspluatatsii vodnogo transporta. Trudy, no.8). (MLRA 9:11)

(Rivers--Regulation) (Dredging)

RZEWSKI, J

530.145

5039. RELATIVISTIC TWO-BODY PROBLEM IN ONE-TIME FORMULATION. SEPARATION OF ANGULAR VARIABLES IN THE CASE OF ONE-QUANTUM INTERACTION IN ELECTRODYNAMICS.

W. Królkowski and J. Rzewski.
Acta phys. Polon., Vol. 15, No. 5, 321-41 (1956).

The separation of angular variables in the relativistic one-time equation for the two-fermion problem in quantum electrodynamics is carried out for the case of one-quantum interaction. The momentum representation is used. A system of integral equations in one variable is obtained. This system reduces to four equations in the case of $j = 0$, and to eight equations for $j \neq 0$.

Handwritten initials

EE
MT

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J.L.S.

MS

Rzewuski, Jan. Radiative collisions between two elec- $T = F/W$
trons. Acta Phys. Polon. 9, 121-128 (1948).

The author calculates the differential cross-section for the radiative collision of two charged relativistic Dirac particles. Bethe and Heitler's formula for "bremsstrahlung" [Proc. Roy. Soc. London, Ser. A, 146, 83-112 (1934)] is obtained as a special case, when the mass of one of the particles becomes infinitely large.

A. Salam.

RZ
MS

RZEWSKI, JAN

P.O.L. J.

✓
MS

Rzewski, Jan. The self-energy of scalar mesons in interaction with nuclei. Acta Phys. Polon. 10, 141-150 (1951).

Using Schwinger's formalism [Phys. Rev. (2) 74, 1439-1461 (1948); 75, 651-679 (1949); MR 10, 345, 663], meson self-energy is calculated in the second order, for scalar mesons interacting with the nucleons, with scalar and derivative couplings. The calculation is substantially the same as that carried through by Matthews [ibid. 75, 1657-1674 (1949)] except that it is not realized that the derivative coupling can be completely transformed away [F. J. Dyson, ibid. 73, 929-930 (1948)]. A. Salam.

J - F/W

PM
SA

P.O.L. 2

Rzewuski, Jan. Relativistic quantum dynamics of a system of interacting particles. Acta Phys. Polon. 12, 77-80 (1953) = Nuovo Cimento (9) 10, 90-93 (1953).

MS 1-P/7

The two papers are exact transcripts of each other. Consider the action integral

$$- \sum_k \int_{t_1}^{t_2} [1 - (v_k)^2]^{1/2} dt_k + \sum_{i,j} e_i e_j \int_{t_1}^{t_2} v_{ij}^2 G(q^i - q^j) v_i v_j dt$$

1/2

for a system of interacting particles. Here $v_i = dq_i/dt$, $v_i^2 = 1$ and G is an invariant function. The equations of motion are

$$\frac{dx_i^\mu}{dt} = e_i F_{\mu\nu} v_i^\nu$$

where $\pi_i = kv_i/[1 - (v_i)^2]^{1/2}$, $P_i = \partial A / \partial q_i - \partial A / \partial q_i$, and

$$A(q^i) = \sum_{i,j} e_i e_j \int_{t_1}^{t_2} [v_{ij}^2 G(q^i - q^j) + v_i v_j G(q^i - q^j)] dt$$

If p_i are the free particle limits of π_i , for the case of no interaction, the (operator) equations for the π_i can be integrated, and in particular a unitary S-matrix constructed from the relation $p_i^2 = S^{-1} \pi_i^2 S$. Here superscripts 2 and 1 refer to the values of π_i on space-like surfaces σ_2 and σ_1 .

(OVER)

END

JAN REZWUSKI

The methods used are those of Yang and Feldman [Phys. Rev. (2) 79, 972-978 (1950); MR 12, 569]. The author claims that, "the relativistic problem of interacting particles seems to be solved in principle in the framework of quantum dynamics without the use of the field concepts."

A. Salam (Cambridge, England)

2/2

DMV

Rzewuski

4

1866. ON THE EQUATION FOR THE DISTINGUISHED COMPONENT OF THE STATE VECTOR. ^{530.145} ₂
J. Krdikowski and J. Rzewuski.
Eull. Acad. Polon. Sci. Cl. 3, Vol. 4, No. 1, 19-29 (1956)

[Handwritten mark]

Defining the distinguished component with the help of projection operators, an integro-differential equation with respect to time is derived, and closed expressions are given for the kernels in the general and in the stationary case. This equation can be replaced by one purely differential with respect to time; in the stationary case this has the form of a Schrödinger equation with complex potential, the imaginary part determining the lifetime. W.A. Hapner

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Tuesday, September 26, 2006

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2

POLENS

530.143

4344. On differential structure of non-local field theories. J. Rzewuski, Bull. Acad. Polon. Sci. Cl. 3, 2, No. 9, 1974.

See Abstr. 7110 (1974). The case of partial integro-differential equations arising in non-local field theories is studied. The initial value problems are solved for linear and non-linear systems which are local in time, but non-local in space-like directions.

G. FIELD

Field

4

RZV
H
Rzewuski, Jan. On the interaction of particles in Feyn-
man's theory. Studia Soc. Sci. Torun. Sect. A. 3
(1954), 1-13. (Polish summary).
This is an expository account of the action-at-a-
distance formulation of quantum electrodynamics due to
R. P. Feynman [Phys. Rev. (2) 76 (1949), 769-789; MR
11, 765]. The corresponding formalism is also derived for
the theory of nucleons interacting through a charged
vector meson field. F. J. Dyson (Princeton, N.J.).

RZV
H

POLON

530.145

6278. Relativistic quantum dynamics of a system of interacting particles. J. RZEWUSKI. *Acta phys. Polon.*, 13, No. 1; 29-43 (1954).

The relativistic problem of interacting particles is quantized by use of an approximation method. The solutions of the equations of motion are represented as expansions in powers of the interaction constant. In lowest order of approximation they obey the equations for non-interacting particles and therefore may be quantized directly. Higher order approximations may be expressed in terms of the lowest approximation allowing all physically important quantities to be expressed as expansions in powers of the interaction constant with coefficients depending on the unperturbed operators with simple commutation rules. Equations determining the S-matrix for scattering problems are given. As an example the explicit solution for S is calculated to first approximation.

ROW
2002

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P O L . #

Rzewuski, Jan. On the connection between fields and particles. Acta Phys. Polon. 11, 203-214 (1953).

