RASHEVSKI, S.

"For Better Educational Work in "ealth and Hygiene." p. 4,
(ZDRAVEN FRONT, No. 40, Oct. 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

RASHEVSKI, S.

"Misery and Poor Health in the Colonial Possessions of Capitalist." p. 4,
(ZDRAVEN FRONT, No. 40, Oct. 1954, Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

RASHEVSKIY, A.

Machine sets for cattle-breeding farms. NTO 2 no.10:28 O '60.
(MIRA 13:10)

(Agricultural machinery--Technological innovations)

RASHEVSKIY, A., inzh.

Loader on the DT-20 tractor and manure spreader on the GAZ-51 motortruck. Tekh. v sel'khoz. 20 no.6:82-83 Je '60. (MIRA 13:10)
(Loading and unloading) (Fertilizer spreaders)

9

L 06197-67 FSS-2/EWT(1)/EWP(v)/EWP(t)/ETI/EWP(k) DS/JD/HM

ACC NR: AP6032489 SOURCE CODE: UR/0413/66/000/017/0030/0030

INVENTOR: Alekseyev, F. A.; Balashov, V. A.; Gershonok, M. I.; Grachev, I. M.; Yegorov, B. A.; Kobyl'nitskaya, M. I.; Kozlov, D. A.; Lifshits, A. I.; Mondrus, D. B.; Parshin, N. A.; Rashevskiy, A. L.; Rivkin, A. E.; Tal'gren, A. A.; Khansuvarov, A. A.

ORG: none

TITLE: Device for high frequency soldering of lead-acid storage batteries. Class 21, No. 185368

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 17, 1966, 30

TOPIC TAGS: metal soldering, storage battery

ABSTRACT: An Author Certificate has been issued for a device for high-frequency soldering of lead-acid storage batteries. The device contains an h-f generator with an external tank circuit, a multiloop inductor with open ferrite magnetic circuits, a conveyor with a lifting table, a control desk, and an assembling-soldering former equipped with a magnetic screen fastened on a non-magnetic base. Orig. art. has: 1 figure.

UDC: 621.352.2:621.791.357:621.3.029.5

Card 1/2

L 06197-67
ACC NR: AP6032489

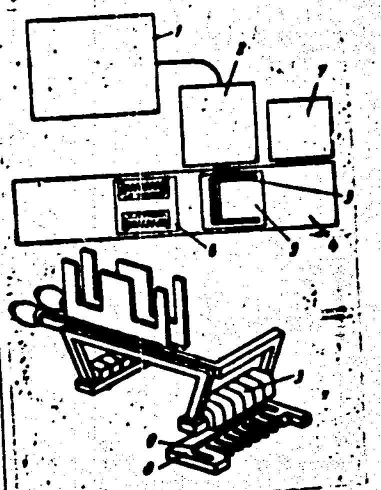

Fig. 1. 1 - H-f generator; 2 - external tank circuit; 3 - inductor; 4 - conveyor; 5 - lifting table; 6 - control desk; 7 - former; 8 - screen; 9 - base.

SUB CODE: 10,13 / SUBM DATE: 24 Mar 65

Card 2/2 afs

RASHEVSKIY, A.N.

The RN-2,5 manure spreader monted on the GAZ-51 truck. Biul.tekh.-ekon.inform. no.8:55-57 '60. (MIRA 13:9)
(Fertilizer spreaders)

RASHEVSKIY, A.N. [Rashevs'kyi, A.N.], inzh.; PEYSAKHZON, N.Ya. [Peisakhzon, N.IA.], inzh.

Mounted universal loader for DT-20 tractors. Mekh. sil'. hosp. 11 no.9:20-21 S '60. (MIRA 13:9)

1. Khar'kovskiy proyektno-tekhnologicheskiy eksperimental'nyy institut mashinostroyeniya.

(Loading and unloading)

RASHEVSKIY, A.N., inzh.; PEYSAKHZON, N.Ya., inzh.

Universal mounted loader for the DT-20 tractor. Trakt. i sel'-
khozmash. 30 no.8:32-33 Ag '60. (MIRA 13:8)
(Loading and unloading)

RASHEVSKIY, A.N.

Multipurpose draw-in chuck. Mashinostroitel' no.8:37 Ag '61. (MIRA 14:7)

(Chucks)

VASILEVSKII, K. N. DECEASED

see ILC

Mathematics

RASHEVSKIY, K.P., veterinarnyy vrach (Pereslavskiy rayon, Yaroslavskoy oblasti; RESHETNIKOV, I.M., veterinarnyy vrach (Pereslavskiy rayon, Yaroslavskoy oblasti)

Feeding of urea to milch cows. Veteriariia 38 no.10:66 O '61. (MIRA 16:2)

(Pereslavl'-Zalesskyi District--Urea ad feed)

RASHEVSKIY, K. P. and RESHETNIKOV, I. M. (Veterinary Surgeons, Pereiaslavsk Raion, Iaroslavl' Oblast')

"Feeding of milch cows with urea"

Veterinariya, Vol. 38, no. 10, October 1961, pp. 66

RASHEVSKIY, P. K.

Un Schéma unifiant la Théorie des Groupes Abstraits avec la Théorie des Groupes Infinitesimaux de Lie. C. R. Acad. Sci., 202 (1936), 1012-1013.

Les problèmes les Plus Simples de "L'Algébra Quasi-Commutative" en Connexion avec la Théorie des Valeurs Caractéristiques des Opèrateurs Différentiels. Matem. SB., 9 (51), (1941), 511-544.

Les problèmes les Plus Simples de "l'Algébra Quasi-Commutative" en Connexion avec la Théorie des Valeurs Caractéristiques des Opérateurs Différentiels. Troisième et Quatrième Partie. Matem. SB., 10 (52), (1942), 95- 142.

Un Critérium Caractéristique des Représentations Conformes E^2, LN 2, $\frac{Az + B}{yz + S}$. C. R. Acad. Sci., 197 (1933), 291-294.

Représentations Conformes Z^n, E^2, LN 2 au Point de Vue de Géométrie Conforme. Matem. SB., 42 (1935), 157-168.

Sur les Espaces sous-Projectifs. C R Acad. Sci., 191 (1930), 547-548.

Kharakteristicheskiy Priznak Semeystva Geodezicheskikh Afinno- Svyaznogo Prostranstva Dvukh Izmereniy. Matem. SB., 39: 1-2 (1932), 72-80/

Caractères Tensoriels de l'Espace sous-Projectif. Trudy Semin. Po Vektorn. i Tenzorn. Analizu, 1 (1933), 126-142.

RASHEVSKIY, P. K. con't.