I - F/W

MS

Consider, for the electromagnetic field, the Lagrangian density, $L = \frac{1}{2} f_{\mu\nu} f^{\mu\nu} + A_{\mu} S^{\mu}$, where S_{μ} describes the sources and explicitly equals $S_{\mu} = \sum e_n \int_{-\infty}^{\infty} f(x - \xi^{(n)}) \xi_{\mu}^{(n)} d\tau_n$. The invariant function f which describes the extension of the sources differs from zero only in the neighbourhood of ξ . Let $\vec{A}_{\mu}(x) = \int f(x - x') dx' A_{\mu}(x')$, with analogous definitions for $f_{\mu\nu}$. The equations of motion of the source particles are $e_n \sum_{\nu} f_{\nu\mu}^{(n)}(\xi^{(n)}) \xi_{\nu}^{(n)} = 0$, $n = 1, 2, \dots$. These are the Lorentz equations of motion with the inertia term contained in the self-force $e_n f_{\nu\mu}^{(n)}(\xi^{(n)}) \xi_{\nu}^{(n)}$ of the n th particle. In this paper the author shows that for processes for which the particles do not come very close to each other, the self-force terms give the electromagnetic mass of the particles. A. Salam.

[Handwritten signature]

RZEWUSKI, Jan

"Teorie Nielokalne" (Foreign Theories (On Composition of Matter/)) by Jan Rzewuski, Instytut Fizyki, PAN, Wroclaw. Postepy Fizyki, Vol. VII, #3, 1956, Uncl.

RZEWSKI, K.

"Scientific-technical documentation helps production", p. 281, (PRZEGLAD
GEODEZYJNY, Vol. 9, No. 10., October, 1953, Warszawa, Poland)

SO: Monthly List of East European Accessions, L.C., Vol. 3, No. 4, April, 1954

RZEWSKI, K.

Survey of achievements in geodetic publications, p. 219. (PRZEGLAD GEODEZYJNY, Warszawa, Vol. 10, no. 7, July 1954.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, Jan. 1955, Uncl.

RZEWSKI, K.

"We must decide on geodetic standards." p. 113. (Przegląd Geodezyjny. Vol. 9,
no. 4, April 1953. Warszawa.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress,
February 1954, Unclassified

RZEWSKI, K.

"Professional education in surveying." p. 94. (Przeład Geodezyjny. Vol. 9,
no. 3, March, 1953. Warszawa.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress,
February 1954, Uncl.

RZEŃSKI, K.

"Review of the technical progress of surveying enterprises." p. 91. (Przeład
Geodezyiny. Vol. 9, no. 3, March 1953. Warszawa.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress,
February 1954, Uncl.

RZEWU

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POLON

530.145

7110. Differential structure of non-local theories. I.
J. RZEWUSKI: *Acta phys. Polon.*, 13, No. 2, 135-44
(1974).

It is shown on an example of a one-dimensional linear integro-differential equation how to obtain a differential description of non-local systems. The equivalence of integro-differential and pure differential equations of the same order is proved under certain conditions about the kernel. The coefficients of the differential equation are discussed. The canonical quantization of the system is considered, and finally, another direct approach to the problem is given.

BB

RZ

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4

POL.

599.6 : 590.145

3213

Rzewuski J. Relativistic Quantum Dynamics of a System of Interacting Particles.

Acta Physica Polonica (PAN) No. 1, 1954, pp. 29-43, 1 fig.

The relativistic problem of interacting particles is quantized by use of the approximation method. The solutions of the equations of motion are represented as expansions in powers of the interaction constant. In the lowest order of approximation, they obey the equations for non-interacting particles and may therefore be quantized directly. Higher order approximations may be expressed in terms of the lowest ap-

proximation allowing all physically important quantities to be expressed as expansions in powers of the interaction constant with coefficients depending on the unperturbed operators with simple commutation rules. Equations determining the S-matrix for scattering problems are given. As an example the explicit solution for S is calculated to the first approximation.

88

RZEWUSKI, J.

"Quantization of a certain class of nonlocal field theories" p. 100 (acta
physiologica polonica, Vol. 12, No. 2, 1953, Warszawa)

SO: Monthly List of ^{East European} ~~Russian~~ Accessions, Vol. 3, No. 3, Library of Congress, March 195⁴, Uncl.

RZEWUSKI, J.

"Differential structure of nonlocal theories. I. In English." Acta Microbiologica Polonica, Warazawa, Vol. 13, no. 2, 1954, p. 135.

SO: Eastern European Accessions List, Vol 3, No 11, Nov 1954, L.C.

Rzewuski, Jan. A note on perturbation theory. Acta Phys. Polonica 11, 179-188 (1952).

The identity of the results of the old and new perturbation methods used in field theory [cf. Heitler, The quantum theory of radiation, 2nd ed., Oxford, 1944; Feynman, Physical Rev. (2) 76, 749-759, 769-789 (1949); these Rev. 11, 765] is shown by transition from the formulae obtained by one method to that of the other in three simple cases. It is shown that the old results are obtained from Feynman's method by: (a) decomposing the kernels into sums over eigenstates; and (b) performing the time integrations first.

X. M. Case (Ann Arbor, Mich.).

10-28-54
RML

RZEWSKI, Jan

Mathematical Reviews

Rzewuski, Jan

Statistical Interpretation of the Klein-

Vol. 14 No. 7

Gordon equation. Acta Phys. Polonica 10, 296-299 (1951).

July - August, 1953

A space-time approach / cf. Feynman, Physical Rev. (2)

Mathematical Physics.

76, 749-759 (1949) / is applied to particles satisfying the Klein-Gordon equation.

K.M. Case.

7-13-54 LL

3

RZEWUSKI, J.

"The Connection Between Fields and Particles" p. 203 (Acta Physiologica Polonica,
Vol. 11, No. 3/4, 1951/52, Warszawa)

SO: Monthly List of East European Accessions, Vol. 3, No. 3, Library of Congress,
March, 1954, Uncl.

RZEWA

(S. 11)

Distr: 4E3d/4E4c

Królikowski, W., and Ruzski, J., Relativistic two-body problem in one-time formulation separation of angular variables in the case of one-quantum interaction in electrodynamics. Acta Phys. Polon. 15 (1956), 321-341 (1957). (Russian summary) **I-F/W**

This is the part II of a paper by the same authors [Nuovo Cimento (10) 2 (1955), 203-219; MR 17, 334] in which the two-fermion problem in quantum field theory was transformed into the one-time equation possessing the form of a Schrödinger equation. In this paper the authors proceed with their calculations. They succeeded in solving the angular part of this problem and use the solution for the separation of angular variables. The resulting set of integral equations in one variable is then investigated. The solution of this equation seems very difficult "if at all possible". **2**

L. Infeld (Warsaw). **11)**

C/

RZEWSKI, J.

"Relativistic quantum dynamics of a system of interacting particles." In English.
p. 29 (Acta Physica Polonica. Vol. 13, no. 1, 1954 Warszawa.)

Vol. 3, no. 6
SO: Monthly List of East European Accessions, /Library of Congress, June 1954, Uncl.

RZEWSKI, J.

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"Relativistic quantum dynamics of a system of interacting particles." p. 77.
(Acta Physiologica Polonica. Vol. 12, no. 1. 1953. Warszawa.)

SO: Monthly List of ^{East European} ~~Russian~~ Accessions, Library of Congress, Feb. 1954 1957, Uncl.

"Conservation laws in nonlocal field theories." p. 14. (Acta Physiologica Polonica. Vol. 12, no. 1, 1953. Warszawa.)

East European Vol. 3, no. 2,
SO: Monthly List of ~~1954~~ Accessions,/Library of Congress, Feb. 1954, ~~1954~~, Uncl.

RZEWUSKI, J.

"A Note on Perturbation Theory." p. 179, (ACTA PHYSICA POLONICA, Vol. 11, no. 2, 1951, Warszawa, Poland).

SO: Monthly List of East European Accessions, LC, Vol. 3, no. 5, May 1954/Uncl.

RZEWUSKI, JAN

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Mathematical Reviews
Vol. 14 No 7
July-Aug. 1953
Mathematical Physics

Rzewuski, Jan. Statistical interpretation of the
Klein-Gordon equation. Acta Phys. Polonica 10,
296-299 (1951).
A space-time approach [cf. Feynman, Physical Rev.
(2) 76, 749-759 (1949)] is applied to particles
satisfying the Klein-Gordon equation.

K. M. Case

SAL'NER, A., inzh. (Praga); RZHEZHABEK, L., [Rzezabek, L.], inzh. (Praga)

Load compensator of an electric-diesel unit. Elek. i tepl. tiaga no.7:
45 JI '63. (MIRA 16:9)
(Diesel locomotives)

21680

RZHAINILN, A. R. K voprosu o teoreticheskom Vese sterzievyykh kostruktsiy. V sb: Issledovaniya po teorii sooruzheniy. vlp. 4. M-L., 1949, s. 252-65.

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

RZHAKHOVA, "APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530014-3
APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R001446530014-3"

Dissertation: "The Serological Diagnosis of Tick-Borne Spring-Summer Encephalitis."
Cand Med Sci, Acad Med Sci USSR, 17 Jun 54. (Vechernyaya Moskva, Moscow, 8 Jun 54)

SO: SUM 318, 23 Dec 1954

Serological diagnosis of tick-borne spring-summer and Japanese encephalitis. Report no.2: Preparation of inactivated and dehydrated antigens from brain tissue of chick embryos infected with tick-borne encephalitis virus. Vop.virus. 1 no.3:26-29 My-Je '56. (MLRA 10:1)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva
(ENCEPHALITIS, JAPANESE B, diagnosis,
serol., prep. of inactivated & dehydrated antigens from
brain tissue of chick infected chick embryo (Rus))
(ENCEPHALITIS, EPIDEMIC, diagnosis,
same)
(ANTIGENS,
encephalitis antigens, prep. from brain tissue of chick
embryos infected with tick-borne virus for serodiag. of
Japanese & vernal encephalitis (Rus))

LEVKOVICH, Ye.N.; GOL'DFEL'D, A.Ya.; RZHAKHOVA, O.Ye.

Effect of short-wave ultraviolet rays on the viability and antigenic properties of viruses of Russian tick-borne and Japanese encephalitis [with summary in English]. *Biul.-ksp.biol. i med.* 77-81 J1 '57.

(MIRA 10:12)

1. Iz laboratorii entsefalitov (zav. - prof. Ye.N.Levkovich) Instituta virusologii imeni D.I.Ivanovskogo (dir. - prof. P.N.Kosyakov) AMN SSSR, Moskva. Predstavlena deystvitel'nyim chlenom AMN SSSR prof. N.I. Zhukovym-Verezhnikovym.

(ENCEPHALITIS, JAPANESE B, virus,

eff. of short wave & ultraviolet rays on viability & antigenic properties (Rus))

(ENCEPHALITIS, EPIDEMIC, virus,

Russian tick-borne, eff. of short wave & ultraviolet rays on viability & antigenic properties (Rus))

(ULTRAVIOLET RAYS, effects,

on Japanese & Russian tick-borne encephalitis virus viability & antigenic properties (Rus))

RZHAKHOVA, O.Ye.

Serological diagnosis of tick-borne encephalitis; comparison of
different methods for preparing antigens. Vop.virus. 3 no.3:178-183
My-Je '58 (MIRA 11:7)

1. Institut virusologii imeni D.I. Ivanovskogo AMN SSSR, Moskva.
(ENCEPHALITIS, diagnosis
serodiag. of tick-borne encephalitis, comparison
of antigen prep. methods (Rus))

RZHAKHOVA, O.Ye.

Production of diagnostic sera for the complement fixation reaction
against tick spring-summer and Japanese encephalitis. Vop.virus.
6 no.2:238-240 Mr-Ap '61. (MIRA 14:6)

1. Institut virusologii AMN SSSR imeni D.I.Ivanovskogo, Moskva.
(ENCEPHALITIS) (COMPLEMENT FIXATION)

L 27100-66 EWT(1)/T JK SOURCE CODE: UR/0102/65/000/005/0589/0594
ACC NR: AP6004868 (W)

35
B

AUTHOR: Rzhakhova, O. Ye.; Chumakov, M. P.
ORG: Institute of Poliomyelitis and Viral Encephalitis, AMN SSSR,
Moscow (Institut poliomielita i virusnykh entsefalitov AMN SSSR)

TITLE: Use of an agar precipitation reaction for antigenic
differentiation of viruses of the tick-borne encephalitis subgroup

SOURCE: Voprosy virusologii, no. 5, 1965, 589-594

TOPIC TAGS: virus disease, animal disease, encephalitis,
antigen, virus, serum, algae

ABSTRACT: Experimental data are presented on the use of a modified
precipitation reaction to determine antigenic kinship of the following
viruses: Far Eastern Sof'in strain of tick-borne encephalitis, S-1
strain of Scotland sheep encephalomyelitis, K-type strain of the I-virus
Omsk hemorrhagic fever, p9605 strain of Kyasanur forest disease, Malay
strain TP-21 of Langat virus, and Canadian strain of Powassan virus.
Antigens for the reaction were prepared by alcohol-acetone-ether
treatment of the brain tissue of virus infected newborn white rats.
Immune sera with appropriate antibodies were prepared by 3-4 fold

UDC: 576.858.25.077.34

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BAKHANOVA, O.Ye. CHUMAKOV, M.P.