Geodezicheskiye Linii Dvukhmernogo Prostranstva Afinnoy Svyazi V Beskonechno Malom S Tochnost'yu Chetvertogo Poryadka. Dan, 3 (1934), 313-316.

Geodezicheckiye Linii Dvukhmernogo Afin o- Svyaznogo Prostranstva V Beskonechno Malom V Suyazi S Izmereniyen Ploshchadey. Dan, 3 (1934), 570-571.

Congruence Rectiligne Dans l'Espace Euclidien à N Dimensions. Trudy Se in. Po Vektorn. I Tenzorn. Analizu, 2-3 (1935), 212-229.

Geometriya Konusa Nulevykh Napravleniy. M., Uchen. Zap. Ped. in-ta, 1 (1937),73-93.

Sur l'Unicité de la Géométrie Projective dans le Plan, Matem. SB., 8 (50), (1940), 107-120.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A. G.,
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow - Leningrad, 1948.

RASHEVSKIY, P.

Raševskiĭ, P. Polymetric geometry. Abh. Sem. Vektor- und Tensoranalysis [Trudy Sem. Vektor. Tenzor. Analizu] 5, 21–147 (1941). (Russian) [MF 15609]

The aim is to construct a generalized geometrical system which preserves as much as possible (only locally, of course) the metric duality typical of the elliptic plane; that means that in the new geometry there should exist analogues of points with distances and straight lines with angles and that these two things should have equal rights. The purpose, then, is to deal with two metrics which have equal rights; such a geometry would be called bimetric. By way of introduction the author considers a Euclidean plane in which the line element is chosen as the fundamental object, and co[illegible]guity ($dy=zdx$) as the fundamental relation; properties to be considered are those left invariant by contact transformations. One invariant conception is that of a "curve" defined as a one-parameter family of line elements such that two neighboring ones are contiguous; points and ordinary curves are noninvariant special cases of this. A metric is introduced by specifying a first order differential form which on "curves" gives ds. There exists an allowable transformation of coordinates which takes null-curves (those on which $ds=0$) into points; in the new "canonical" coordinate system the metric reduces to a Finsler metric; among other things canonical coordinates help to associate with a given metric "its angular metric" which gives infinitesimal angle $d\theta$ between two contiguous elements of a null curve of the given metric; the geodesics of the given metric serve as null curves for its angular metric.

After these preliminaries the author introduces two independent metrics each given by a first order differential form, the two having equal rights; the two metrics determine two differential operators (infinitesimal transformations of the Lie theory). One can also give the system by giving the operators; they determine the metrics; the system possesses six invariants. In terms of this analytical apparatus properties of the metrics are expressed in very compact form. Different relationships between the two metrics are investigated; one may be geodesically conjugate, metrically conjugate, and completely conjugate to the other, etc. The case which occupies most of the author's attention is what he calls a dual system; here each metric is conformal to the angular metric of the other. The ideas of triangle, area and some notions of trigonometry appear in generalized and dualistic form.

After a chapter in which the preceding considerations are treated in terms of the Grassmann-Cartan calculus and in which the Gauss-Bonnet theorem is generalized for the dual system the author passes to a generalization of his theory to three-dimensional space. In trimetric geometry the place of line elements is taken by [illegible] tetrahedra (the space for convenience is assumed to be elliptic) which constitute

Source: Mathematical Review, Vol [illegible] the fundamental objects; the system is given by six Pfaffians which satisfy certain algebraic and integrability conditions permitting one to introduce analogues of points and planes. In terms of these Pfaffians two metrics are introduced which have equal rights; one gives distances between "points," the other between "planes"; there is also an intermediate metric giving angles between directions but straight lines are not introduced. A canonical system of coordinates leads, in analogy with the two-dimensional case, to "arc length" which depends on direction and thus to an analogue of a Finsler metric which the author calls pseudo-Finsler because it differs from the usual Finsler metric in three dimensions.

G. Y. Rainich (Ann Arbor, Mich.).

Source: Mathematical Reviews, Vol 8, No. 4

RASHEVSKIY, P. K.

PHASE II TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 258 - II

BOOK Call No.: QA381.R28

Author: RASHEVSKIY, P. K.
Full Title: GEOMETRIC THEORY OF EQUATIONS WITH PARTIAL DERIVATIVES
Transliterated Title: Geometricheskaya teoriya uravneniy s chastnymi proizvodnymi

Publishing Data
Originating Agency: None
Publishing House: State Publishing House of Technical and Theoretical Literature (OGIZ)
Date: 1947 No. pp.: 354 No. of copies: 7,000

Editorial Staff
Editor: None Tech. Ed.: None
Editor-in-Chief: None Appraiser: None

Text Data
Coverage: The book is primarily a discussion of Pfaff's system in great detail although not to the extent given in Schouten and Kulk's Pfaff's Problem and Its Generalization (1949). The first two chapters (algebraic and differential oblique forms and applied vector analysis) may be regarded as an introduction to Pfaff's system. This information may be found in many English texts (e.g., T. L. Wade's The Algebra of Vectors and Matrices, J. H. Taylor's Vector Analysis, H. V. Craig's Vector and Tensor Analysis and others). The author introduces the

Geometricheskaya teoriya uravneniy s chastnymi proizvodnymi AID 258 - II

In addition to the authors mentioned, the works of A. R. Forsyth, G. A. Bliss and G. E. Hay were studied for reference.

Purpose: Not given

TABLE OF CONTENTS

Geometricheskaya teoriya uravneniy s chastnymi proizvodnymi

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PAGE

Ch. XI Integration of Pfaff's System of the General Type 290-354

Fundamental definitions. Pfaff's system in involution. Transformation of this system to an easily integrated form. Construction of regular integral areas of Pfaff's system in involution. A special case in Pfaff's system. Fundamental theorem.

Bibliography: None

Facilities: None

Available: Library of Congress

6/6

1. RASHEVSKIY, P. K.

2. USSR (600)

4. Physics and Mathematics

7. Internal Geometry of Convex Surfaces, A. D. Aleksandrov. (Moscow-Leningrad, State Technical Press, 1948). Sov. Kniga, No. 1, 1949. Reviewed by P. K. Rashevskiy.

9. [redacted] Report U-3081, 16 Jan. 1953, Unclassified.

RASHEVSKIY, P.K.

Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Geometry

7-13-54
LL

2

Raševskiĭ, P. K. The scalar field in a stratified space. Trudy Sem. Vektor. Tenzor. Analizu 6, 225–248 (1948). (Russian)

The notion of stratified spaces has been thoroughly developed by the Moscow seminar during the past decade with many interesting and significant results. The present paper is too highly specialized to be of much significance. Given a space of $2n$ dimensions with coordinates $x^1, x^2, \cdots, x^n$; $u^{\hat{1}}, u^{\hat{2}}, \cdots, u^{\hat{n}}$ the stratifying spaces are then $x^i = c^i$ and $u^{\hat{i}} = c^{\hat{i}}$. It is assumed that a scalar function $U(x, u)$ is given such that $|\partial^2 U/\partial x^i \partial u^{\hat{j}}| \neq 0$ which is taken as the metric tensor in the space. Since the above condition is not invariant under a general coordinate transformation, the problem is studied under transformations of the x's and u's separately. After calculating the various sets of Christoffel symbols one can see that the stratifying spaces are totally geodesic, admit absolute parallelism and have null length. The last half of the paper is devoted to proving a replacement theorem in this special space, a theorem that has been established for general spaces. *M. S. Knebelman.*

1. RASHEVSKIY, P. K.

2. USSR (600)

4. Physics and Mathematics

7. Advanced Geometry, N. V. Yefimov. (Moscow-Leningrad, State Technical Press, 1949) Reviewed by P. K. Rashevskiy, Sov. Kniga, No. 10, 1949.

9. [redacted] Report U-3081, 16 Jan. 1953. Unclassified.

RASHEVSKIY, P. K.

USSR/ Mathematics- Geometry
Mathematics- Biography

Mar/Apr 49

"Congratulatory Message to V. F. Kagan on His Eightieth Birthday," N. V. Yefimov, Lopshits, A. M., P. K. Rashevskiy, 10 pp

"Uspekhi Matemat Nauk" Vol IV, No 2

Kagan, head of Chair of Differential Geometry (tensor analysis), Moscow State U, is noted for work on Lobachevskian (Riemannian) geometry. He has conducted a seminar in vector and tensor analysis of at the University since 1927. He was awarded the Stalin Prize in 1942.

PA 46/49T46

RASHEVSKIY, P. K.

27572. DUBNOV, YA. S. i RASHEVSKII, P. K. V. F. Kagan. Kaatkiv obzor nauch. biografii. [Matematik. k 80-letiyu 50 dnya Rozhdeniya] Trudy Seminara po vektornomu I tenzornomu analizu s ikh prilozheniyami k geometrii, mekhanike, i fizike. vyp. 7. M-L., 1949. s. 16-30.

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

RASHEVSKIY, P.K.

Raševskiĭ, P. K. Galois theory in fields of geometric objects. Trudy Sem. Vektor. Tenzor. Analizu 7, 167–186 (1949). (Russian)

The author considers geometric objects and (possibly infinite) Lie groups of transformations in a space X_n homeomorphic with a region in n-space R^n; X_n carries with it a set of coordinate systems (termed admissible) such that the passage from one coordinate system to another is effected by analytic functions. A geometric object φ is termed "rational" if after an admissible change in coordinate system the new components of φ are rational functions of the old components and of the partial derivatives of various orders of the new coordinates with respect to the old. Each Lie group is assumed to be given by a system of differential equations in unknowns $\bar{x}_1, \cdots, \bar{x}_n$ of the form $F=0$, where F is a polynomial in the partial derivatives $\partial^{i_1+\cdots+i_n}\bar{x}_j/\partial^{i_1}x_1 \cdots \partial^{i_n}x_n$ $(1 \leqq j \leqq n,\ i_1+\cdots+i_n \geqq 1)$ with coefficients analytic in $x_1, \cdots, x_n$ and $\bar{x}_1, \cdots, \bar{x}_n$ regular throughout X_n [here (x_i) is a fixed coordinate system]; a Lie group of this sort for which the system $F=0$ satisfies certain other conditions is termed "rational." It is shown that for any rational Lie group G there exists a rational geometric object φ which is invariant under (every transformation in) G and under no analytic transformation not in G. Given two coordinate systems (x_i), (t_i) for X_n, the components (with respect to (x_i)) of a rational geometric object ψ are analytic functions of (t_i); the author shows that if ψ is invariant under G then the components of ψ are rational functions of the components of φ and their partial derivatives with respect to t_i of various orders. The set of all geometric objects which can be expressed in this way in terms of a single rational geometric object φ is called a "field of geometric objects." If this φ admits a transitive Lie group the field is called "transitive." It then is proved that there is a one-to-one correspondence between transitive fields of geometric objects and rational Lie groups. The proofs make use of results which to the reviewer's knowledge have not been completely established. *E. R. Kolchin.*

Source: Mathematical Reviews, Vol 12, No. 3.

RASHEVSKIY, P.K.

3

Raševskiĭ, P. K. The statistics of Bose-Einstein and Fermi-Dirac from the tensor point of view. Trudy Sem. Vektor. Tenzor. Analizu 7, 362-380 (1949). (Russian)

In the usual presentations of the quantum theory of an ensemble of identical particles the tensor point of view is commonly not preserved throughout. The author claims that if the tensor point of view is retained throughout the calculations are both simpler, and more easily interpreted. Mathematical sections on properties of tensors are followed by explicit applications of tensors to quantum theory.

G. M. Volkoff (Vancouver, B. C.).

Source: Mathematical Reviews, Vol 12 No. 6

1. RASHEVSKIY, P. K.

2. USSR (600)

4. Physics and Mathematics

7. Spaces of Affine Connection, A. P. Norden. (Moscow-Leningrad, State Technical Press, 1950). Reviewed by P. K. Rashevskiy, Sov. Kniga, No. 4, 1951.

9. FDD Report U-3081, 16 Jan. 1953, Unclassified.

RASHEVSKIY, Petr Konstantinovich.

Accourse in differential geometry; textbook for state universities. Izd. 3., perer. Moskva, Gos. izd-vo tekhniko-teorret. lit-ry, 1950. 428p. (50-55201 rev)

MH MoL

1. Geometry, Differential.

RASHEVSKIY, P. K.

16(1) PHASE I BOOK EXPLOITATION SOV/1964

Moscow. Universitet. Nauchno-issledovatel'skiy institut matematiki

Trudy seminara po vektornomu i tenzornomu analizu s ikh prilozheniyami k geometrii, mekhanike i fizike, vyp. 8 (Transactions of the Seminar on Vector and Tensor Analysis and Their Applications to Geometry, Mechanics, and Physics; Nr 8) Moscow, Gostekhizdat, 1950. 429 p. 1,500 copies printed.

Ed. (Title page): V.F. Kagan, Professor; Ed. (Inside book): I.M. Yaglom; Tech. Ed.: N.Ya. Murashova.

PURPOSE: This book is intended for professional mathematicians, especially geometricians, and for physicists.