Use of agar precipitation test for antigenic differentiation
of viruses from the tick-borne encephalitis subgroup. Vop.
virus. 10 no.5:589-594 S-O '65.

(MIRA 18:11)

1. Institut poliomyelita i virusnykh entsfalitov AMN SSSR,
Moskva.

NAUMOV, R.L.; LEVKOVICH, Ye.M.; RZHAKHOVA, O.Ye.

Role of birds in the circulation of the virus of tick-borne encephalitis (Krasnoyarsk territory). Med. paraz. i paraz. bol. 32 no.1:18-29 Ja-F'63. (MIRA 16:10)

1. Iz Instituta meditsinskoy parazitologii i tropicheskoy meditsiny imeni Ye.I.Martsinovskogo (dir. - prof. P.G.Sergiyev) Ministerstva zdravookhraneniya SSSR i Instituta poliomyelita i virusnykh entsefalitov AMN SSSR, Moskva.

*

RZHAKSENSKIY, Mikhail Aleksandrovich; PETROV, V.P.; BUTKEVICH, B.G.;
KOBLYAKOV, L.M., red.; GUREVICH, M.M., tekhn. red.

[Manukovskii experience in growing corn] Opyt Mamkovskogo
po vozdeleyvaniu kukuruzy. Moskva, Gos. izd-vo sel'khoz. lit-ry,
1959. 57 p. (MIRA 13:6)
(Corn (Maize)) (Manukovskii, Nikolai Fedorovich)

RZHANAYA, T.M. (Smolensk)

Multiple-style assembly-line with consecutive-cyclic feed
of the products. Shvein.prom. no.6:21-24 N-D '59.
(MIRA 13:4)

(Assembly-line methods)
(Smolensk--Clothing industry--Equipment and supplies)

15-57-10-14398

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10,
p 169 (USSR)

AUTHOR: Rzhanikova, L. N.

TITLE: The Petrography of the Coals and the Spore-Pollen
Content of the Tertiary Continental Beds of the Zhilanchik-
skiy Basin (Southeastern Part of the Turgay Basin)
[Petrografiya ugley i sporovo-pyl'tsevoy sostav tretich-
noy kontinental'noy tolshchi Zhilanchikskogo basseyna
(Yu.-V. chast' Turgayskoy vpadiny)]

PERIODICAL: Tr. In-ta geol. nauk. AN KazSSR, 1956, Nr 1, pp 5-141

ABSTRACT: The Zhilanchikskiy coal basin is a platform intraconti-
nental basin. The coal deposits are not persistent,
as a rule, and are variable in thickness. Their size
and thickness were determined primarily by the con-
ditions of peat formation in the ancient swampy and
steam-bordering basins, but also by syngenetic and
epigenetic erosion. The coal beds contain many mineral
admixture, the chief of which are amber, finely dis-

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15-57-10-14398

The Petrography of the Coals and the Spore-Pollen (Cont.)

persed clay material, pyrite, jarosite, sulfur, melanterite, and gypsum. The deposits generally show a simple structure. Petrographically they are divided into complex and homogeneous types. The coal is of the brown variety, in the first stages of coalification, and is humic. On the basis of outward appearance, the coal is divided into three groups: lignite, brown dense, and brown porous. In each group megascopic and microscopic types and varieties are distinguished. The coal deposits of Bolattam, Altynzhar, Kushuk, and, apparently, of Dyusembay are composed of low-quality types of brown coal, argillaceous clarain, and lignite. The coal deposits of Zharkuy and, apparently, of Kaydaul are high-quality brown coals, durain-clarain, mixed and spore-pollen durain, pollen liptobiolith, and lignite. The original material of the coals was the remains of higher plants: swamp cypress, swamp poplar, royal fern, polybody fern, water lilies, pond weed, reed, alder, hornbeam, hazel, walnut, oak, chestnut, elm, and others. The coal formed under conditions of high moisture by autochthonous and allochthonous means. A relationship between spore-pollen

Card 2/4

15-57-10-14398

The Petrography of the Coals and the Spore-Pollen (Cont.)

groups and the petrographic type of coal is recognized. Each stratigraphic unit (the Indricotherium, Turgay, Aral, and Pavlodar series) of the Tertiary continental beds of the Zhilanchik basin is characterized by a definite spore-pollen group. The following groups are described for the different series. The coals of Bolattam, Altynzhar, Kushuk, Zharkuy, Kaydaul, Sarlytam, Dyusembay, and the coal occurrence at Chink-Naush are characterized by the same composition and the same spore-pollen types. They are all of the same age and are confined to the Indricotherium beds of the middle Oligocene Indricotherium series. The brown-coal deposits and the oolitic iron ores of the Aral region, Turgay, and Northern Kazakhstan contain similar spore-pollen groups and are of the same age. It is thus demonstrated that Tertiary brown coals and oolitic iron ores formed on the Kazakhstan plain synchronously during a single period of time and are associated with the accumulation of carbonaceous-leptochloritic formations. Data from spore-pollen studies have furnished details on the problem of the climate of the basin in Indricotherium time, on the landscape, and on the

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15-57-10-14398

The Petrography of the Coals and the Spore-Pollen (Cont.)

evolution of climate and landscape on the Kazakhstan Plain
during Oligocene-Miocene time.

Card 4/4

L. I. Bogolyubova

RZHANIKOVA, L.N.

Characteristics of the Tertiary flora in Ashatus Mountain (Zaysan Depression) based on palynological data. Izv. AN Kazakh. SSR. Ser. geol. no.2:37-55 '58. (MIRA 12:5)
(Ashatus Mountain--Palynology)

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CIA-RDP86-00513R001446530014-3
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(8)

1951

КОНТРАКТ

Preliminary petrographic characteristics of coal from the "Glavnyi" seam of the Katnama deposit in the Near Irtysh region. L. N. Rahanikova. *Vestnik Akad. Nauk Kazakh. S.S.R.* 5, No. 5, 21-9 (1948).—Petrographic description of the several varieties of coal in this deposit.
M. Huseh

RZHANIKOVA, L.N.

Spore-pollen composition of the North Zaysan series of Kiin-Kerish
Mountain in the Zaysan Depression. Izv. AN Kazakh. SSR. Ser. geol.
no. 4:90-107 '62. (MIRA 15:7)
(Kiin-Kerish Mountains—Palynology)

RZHANIKOVA, L. N.

Petrographic characteristics of Tertiary coals in the basin
of the Zhilanchik River. Vest. N Karakh. SSR 11 no. 8:115-
127 '54. (MIRA 8:2)
(Zhilanchik Valley--Coal)

RZHANIKOVA, L.N.

Petrology of coals and spore and pollen composition of Tertiary
continental strata in the Zhilanchik Valley. Trudy Inst.geol.nauk
AN Kazakh.SSR no.1:5-141 '56. (MLRA 10:5)
(Zhilanchik Valley--Spores (Botany) , Fossil)
(Zhilanchik Valley--Pollen, Fossil)

POPLAVSKAYA, Ye.A.; BUGROVA, V.P.; RZHANINOV, S.N.

Experience in the use of media with syntomycin for increasing
growth rate of dysentery bacteria. Zhur. mikrobiol., epid.
i immun. 40 no.2:103-104 F '63. (MIRA 17:2)

1. Iz sanitarno-bakteriologicheskoy laboratorii g. Elektro-
stali Moskovskoy oblasti.

POPLAVSKAYA, Ye.A.; RZHANINOV, S.N.; BIGROVA, V.P.

Use of indicator discs with antibiotics on Ploskirev's medium
for the increase of the growth rate of dysentery bacilli. Zhur.
mikrobiol., epid. i immun. 11 n. 11:12-13 '65. (MIRA 18:5)

1. Sanitarно-bakteriologicheskaya laboratoriya goroda Elektrostal'
Moskovskoy oblasti.

RZHANINOV, S.N.

New method for restoring the agglutinability of nonagglutinating
dysenterial cultures. Zhur. mikrobiol., epid. i immun. 33 no.1:
95 Ja '62. (MIRA 15:3)

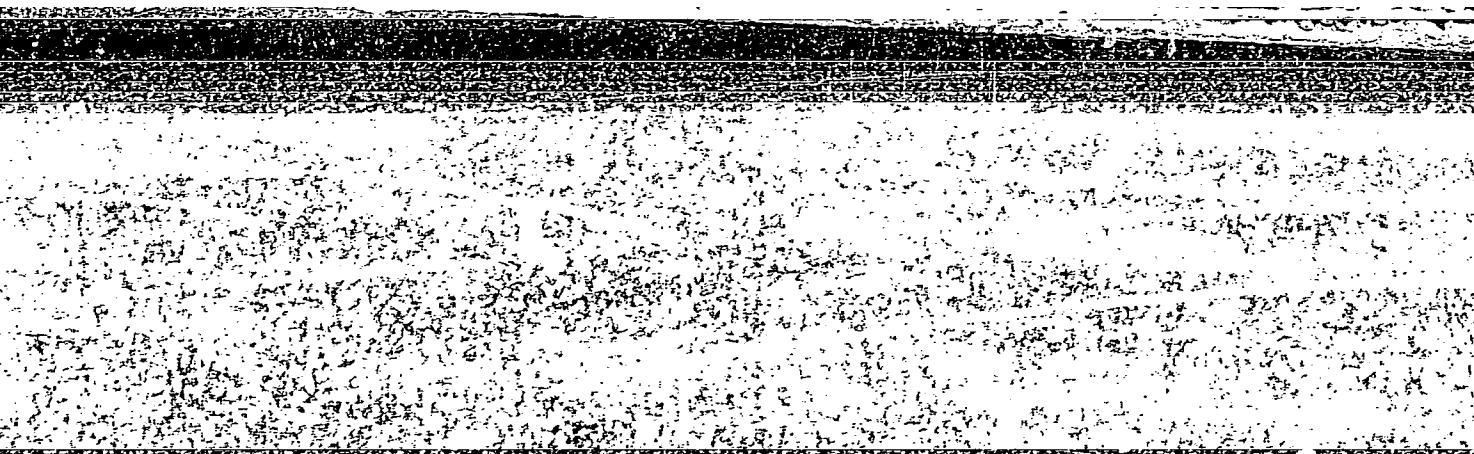
1. Iz sanitarno-bakteriologicheskoy laboratorii goroda
Elektrostali.

(AGGLUTINATION)
(SHIGELLA DYSENTERIAE)

RZHANITSYN, A.P., professor, doktor tekhnicheskikh nauk; AFANAS'YEV, A.M.,
kandidat tekhnicheskikh nauk, nauchnyy redaktor; TUMARKIN, D.M.,
redaktor izdatel'stva; BORODINA, I.S., redaktor izdatel'stva;
MKDVEDEV, L.Ya., tekhnicheskiiy redaktor

[Studies on problems of construction mechanics and the theory of
plasticity; a collection of articles] Issledovaniia po voprosam
stroitel'noi mekhaniki i teorii plastichnosti; sbornik statei.
Pod red. A.R.Rzhanitsyna. Moskva, Gos. izd-vo lit-ry po stroit. i
arkhitekture, 1956. 326 p. (MLRA 9:9)

1. Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut
promyshlennykh sooruzheniy.
(Plasticity) (Elasticity)



CIA-RDP86-00513R001446530014-5

CIA-RDP86-00513R001446530014-5

RZHANITSYN, A.R., doktor tekhnicheskikh nauk, professor.

Theoretical weight of bar structures. Issl. po teor. sooruzh. no.4:
252-265 '49. (MLRA 10:8)

(Trusses)

RZHANITSYN, A.R., doktor tekhnicheskikh nauk, professor.

Limit design of plates for action of concentrated forces. Issl. po
teor. skoruzh. no. 4:79-95 '59. (MLRA 10:5)
(Elastic plates and shells) (Concrete slabs)

APPROVED FOR RELEASE: Thursday, September 26, 2002

CIA-RDP86-00513R001446530014-3

U.S.S.R. *Plastic deformations of systems*

1954, *Rep. Zt. Mech. USSR*, Ser. no. 1098

Ideas which were set out by the author in the monog. on "Some problems of the mechanics of systems deformed in time" (Gostekh-

SEDRAKYAN, L.G.; RZHANITSYN, A.R., prof., doktor tekhn.nauk, retsenzent;
ATSAGORTSYAN, Z.A., kand.tekhn.nauk, red.; **GOROYAN, G.**, tekhn.red.

[Statistical theory of strength] K statisticheskoi teorii
prochnosti. Brevn, Armianskii in-t stroimaterialov i sooruzhenii,
1958. 103 p. (MIRA 13:8)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury (for
Rzhanitsyn). (Strength of materials) (Statistics)

SOV/58-59-5-10713

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 5, p 120 (USSR)

AUTHOR: Rzhanitsyn, A.R.

TITLE: Allowance for Moisture and Temperature in Creep Problems ²⁶

PERIODICAL: Tr. Mosk. fiz.-tekhn. in-ta, 1958, Nr 1, pp 3 - 16

ABSTRACT: The article has not been reviewed. ✓

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RZHANITSYN, A.R. (Moskva)

**Strength of compressed elements under conditions of creep of
materials. Stroi.mekh. i rasch.soor. 1 no.5:16-18 '59.**

(MIRA 13:1)

(Creep of materials) (Strains and stresses)

24(6); 14(10) PHASE I BOOK EXPLOITATION SOV/3151

Rzhanitsyn, Aleksey Rufovich

Ustoychivost' ravnovesiya uprugikh sistem (Stability of
Equilibrium in Elastic Systems) Moscow, Gostekhizdat,
1955. 475 p. 6,000 copies printed.