COVERAGE: This book contains some contributions to geometry presented by various leading Soviet mathematicians at the Seminar on Vector and Tensor Analysis, held from January 1, 1948, to July 1, 1949. Applications to physics and mechanics are not discussed in any detail. However, each article is significant for its possible applications in physics, especially the three articles by V. V. Vagner. In his

Card 1/5

Transactions of the Seminar (Cont.) SOV/1964

Card 3/5

Transactions of the Seminar (Cont.) SOV/1964

Shirokov, A.P. Gonometric System in Finsler Geometry 414

Verbitskiy, L.L. On the Equations For Embedding Riemann Spaces of Class 2 in Euclidean Spaces 425

AVAILABLE: Library of Congress

LK/gmp
7-20-59

Card 5/5

RASHEVSKIY, P.K.

Differential Equations

Solution of boundary problems by methods of noncommutative algebra. Vest. Mosk. un., 5, No. 9, 1950.

9. Monthly List of Russian Accessions, Library of Congress, October, 1952. Unclassified.

RASHEVSKIY, P.K.

Raševskiĭ, P. K. Symmetric spaces of affine connection with torsion. I. Trudy Sem. Vektor. Tenzor. Analizu. 8, 82-92 (1950). (Russian)

An affine connection with asymmetric Γ^i_{jk} is called symmetric if $\nabla_m S^i_{jk}=0$, $\nabla_m R_{ijk}{}^l=0$, $(i, j, k, l, m, p, q=1, \cdots, n)$ where S and R are the torsion and curvature tensor respectively. The case $S^i_{jk}=0$ has been studied by É. Cartan. In the case $S^i_{jk}\neq 0$ admissible frames of reference are introduced, for which the components S^i_{jk}, $R_{ijk}{}^l$ have the same numerical values and which pass into each other by parallel displacement. An admissible frame depends on the x^i and on certain so-called secondary parameters. If $e_k'=A_k^i e_i$ represents the transformation at a point from one set of measuring vectors e_i of an admissible frame to another e_i', then these transformations form the group of isotropy. The infinitesimal transformations of this group are expressed by r linearly independent matrices $a^i_{j\alpha}(\alpha=1, \cdots, r)$, these $a^i_{j\alpha}$ are constants satisfying $a^i_{k\alpha}a^k_{j\beta}-a^i_{k\beta}a^k_{j\alpha}=c^\gamma_{\alpha\beta}a^i_{j\gamma}$. Now the curvature tensor can be written in the form $R_{pqj}{}^i=b^\gamma_{pq}a^i_{j\gamma}$, where the b^γ_{pq} are uniquely determined constants. Study of the equations of structure of the $n+r$ linear differential forms ω^i, θ^α in the $(n+r)$-dimensional manifold of admissible frames leads to the inverse theorem that if an $(n+r)$-dimensional manifold M with $n+r$ linearly independent forms ω^i, θ^α is given, and these forms satisfy the given equations of structure, then this M can always be mapped in a one-to-one way on a manifold of admissible frames of reference in a certain symmetrical space. The study ends with a derivation of the algebraic relations between the structural constants S^i_{jk}, b^γ_{jk}, $a^i_{j\alpha}$ and $c^\gamma_{\alpha\beta}$.

D. J. Struik.

Source: Mathematical Reviews, Vol 12 No. 7

SSNW

RASEVSKIY, P.K.

Raševskii, P. K. On a pair of connections on n-dimensional surfaces in a $2n$-dimensional stratified space. Trudy Sem. Vektor. Tenzor. Analizu. 8, 301–313 (1950). (Russian)

The space under consideration is one of $2n$ dimensions in which there exists a coordinate system $x^1, \cdots, x^n, u^1, \cdots, u^n$ and a metric $ds^2 = \{\partial^2 U(x, u)/\partial x^i \partial u^j\} dx^i du^j$. This metric is studied under transformations among the x's and among the u's separately. If S_n is a subspace, $x^i = x^i(t^1, \cdots, t^n)$, $u^{\bar{i}} = u^{\bar{i}}(t^1, \cdots, t^n)$, the two Jacobians being different from zero, then a vector ξ^α in S_n has components in the enveloping space $\xi^i = (\partial x^i/\partial t^\alpha)\xi^\alpha$, $\xi^{\bar{i}} = (\partial u^{\bar{i}}/\partial t^\alpha)\xi^\alpha$ and since magnitude is to be preserved, the induced metric in S_n is given by $G_{\alpha\beta} = (\partial x^i/\partial t^\alpha)(\partial u^{\bar{j}}/\partial t^\beta) g_{i\bar{j}}$, $g_{i\bar{j}} = \partial^2 U/\partial x^i \partial u^j$. Parallel displacement may be defined in two ways: with respect to the space u = const. or x = const. which yields two affine connections $\Lambda^\alpha_{\beta\gamma}$ and $M^\alpha_{\beta\gamma}$ and the requirement that length is to be preserved under parallel displacement gives

$$(*) \qquad \partial G_{\mu\lambda}/\partial t^\gamma - \Lambda^\alpha_{\mu\gamma} G_{\alpha\lambda} - M^\alpha_{\lambda\gamma} G_{\mu\alpha} = 0.$$

The author then considers a projectively flat space S_n with two connections and a semimetric tensor $G_{\mu\lambda}$ satisfying (*) and shows that if $\Lambda^\alpha_{\beta\gamma} = \delta_\beta{}^\alpha \Lambda_\gamma + \delta_\gamma{}^\alpha \Lambda_\beta$ and $\Lambda_{\gamma\beta} = \partial \Lambda_\gamma/\partial t^\beta - \Lambda_\beta \Lambda_\gamma$ then $\Lambda_{\gamma\delta} = M_{\delta\gamma} = \Lambda G_{\gamma\delta}$ where Λ is necessarily a constant. The author then constructs a simple realization of a stratifiable space in which x^i are the nonhomogeneous coordinates of a point in P_n and $u^{\bar{i}}$ the nonhomogeneous coordinates of its dual hyperplane. If incidence is defined by $x^i u^{\bar{i}} + 1 = 0$ and $U = \ln(x^i u^{\bar{i}} + 1)$, one obtains the projectively flat connection in which $\Lambda_\alpha = -u^{\bar{i}}/(x^i u^{\bar{i}} + 1)$. Conversely every projectively flat connection for which $|\Lambda_{ij}| \neq 0$ may be realized as a subspace S_n of a stratifiable space of $2n$ dimensions.

M. S. Knebelman (Pullman, Wash.).

Source: Mathematical Reviews, Vol 12 No. 7

RASHEVSKIY, P. K.