Ed.: I.K. Snitko; Tech. Ed.: N.Ya. Murashova.

PURPOSE: This book is intended for construction engineers
and designers.

COVERAGE: The author provides a systematic treatment of the
problem of stability of equilibrium. He discusses systems
with one degree of freedom and systems with a finite
number of degrees of freedom. Stability of bars, beams,
and columns is also treated. Attention is paid to a graphic
method of designing columns. The author thanks A.S. Vol'mir
and I.Ya. Shtayerman. There are no references.

Card 1/13

Report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics,
Moscow, 27 Jan - 3 Feb '60.

234. G. I. Zhuravskii (Moscow): Large deflections of reinforced plastic cylindrical shells.
235. N. E. Babitskii (Moscow), Yu. N. Babitskii (Sverdlovsk): Creep strength of turbine disks.
236. A. I. Babitskii (Moscow): Flow and consolidation of soils under the action of impact forces.
237. Yu. N. Babitskii (Sverdlovsk): Creep.
238. B. N. Bogdanov (Leningrad): Some problems in the theory of elasticity concerning the design of rock foundations.
239. B. N. Bogdanov (Leningrad): Some differential equations of structural mechanics.
240. Sh. A. Babitskii (Moscow): On the propagation of elastic-plastic waves in a half-space.
241. Sh. A. Babitskii (Moscow): Propagation of disturbances in continuous media.
242. V. P. Bolok (Sverdlovsk): Earth pressure on flexible retaining walls.
243. V. I. Pavlov (Dnepropetrovsk): On the pressure of a punch on an elastic half-space.
244. P. A. Bolok (Moscow): Types of high molecular and dielectric structures and their characteristic mechanical properties.
245. B. A. Bolok (Moscow): On the influence of the medium principal stresses on the fatigue strength.
246. V. G. Bolok (Moscow): The application of the method of boundary elements to some two-dimensional problems of the theory of elasticity.
247. Sh. A. Babitskii (Moscow): Some three-dimensional problems of limit equilibrium in rigid, plastic soils.
248. M. I. Korovin (Dnepropetrovsk): On the application of the Galerkin-Bubnov principle to Lavitskii's creep theory of materials.
249. M. I. Korovin (Dnepropetrovsk): Some problems of the integral operator theory of creep.
250. P. A. Bolok (Leningrad): Design of wide-flange beams under bending and temperature effects.
251. M. I. Korovin (Leningrad): The experimental study of the creep of concrete.
252. M. I. Korovin (Leningrad): The determination of the creep of concrete under compressive loads by the method of successive approximations.
253. V. S. Bolok (Moscow): Elasticity of anisotropic prismatic bars of elongated cross section.
254. V. A. Bolok (Leningrad): The impact of a double punch on a half plate.
255. V. V. Bolok (Leningrad): The use of stability considerations for improving the convergence in the solution of shells by successive approximations.
256. M. I. Korovin (Leningrad): Stability of cellular structures built on soft ground.
257. M. I. Korovin (Moscow): Bending of thin king-pin plates supported by an elastic layer of finite thickness.
258. P. A. Bolok (Moscow): Plastic bending of plates into cylindrical shells.
259. M. I. Korovin (Moscow): A beam on a two-layer half space beyond the elastic limit.
260. V. P. Bolok (Leningrad): Some problems of creep and consolidation of saturated soils.
261. M. G. Bolok (Moscow): Determination of the natural frequencies of plates of constant and variable thickness.
262. M. I. Korovin (Leningrad): Dynamic problems of the shells of retaining walls and soil foundations under impact loads.
263. V. S. Bolok (Leningrad): Solution of some dynamic problems of bending structures by the method of initial parameters.
264. M. I. Korovin (Moscow): On some problems of the theory of plasticity and soil mechanics.
265. M. I. Korovin (Dnepropetrovsk): On a class of solutions of boundary value problems in plasticity.
266. M. I. Korovin (Moscow): The effect of internal friction on the stresses in beams and plates under impulsive loading.
267. M. I. Korovin (Sverdlovsk): Stresses in allipiedal shells subjected to internal pressure.

SOV/179-59-2--26/40

AUTHOR: Rzhanitsyn, A. R. (Moscow)

TITLE: Extremal Properties of the Form of Motion of a Rigid-Plastic Body Loaded Beyond the Limit of Bearing Capacity
(Ekstremal'noye svoystvo formy dvizheniya zhestko-plasticheskoy sistemy, nagruzhennoy za predelom nesushchey sposobnosti)

PERIODICAL: Izvestiya Akademii nauk SSSR OTN, Mekhanika i mashinostroyeniye, 1959, Nr 2, pp 163-165 (USSR)

ABSTRACT: A large stress is assumed to be suddenly applied to a beam, the motion of which is investigated for the case in which elastic deformation is negligibly small compared with plastic deformation. The virtual work equation, in conjunction with the Lagrange formulation, leads to a maximum condition which must be satisfied by the moving beam and which permits the distribution of acceleration along the beam, when subjected to a constant stress, to be determined. There is 1 figure and 2 Soviet references.

SUBMITTED: September 2, 1958.

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SOV/124-57-5-5937

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 133 (USSR)

AUTHOR: Rzhanitsyn, A. R.

TITLE: Approximate Solutions to Plasticity Problems (Priblizhennyye resheniya zadach teorii plastichnosti)

PERIODICAL: V sb.: Issledovaniya po vopr. stroit. mekhan. i teorii plastichnosti. Moscow, 1956, pp 6-65

ABSTRACT: The author develops a kinematic method for determining the limiting load, a method which consists in prescribing values for a kinematically possible velocity field, said values being correct to within certain parameters or functions. Said parameters or functions are then determined by the principle of least work. To demonstrate the use of the theory, the author solves three problems: 1) that of a plastic rod in pure torsion; 2) that of the limiting state of a circular-section rod subjected to tension-torsion stresses and to torsion-bending stresses; and 3) that of a compression-stressed cylinder with friction occurring on its end surfaces. To solve a number of problems the concept of "concentrated strains" is introduced, i. e., the author examines certain assumed fields in which the strain is