Mathematical Reviews
Vol. 14 No. 7
July - August 1953
Analysis

Raševskiĭ, P. K. On the solution of boundary problems by methods of noncommutative algebra. Vestnik Moskov. Univ. Ser. Fiz.-Mat. Estest. Nauk 1950, no. 9, 3-12 (1950). (Russian)

An algebraic formalism is employed to obtain conditions on a, b, c which are necessary and sufficient for the existence of a solution of the boundary-value problem

$$(1-y^2)[(1-y^2)f'(y)]'+(ay^2+by+c)f(y)=0,$$
$$f(-1)=f(1)=0.$$

The operators $y: f(y)\to yf(y)$, and $p: f(y)\to i(1-y^2)f'(y)$, generate a noncommutative associative algebra of operators over the complex field, and the differential equation takes the form $(p^2-ay^2-by-c)f(y)=0$. The discussion is carried through by manipulation of theo perator in the parentheses.

J. G. Wendel (Baton Rouge, La.).

RASHEVSKIY, P. K.

Source: Mathematical Reviews, Vol 13 No. 4

Raševskiĭ, P. K. On the geometry of homogeneous spaces. Doklady Akad. Nauk SSSR (N.S.) 80, 169–171 (1951). (Russian)

A homogeneous space K_n is defined as an n-dimensional space with a (transitive) Lie group G_r. Let H_m be the stationary subgroup of G_r. All considerations are local. The algebra of Lie belonging to G_r is given by G_r', its subalgebra by H_m'. A K_n in which the Cartan metric in G_r', is non-degenerate at least on the plane H_m' is called affine-homogeneous. Then there exists in G_r' a plane E_n', $n=r-m$, which is the orthogonal complement of G_r'. With the aid of this a canonical connection is defined. When we can insert into a K_n a Riemannian metric admitting G_r, the K_n is called metrical.

Necessary and sufficient condition that a curve in an affine-homogeneous K_n be geodesic (in the sense of the canonical connection) is that it be a trajectory of the subgroup G_1 of G_r, provided that the operator X_1 of the subgroup lies in E_n' for every point M of this trajectory; for this it is sufficient that the condition holds at one arbitrary point M_0. Moreover, K_n is affine-homogeneous either if G_r be semi-simple compact or if H_m be semi-simple. Every Riemannian V_n with $ds^2>0$ admitting a transitive group of motions G_r is a metrical K_n admitting G_r. The paper ends with some remarks on the fact that the canonical connection of a K_n need not correspond to the whole G_r but to its least subgroup containing every operator X of the plane E_n'. When this canonical connection has curvature zero we obtain the symmetrical spaces of Cartan.

D. J. Struik.

1. RASHEVSKIY, P.K.

2. USSR (600)

4. Geometry, Differential

7. "Differential geometry." M. Ya Vygodskiy. Reviewed by P.K. Rashevskiy.
Usp. mat. nauk 7 no.6, 1952

9. Monthly list of Russian Accessions, Library of Congress, March 1953, Unclassified

RASHEVSKIY, P.K.

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Geometry.

Raševskiĭ, P. K. On the geometry of homogeneous spaces. Trudy Sem. Vektor. Tenzor. Analizu 9, 49–74 (1952). (Russian)

The purpose of the paper is to implement Klein's program for geometry. A real Lie group G_r being given, the problem is to construct a homogeneous space K_n for which G_r is the fundamental group. This problem was solved by Cartan for semi-simple groups and the present author's work, though not completely successful, is a considerable forward step. It is assumed that G_r is transitive having a stationary subgroup H_m so that $m=r-n$; then it is possible to introduce in K_n an affine connection which is invariant under G_r and is symmetric (in Cartan's sense), i.e., $\nabla_p R^i_{jkl}=0$, $\nabla_p S^i_{jk}=0$, where R is the curvature tensor and S is the torsion. This connection is expressible in terms of certain vectors and the structure constants of the group. For the study of affine homogeneous spaces it is assumed that the Cartan metric of G_r, $g_{ij}=C^a_{ib}C^b_{ja}$ is non-degenerate on H_m. Then the sufficient conditions are given by: if G_r of a homogeneous space K_n is semi-simple and compact, K_n is affine homogeneous. A similar theorem holds if H_m is semi-simple. The author also proves some known theorems on metric spaces and gives some illustrations.

M. S. Knebelman (Pullman, Wash.).

RASHEVSKIY, P. K.

PHASE I TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 255 - I

Call No.: AF589978

BOOK

Author: RASHEVSKIY, P. K.

Full Title: RIEMANNIAN GEOMETRY AND TENSOR ANALYSIS

Transliterated Title: Rimanova geometriya i tenzornyy analiz

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of Technical and Theoretical Literature

Date: 1953 No. pp.: 635 No. of copies: 5,000

Editorial Staff

Editor: Lapko, A. F. Tech. Ed.: None

Editor-in-Chief: None Appraiser: None

Text Data:

Coverage: The text includes: tensors in three-dimensional Euclidean space; Euclidean space of n dimensions; mathematical principles of the special theory of relativity; curved coordinates in the affine and Euclidean spaces; manifolds; Riemannian spaces and spaces of affine correlation; absolute differentiation; curvature tensors in space; and mathematical principles of the general theory of relativity. The book presents an instructional compilation from the very voluminous non-Russian literature of the past 20-30 years on vector and tensor analyses, and gives in introductory

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form their application to the special and general theories of relativity. The author tends, where possible, to introduce the known applications of tensor analysis to mechanics and physics.

The book does not seem to give anything new on the subject.

Purpose: A textbook for specialists, rather than a research monograph. A fundamental knowledge of higher mathematical analyses (of at least 3 years of college) is a prerequisite.

Facilities: None

No. of Russian and Slavic References: Six given in footnotes.

Available: A.I.D., Library of Congress.

RASHEVSKIY, P.K.

Raszewski [Raševskiĭ], P. K. Wstęp do rachunku tensorowego. [Introduction to tensor calculus.] Państwowe Wydawnictwo Naukowe, Warszawa, 1955. 83 pp. 8.80 zł.

Translation of the first part of Raševskiĭ's Rimanova geometriya i tenzornyĭ analiz [Gostehizdat, Moscow, 1953; MR 16, 1051].

Math 1

Math

Raszewski [Raševskii], P. K.: Geometry and Tensor Analysis

RASHEVSKIY, P. K.