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SOV/124-57-5-5937

Approximate Solutions to Plasticity Problems

presumed concentrated in a thin layer near the presumed interfaces separating individual portions of the body which remain rigid. In this way solutions are found for the problem of shear in a compression-stressed prism and for the problem of planar stresses in a die, and various means are used to evaluate the solutions. In the case of a plate subjected to uniaxial tension the "concentrated-strain" method supplies the same value for the plate's limiting load as is obtained for the state of continuously distributed yield, and the concentrated-strain lines exhibit a slant of $35^{\circ}17'$ -- which agrees well with the experimental findings. Solving the problem of the lateral in-plane bending behavior of a narrow plate, the author seeks to ascertain that pattern of concentrated-strain lines that corresponds to the minimum values of the external load applied to the plate. An equation is evolved for the family of concentrated-strain extremals; evolved also is a formula for the limiting (minimum) load for the family of extremals of the concentrated strains. Using these expressions, the author is able to refine the solution to the problem of the limiting state of a flat strip being acted upon conjointly by a bending moment and a transverse force. To find the starting and terminal points of the concentrated-strain extremals on the edges of a plate, the author sets up a transversality criterion for the extremals of the concentrated strains in a thin plate. Use of this criterion permits solution of the problem of a rectangular plate in eccentric

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SOV/124-57-5-5937

Approximate Solutions to Plasticity Problems

compression or tension. The same procedure is used also to analyze rotating disks. For solving problems relative to the bending of plates the Kirchhoff hypothesis is considered to be valid, and the strains in a plate are represented as a function of the plate deflection $w(x, y)$, which function satisfies the conditions of the constraint. For a plate that is hinge-supported along a circular edge the solution obtained differs but little from the well-known exact solutions. The limiting loads are indicated for hinge-supported polygonal plates and for plates hinge-supported along a curvilinear contour. This method makes it possible to take into account any membrane stresses in plates made of plastic materials. The author examines the case of a plate having a neutral layer, absolutely free of strain, which is somewhat displaced with respect to the plate's middle surface. The basic equation evolved is based upon the assumption that, in the presence of an infinitely small strain increment, the associated increments in the total work performed by the internal forces and in that performed by the external forces are equal. The problem of a polygonal hinge-supported plate exhibiting large deflections is solved for the two cases: a) in which the plate edges enjoy freedom of motion within the plane of the plate; b) in which the plate edges are subjected to constraint. This same method is applied also to the problem of the buckling behavior of a plate subjected to compressive stresses exceeding its elastic limit, with allowance made for the effect of large deflections. Solved also is the

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SOV/124-57-5-5937

Approximate Solutions to Plasticity Problems

boundary-value problem of the limiting state of a cylindrical shell being acted upon by radial forces uniformly distributed along the perimeter of its cross-sectional area, and the minimal value of the limiting load is indicated. The bibliography included does not reflect the current state of knowledge on this subject.

M. A. Koltunov

Card 4/4

SOV/124-57-5-5852

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 5, p 118 (USSR)

AUTHOR: Rzhantsyn, A. R.

TITLE: Using a Pin-jointed Rod Truss to Simulate a Continuous Isotropic Elastic Solid (Predstavleniye sploshnogo izotropnogo uprugogo tela v vide sharnirno-sterzhnevoy sistemy)

PERIODICAL: V sb.: Issledovaniya po vopr. stroit. mekhan. i teorii plastichnosti. Moscow, 1956, pp 84-96

ABSTRACT: The author examines a three-dimensional cubic rod truss in the two cases in which: 1) its square facial areas are crisscrossed diagonally with supplementary struts; 2) both its square facial areas and inner cubic volumes are crisscrossed diagonally with supplementary struts. When the respective cross-sectional areas of the rods comprising the truss structure are characterized by certain specific interrelationships, the rod-truss structure will behave like an elastic isotropic solid. The elastic constants of a rod-truss structure of this type are calculated as functions of the cross-sectional areas of its component rods. In all such cases the Poisson ratio always turns out to be 0.25. The author writes difference equations for a rod-truss

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SOV/124-57-5-5852

Using a Pin-jointed Rod Truss to Simulate a Continuous Isotropic Elastic Solid

structure simulating an elastic solid exhibiting planar stress or strain distributions.

Yu. N. Rabotnov

Card 2/2

RZHANITSYN, A.R. doktor tekhn.nauk

Consideration of moisture and temperature in creep problems. Trudy
MTI no.1:3-16 '58. (MIRA 12:1)
(Creep of materials)

RZHANITSYN, A.R. (Moskva)

**Extremum characteristics of the form of motion of a rigid
plastic system loaded beyond its carrying capacity. Izv.
AN SSSR. Otd. tekhn. nauk. Mekh. i mashinostr. no. 2: 163-165
Mr-Ap '59. (MIRA 12:5)**

(Girders)

AUTHOR: Rzhnitsyn, A.R. (Moscow) SOV/24-58-9-8/31

TITLE: Plastic Deformation of a Tube by an Axially Symmetric Load (Plasticheskiye deformatsii trubyy pri osesimmetrichnoy nagruzke)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk SSSR, 1958, Nr 9, pp 60 - 65 (USSR)

ABSTRACT: Mikeladze (Ref 2) has considered a double-layer cylindrical shell and obtained limiting relations between the components of internal stresses. The present work is concerned also with the limiting state of a double-layered cylindrical shell but the problem is analysed in a different way and the results differ from those obtained by Mikeladze. In addition, a simple differential equation is derived for the deformation of a double-layer cylindrical shell under the action of an axially symmetric load and a graphical representation of the solution of the problem is given for the case of limiting equilibrium of the tube. Explicit solutions are obtained for the case of longitudinal and circular stresses. There are 4 figures and 4 Soviet references.

SUBMITTED: May 21, 1958
Card 1/1

RZHANITSYN, A.R. (Moskva)

Limit equilibrium of reinforced concrete plates. Izv. AN SSSR, Otd.
tekhn. nauk no. 12:73-77 D '58. (MIRA 11:12)
(Elastic plates and shells) (Concrete slabs)

SOV/24-58-12-11/27

AUTHOR: Rzhanitsyn, A.R. (Moscow)

TITLE: Limiting Equilibrium of Ferroconcrete Plates
(Predel'noye ravnovesiye zhelezobetonnykh plastinok)

PERIODICAL: Izvestiya Akademii Nauk, Otdeleniye Tekhnicheskikh
Nauk, 1958, Nr 12, pp 73-77 (USSR)