Math

Mathematical Reviews
Vol. 15 No. 1
Jan. 1954
Algebra

7-13-54
LL

Raševskiĭ, P. K. On some fundamental theorems of the theory of Lie groups. Uspehi Matem. Nauk (N.S.) 8, no. 1(53), 3–20 (1953). (Russian)

The author's purpose is to give proofs for several theorems of Lie theory, which have not been available in the Russian literature, namely, for the theorem of Levi, with Malcev's refinement, and for the theorem on complete reducibility of representations of semi-simple groups. These theorems are deduced from the following new theorem: An affine (linear, non-homogeneous) representation of a semi-simple Lie algebra always has a fix-point. Two proofs for this are given. (I) For a compact (i.e., definite Cartan form) real Lie algebra one utilizes the corresponding simply connected compact Lie group; the induced representation obviously has a fix-point. The case of a complex representation of a complex Lie algebra is easily reduced to the consideration of the compact form. For a real non-compact Lie algebra one complexifies the Lie algebra and the representation. (II) Algebraic proof: One can assume, by induction, that the induced homogeneous-affine representation is irreducible. The author then proves the known fact that the Casimir operator of this homogeneous representation is a non-zero (positive rational) multiple of the identity. The

(over)

RASEVSKII, P.K. 2/2

7-13-54
LL

fix-point can then be written down explicitly. Complete reducibility now follows easily: The subspaces complementary to an invariant subspace form a linear space, in which a non-homogeneous affine transformation is induced; the fix-point represents an invariant subspace. The proofs of the Levi-Malcev theorems are not quite so immediate; they require division into cases according to the behavior of the radical, and induction over the dimension.

H. Samelson (Princeton, N. J.).

RASHEVSKIY, P. K.

Mathematical Reviews
May 1954
Analysis

10-7-54

Raševskiĭ, P. K. On the extension of the operational calculus to boundary problems. Uspehi Matem. Nauk (N.S.) 8, no. 4(56), 65–80 (1953). (Russian)

It is well known that in the application of the Heaviside calculus to ordinary differential equations, boundary conditions may be incorporated adroitly by the use of delta functions and their derivatives. The author develops this idea.

First, he considers the differential equation $(D+a)\chi=\phi$ where a is a constant, $D=d/dx$, and ϕ (and hence χ) is a generalized function, that is, a combination of a proper function and delta functions and their derivatives. He then passes to an equation of higher order (with constant coefficients) and to systems of ordinary linear equations. When D is the operator d^2/dx^2, two-point boundary conditions are introduced, and consequently the delta functions and their derivatives have two singular points.

To some extent the method can be carried over to systems of linear partial differential equations where D is replaced by Laplace's operator, and Dirac's delta function by the delta function appropriate to the boundary of the region in which the differential equations are studied. *A. Erdélyi.*

RASHEVSKIY, P.K.; VVEDENSKAYA, N.D.; KOROLYEV, B.M.

Fifteenth mathematical olympiad for the schools of Moscow. Usp.mat.nauk. 8 no.4:193-197 Jl-Ag '53. (MLRA 6:8)
(Moscow--Mathematics) (Mathematics--Moscow)

RASHEVSKIY, P. K.

~~RASEVSKII, P.K.~~

(2)

Raševskiĭ, P. K. Obituary: Veniamin Fëdorovič Kagan. Uspehi Matem. Nauk (N.S.) 8, no. 5(57), 131-138 (1 plate) (1953). (Russian)

A list of Kagan's published papers is included.

RASEVSKI, P.C.

RUM.

Raševski, P. C., On the extension of the operational calculus to boundary problems. Acad. Repub. Pop. Romîne. An. Romîno-Soviet. Mat.-Fiz. (3) 7, no. 2(9), 50–65 (1954). (Romanian) 1 - F/W

Translated from Uspehi Matem. Nauk (N.S.) 8, no. 4(56), 65–80 (1953); these Rev. 15, 428.

RASHEVSKIY, P.K.

Linear differential-geometric objects. Dokl. AN SSSR 97 no.4: 609-611 Ag '54. (MLRA 7:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom A.N.Kolmogorovym.
(Transformations (Mathematics))

RASHEVSKIY, P. K.

USSR/Mathematics - Topology (Lie groups)

Card : 1/1 Pub. 22 - 7/48

Authors : Rashevskiy, P. K.

Title : About linear presentation of Lie's non-simple groups with the zero potential

Periodical : Dok. AN SSSR 97/5, 781 - 783, August 11, 1954

Abstract : A method for constructing finite, measurable, linear expressions of Lie's G groups is described. One reference (1953).

Institution : ...

Presented by : Academician A. N. Kolmogorov, May 29, 1954

RASHEVSKIY, P.K.

USSR/Mathematics - Lie's groups

Card 1/1 : Pub. 22 - 7/49

Authors : Rashevskiy, P. K.

Title : Inner-algebraic Lie's groups

Periodical : Dok. AN SSSR 98/4, 539-540, Oct. 1, 1954

Abstract : Those of the Lie groups which may have algebraic matrix presentations are considered (a matrix of Lie's group is called algebraic, if its matrices can be completely characterized by a system of algebraic equations connecting the elements of the matrices). Three references (1894-1951).

Institution : ...

Presented by : Academician A. N. Kolmogorov, June 30, 1954

RASHEVSKIY, P. K.

USSR.

1-F/W

62

Raševskiĭ, P. K. On linear representations of nonsemisimple Lie groups with nilpotent radical. Doklady Akad. Nauk SSSR (N.S.) 97, 781–783 (1954). (Russian)

A Lie group G has an algebra E whose semisimple component forms a space S and whose nilpotent radical forms a space R. If a and b are vectors in R, the product is $c^\gamma = C^\gamma_{\alpha\beta} a^\alpha b^\beta$, where $C^\gamma_{\alpha\beta}$ are the structure constants of the group. The author considers a system of covariant tensors $V, V_{\alpha_1}, V_{\alpha_1\alpha_2}, \cdots, V_{\alpha_1 \cdots \alpha_k}$ which he calls an aggregate and which are subject to the condition

$$V_{\alpha_1 \cdots [\alpha_s \alpha_{s+1}] \cdots \alpha_k} = V_{\alpha_1 \cdots \beta \cdots \alpha_k} C^\beta_{\alpha_s \alpha_{s+1}}.$$

A system of such aggregates $V^i_{\alpha_1 \cdots \alpha_k}$ with $i = 1, \cdots, N$, N being the dimensionality of S, which transform line contravariant vectors in S form the representation space of the group. A dual theorem is proved for a space $W_i^{\alpha_1 \cdots \alpha_k}$.

M. S. Knebelman (Pullman, Wash.).

RASHEVSKIY, P.K.

USSR.

Raševskii, P. K. Linear differential-geometric objects. Doklady Akad. Nauk SSSR (N.S.) 97, 609–611 (1954). (Russian) 1-F/W

62

By differential group D_v of class v is understood the group of linear transformations in a space V_n extended v times. This means that the coefficients are $x_{i_1}^{i'}, x_{i_1 i_2}^{i'}, \cdots, x_{i_1 i_2 \cdots i_v}^{i'}$ computed at some fixed point. This group decomposes into the semidirect product of its semisimple component S, $x_i^{i'}$ $\det|x_i^{i'}|=1$ and its radical $\omega\delta_{i_1}^{i'}, x_{i_1 i_2}^{i'} \cdots x_{i_1 \cdots i_v}^{i'}$. A representation of this group D_v is given by the transformation of a scalar function φ and its partial derivatives up to order v. Denoting the totality of components $i_1, i_1 i_2, \cdots, i_1 \cdots i_v$ arranged in lexicographic order by I, φ_I are then the components of a supervector. A contravariant supervector ψ^I is obtained by requiring $\varphi_I \psi^I$ to be a scalar. A supertensor $Z_{K_1 \cdots K_s}^{I_1 \cdots I_r}$ is obtained in the usual manner and its transformations constitute all the representations of class v.

M. S. Knebelman (Pullman, Wash.).

RASHEVSKIY, P.K.

Raševskiĭ, P. K. The theory of spinors. Uspehi Mat. Nauk 10 (1955), no. 2(64), 3–110. (Russian) 1-F/W

MS This is a largely expository article, aimed at readers with only a modest background in algebra and analysis. Let R_n^+ be complex Euclidean (not unitary) n-dimensional space, with an orthonormal basis $\{e_1, \cdots, e_n\}$ and inner product $(\sum_{j=1}^n a_j e_j, \sum_{k=1}^n b_k e_k) = \sum_{j=1}^n a_j b_j$ (where the a_j and b_k are complex numbers). A concrete construction of the Clifford algebra C_n^+ of dimension 2^n is given, as follows. Basis elements of C_n^+ are the identity element 1 and the skew-symmetric contravariant tensors $e_{p_1 \cdots p_k}$ of rank k ($k=1, \cdots, n; p_1, \cdots, p_k = 1, 2, \cdots, n$) whose co-ordinates $a^{i_1 \cdots i_k}$ in the basis $\{e_1, \cdots, e_n\}$ are $+1$, -1, or 0, according as $(i_1 \cdots i_k)$ is obtainable from $(p_1 \cdots p_k)$ by an even permutation, an odd permutation, or no permutation. The product $e_{p_1 \cdots p_k} e_{q_1 \cdots q_m} = (-1)^N e_{r_1 \cdots r_s}$, where the r's are the indices appearing exactly once among the p's and q's, and the number N is determined by the conditions $e_{i_1} e_{i_2} \cdots e_{i_k} = e_{i_1 i_2 \cdots i_k}$, $e_i e_j = -e_j e_i$ if $i \neq j$, and $e_i e_i = 1$. 1/2

The simplicity of C_n^+ is demonstrated for the case $n = 2\nu$, ν being a positive integer. An explicit isomorphism is set up in this case between C_n^+ and the algebra of all linear transformations on complex affine space S_{2^ν} of dimension 2^ν. This isomorphism is constructed by use of (...)

Rashevskiy, P.K.

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the Clifford algebra C_r^+, which is identified with S_r. The representation so obtained is called the spinor representation of C_n^+, and the elements of S_r are called spinors. The essential uniqueness of this representation is proved. Fundamental tensors in S_r corresponding to various automorphisms and anti-automorphisms of C_n^+ are studied in enormous detail. The spinor representations of the rotation group are constructed carefully. Invariance, or the precise degree of non-invariance, of each of the tensors defined, is carefully discussed. Various real subalgebras of C_n^+ are studied. As each new concept is introduced, it is examined in detail for the cases $n=2$ and $n=4$. The Clifford algebras C_n^+ for odd n are also studied. A principal aim is to establish connections with the spinor apparatus of mathematical physics, and these connections (even to the point of discussing various authors' notations) are emphasized continually. Parts of the treatment depend on the author's "Riemannian geometry and tensor analysis" [Gostehizdat, Moscow, 1953; MR 16, 1051]. For those unfamiliar with this work and unable to make their own computations, the present paper may in places be obscure. However, being carefully written and nearly self-contained, this paper should be useful to a large group of mathematicians and physicists. *E. Hewitt.*

2/2

RASHEVSKIY, P.K.

3

1-F\W

Raševskiĭ, P. K. Multidimensional δ-functions and differential-geometric objects. Uspehi Mat. Nauk (N.S.) 10 (1955), no. 4(66), 145–152. (Russian)

Math

A one-dimensional δ-function is a L. Schwartz distribution which in the language of physicists is a function of a real variable that is zero everywhere except at one point X_0 and whose integral equals 1. The present paper generalizes this idea to n-space in which an m-dimensional surface plays the part of the point X_0 or, as the author says "similarly to the situation in which the simplest δ-functions of one argument are "concentrated" in one point, our many-dimensional δ-functions are "concentrated" on a m-dimensional surface $U_m \subset X_n$.

The author considers an n-dimensional manifold X_n, local coordinates $x^1, \cdots, x^n$, which he assumes to have a scalar density, $\gamma(x^1, \cdots, x^n)$ in the local coordinates, and therefore a volume element $\gamma dx^1 \cdots dx^n$. A relative covariant hyper-vector of class v is given in local coordinates by functions

$$\Phi_*, \Phi_{i_1}, \Phi_{i_1 i_2}, \cdots, \Phi_{i_1 i_2 \ldots i_s}, \cdots, \Phi_{i_1 i_2 \ldots i_v}$$

where these transform like $\partial^s \Phi / \partial x^{i_1} \cdots \partial x^{i_s}$, $s=0, 1, \cdots, v$, with Φ_* a scalar density. A relative contravariant hyper-vector $A^*, A^{i_1}, A^{i_1 i_2}, \cdots, A^{i_1 \ldots i_s}, \cdots, A^{i_1 i_2 \ldots i_v}$ s also

RASEVSKII, P.K. 3

introduced, the transformation under change of coordinates being contragradient to the covariant case. 1-FW

These symbols are assumed to be symmetric in the indices, and abbreviating the collection of indices by I we may write

$$A^I\Phi_I = A^*\Phi_* + A^{i_1}\Phi_{i_1} + A^{i_1i_2}\Phi_{i_1i_2} + \cdots + A^{i_1\cdots i_k}\Phi_{i_1\cdots i_k}.$$

This is an invariant or scalar function defined on X_n. Let U_m denote a regularly imbedded m-dimensional submanifold of X_n, given locally by $x_i = x_i(u^1, \cdots, u^m)$, $i=1, \cdots, n$, and with regular boundary Γ_{m-1}. Let a relative contravariant hyper-vector A^I be given on U_m (under change of local parameters $u^1, \cdots, u^m$ it will be multiplied by the Jacobian); then in the terminology of the author this determines a multidimensional δ-function on X_n. This δ-function and the scalar density γ determine a linear functional on sufficiently differentiable functions φ defined in a neighborhood of U_m, namely

$$A(\varphi) = \int_{U_m} A^I(\gamma\varphi)_I du^1 \cdots du^m,$$

where $(\gamma\varphi)_I$ are the partial derivatives of the scalar density $\gamma\varphi$. A^I will be called reducible if $A(\varphi)=0$ for every φ which vanishes in some neighborhood of Γ_{m-1}. The 2/3

KOSEVSKII, P. K.