ABSTRACT: The condition of flow in ferroconcrete plates differs from the Huber-Hencky-Mises criterion and, for a plate uniformly reinforced on both sides in two perpendicular directions, may be written $|m|_{\max} = m_T$ (1) where m_{\max} is the maximum bending moment and m_T is the limiting bending moment. If the plate is reinforced on one side only, the flow conditions are $m_{\max} = m_T$, $m_{\min} = 0$ (2). Consideration of the internal energy of the plate and of the work done by the external forces leads to the condition

$$\int_F (qw - m_T \nabla^2 w) dF = \min \quad (7)$$

where q is the external force, w is the deflection of the plate, $\nabla^2 = (\partial^2/\partial x^2 + \partial^2/\partial y^2)$ and dF is an element of plate surface. For a polygonal plate with hinged support round the contour (Fig.3), the integrals may be

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SOV/24-58-12-11/27

Limiting Equilibrium of Ferroconcrete Plates

replaced by summations and the flow conditions become

$$\frac{S_i}{l_i} = m_T = \text{const} \quad (16)$$

where S_i is the static moment of the load on the i -th supported boundary per unit length of boundary and l_i is the length of the boundary. The case of a curved boundary is dealt with by dividing the plate into elementary quadrilaterals; plates with clamped edges and plates subjected to distributed and concentrated loads are briefly considered, as is also the possibility of extending the treatment to metallic plates, which are subject to the Huber-Hencky-Mises flow criterion. There are 7 figures and 4 references of which 3 are Soviet and 1 German.

SUBMITTED: 22nd May 1958.

SOV/124-58-10-11424

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 10, p 104 (USSR)

AUTHOR: Rzhanitsyn, A.R.

TITLE: A Momentless Theory of Shallow Shells (Bezmomentnaya teoriya pologikh obolochek)

PERIODICAL: V sb.: Raschet prostranstvennykh konstruktsiy. Nr 3. Moscow, Gos. izd-vo lit. po str-vu i arkhitekt., 1955, pp 285-307

ABSTRACT: Examination is made of shells the middle surface of which is represented by the equation $z=f(x, y)$. The condition of shallowness consists in the requirement that the partial derivatives of z are small. Shells are analyzed in accordance with momentless theory, and it is apparently assumed that the partial derivatives of z must be limited in absolute value not only at the top but the bottom, as the limit of a flat shell is a plate, to which obviously the momentless theory is inapplicable. The article does not deal with this limitation. Detailed examination is given to another criterion of the applicability of the momentless theory, which consists in the requirement of geometric invariability (absence of infinitesimal flexures) of the middle surface under the given boundary conditions. It is shown that for shallow

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SOV/124-58-10-11424

A Momentless Theory of Shallow Shells

shells the middle surface of which is a second-order surface, both the momentless equilibrium equations and the equations determining infinitesimal deflections reduce to equations of the form

$$\frac{dp}{dx} = \frac{dq}{dy}, \quad \frac{dp}{dy} = \pm \frac{dq}{dx} \quad (*)$$

(the upper sign being for shells of positive curvature, and the lower for those of negative curvature). These equations are used to determine what the fastening of the shell boundaries should be to assure no change in their geometry. It is noted in particular that a hyperbolic shell of rectangular plan form, fastened at its edges against one of the possible displacements u , v , and w , will not be rigid if the ratio of the dimensions of the rectangle is expressed by any irrational fraction with odd numerator and denominator. Similar results were obtained in the papers of A.M. Sokolov (Izv. AN SSSR, Otd. tekhn. n., 1955, Nr 5, pp 85-101; RZhMekh, 1957, Nr 1, abstract 870) and V.Z. Vlasov (Izv. AN SSSR, Otd. tekhn. n., 1955, Nr 5, pp 55-84; RZhMekh, 1957, Nr 1, abstract 871). In conclusion, examples are adduced of the analysis of a shell in the form of a shallow elliptical paraboloid, and in these examples the (*) system is reduced to the Laplace equation and is integrated by means of finite differences.

A.L. Gol'denveyzer

Card 2/2

RZHANITSYN, A.R., prof., doktor tekhn.nauk, red.; YEGOROVA, N.O., red.
izd-va; GELENSON, P.G., tekhn.red.

[Studies in the theory of plasticity and strenght of construction elements; collection of papers] Issledovaniia po voprosam teorii plastichnosti i prochnosti stroitel'nykh konstruktsii; sbornik statei. Pod red. A.R.Rzhanitsyna. Moskva, Gos.izd-vo lit-ry po stroit., arkhitekt. i stroit.materialam, 1958. 211 p. (MIRA 12:3)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut stroitel'nykh konstruktsiy. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Rzhanitsyn).

(Elastic plates and shells) (Plasticity)

RZHANITSYN, A.R. (Moscow)

Plastic deformations of pipes subjected to axisymmetrical loads.
Izv. AN SSSR. Otd. tekhn. nauk no. 9:60-65 S '58. (MIRA 11:10)
(Elastic plates and shells)

2048. Rzhani 18711, A.R.

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[Studies of the design of shells of rod and solid elements]
Issledovaniia po raschdtu obolochek sterzhnevnykh i massivnykh
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[Shallow shells and corrugated plates; some problems in the theory and design] Pologie obolchki volnistye nastily; nekotorye voprosy teorii i rascheta. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1960. 128 p. (Akademiia stroitel'stva i arkhitektury SSSR. Institut stroitel'nykh konstruksii. Nauchnoe soobshchenie, no.14). (MIRA 14:6)

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24,4200

AUTHOR: Rzhanitsyn, A.R.

TITLE: Sloping shells and corrugated coverings (Some problems in theory and design)

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 13, abstract 3V75 (Nauchn. soobshch. Tsentr. n-i in-t stroit. konstruksiy Akad. str.-va i arkhitekt. SSSR, 1960, no. 14, 128 p)


TEXT: The work represents, basically a classification of results published earlier by the author in a series of articles, and consists of three chapters, each complete in itself. In the chapter 'Design of spherical and sloping shells by zero-moment theory' the methods described are based on the known possibility of reducing differential equations of the problem, to Cauchy-Riemann equations. In the chapter 'Computating shells by the method of critical equilibrium', are considered sloping shells, axially-symmetric shells of revolution and open cylindrical shells, calculations of which are performed by the method of critical equilibrium of A.A. Gvoz-
Card 1/2

Sloping shells and corrugated ...

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dev. In the chapter 'Optimal contour of corrugated beam coverings',
folded and corrugated thin-walled coverings are considered and the
problem of their most convenient profiles is solved. Calculations
are based either on the edge stresses, or on the critical equili-
brium, or on the maximum rigidity. [Abstractor's note: Complete
translation].

Card 2/2



USSR/Stress Analysis
Stresses

Apr 1947

"Variability of the Stressed State," A. R. Rzhanitsyn,
6 pp

"Zhur Tekh Fiz" Vol XVII, No 4

Setting up simple linear differential equation of
the first order relating stress and strain. Schematic
diagram of a model describing the equation. Nine
graphs illustrating the relation between stress and
strain, determined geometrically.

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