2

author devotes most of the note to showing that a necessary and sufficient condition for reducibility of the δ-function A^I is that it be in some sense the divergence of an α field of hyper-vectors $B^{\alpha K}$, which is a relative contravariant hyper-vector of order $\nu-1$ in the indices K, as defined above, but relative to the index α transforms by 1-F/W

$$B^{\alpha' K} \to \left| \frac{\partial(u^1, \cdots, u^m)}{\partial(u^{1'}, \cdots, u^{m'})} \right| \cdot \frac{\partial u^{\alpha'}}{\partial u^{\alpha}} B^{\alpha K}.$$

More precisely A^I is reducible if and only if there exists a field $B^{\alpha K}$ such that

$$A^I(\gamma\varphi)_I = \frac{\partial}{\partial u^\alpha}(B^{\alpha K}(\gamma\varphi)_K).$$

The author concludes with a definition of the notion of derivative of the δ-function A^I. *W. M. Boothby.* 3/3

Smw
aarg

RASHEVSKIY, Petr Konstantinovich; TSVETKOV, A.T., redaktor; GAVRILOV, S.S., tekhnicheskiy redaktor

[A course in differential geometry] Kurs differentsial'noi geometrii. Izd. 4-oe. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1956. 420 p. (Geometry, Differential) (MLRA 9:10)

RASHEVSKIY, PETR KONSTANTINOVICH

KURS DIFFERENTSIAL'NOY GEOMETRII (COURSE IN DIFFERENTIAL GEOMETRY) 1ZD.

R. MOSKVA, GOSTEKHIZDAT, 1956.

420 P. DIAGRS.

BIBLIOGRAPHICAL FOOTNOTES.

LOBACHEVSKIY, Nikolay Ivanovich, akademik; ALEKSANDROV, P.S., akademik, redaktor; DELONE, B.N., redaktor; RASHEVSKIY, P.K., redaktor; GUROV, K.P., redaktor izdatel'stva; KISELEVA, A.A., tekhnicheskiy redaktor

[Selected works on geometry] Izbrannye trudy po geometrii. Red. P.S.Aleksandrova, i dr. Moskva, Izd-vo Akademii nauk SSSR, 1956. 595 p. (MLRA 9:11)

1. Chlen-korrespondent AN SSSR (for Delone)
(Geometry)

RASEVSKIY, P. K.

2

1-FW

Raševskiĭ, P. K. A linear semisimple group as the group of invariance of a tensor of valency four. Trudy Sem. Vektor. Tenzor. Anal. 10 (1956), 105–117. (Russian)

Each semi-simple irreducible connected complex subgroup G_r (with Lie algebra G_r') of the general linear group GL(n, C) can be characterized by a tensor $a_{jq}{}^{ip}$ of valency four, which is preserved only by the matrices in G_r, and the scalar matrices. Let $L_\alpha=(L_{i\alpha}{}^{j})$ ($\alpha=1, \cdots, r$) be a basis for G_r'. Then $a_{jq}{}^{ip}=g^{\alpha\gamma}g^{\beta\delta}L_{j\alpha}{}^{i}L_{q\beta}{}^{p}L_{d\gamma}{}^{c}L_{c\delta}{}^{d}$, where $g_{\alpha\beta}$ is the Killing tensor of G_r'. For the result stated one shows that the space of tensors of the form $a_{jq}{}^{ip}b_p{}^{q}$ is identical with G_r'. The set of tensors $a_{jq}{}^{ip}$ arising in this fashion can be characterized by several symmetry conditions and a rank condition.

H. Samelson.

87/W

RASHEVSKIY, P.K.

Linear representations of differential groups and Lie's groups with a nilpotent radical. Trudy Mosk.mat.ob-va 6:337-370 '57. (MIRA 10:11)

(Groups, Continuous)

RASHEVSKIY, P.K.

Mathematical foundations of quantum electrodynamics. Usp. mat. nauk 13 no.3:3-111 My-Je '58. (MIRA 11:6)
(Quantum theory) (Electrodynamics)

AUTHORS: Liber, A. Ye, Penzov, Yu. Ye, and ..ashevskiy, P.K. SOV/42-13-6-29/33

TITLE: Viktor Vladimirovich Vagner (on the Occasion of his 50th Birthday) (Viktor Vladimirovich Vagner (K pyatidesyatiletiyu so dnya rozhdeniya))

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 6, pp 221-227 (USSR)

ABSTRACT: V.V.Vagner was born at Saratov in 1908. In 1927 he has finished the pedagogical technical school at Balashov, 1930 the correspondence course at the 2nd Moscow State University. Since 1932 he was aspirant under Prof. V.F. Kagan at Moscow. In 1935 - doctor dissertation on the differential geometry of non-holonomic manifolds. Since 1937 chair for geometry at the Saratov University. Domain of scientific work: non-holonomic, Riemannian, and Finsler geometry, geometric theory of partial differential equations. Vagner has published 62 papers (1935-1956). There is a photo of Vagner.

Card 1/1

RUPASOV, Konstantin Andreyevich; RASHEVSKIY, P.K., prof., red.; KAPUSTINA, V.S., red.; PONOMAREVA, A.A., tekhn.red.

[Definitions in school courses in mathematics; a manual for teachers] Opredeleniia v shkol'nom kurse matematiki; posobie dlia uchitelei. Pod red. P.K. Pashevskogo. Moskva, Gos. uchebno-pedagog.izd-vo M-va prosv. RSFSR, 1958. 51 p. (MIRA 12:2)
(Mathematics--Study and teaching)

AUTHOR: Rashevskiy, P.K. SOV/42-13-3-1/41

TITLE: Mathematical Foundations of Quantum Electrodynamics (O matematicheskikh osnovakh kvantovoy elektrodinamiki)

PERIODICAL: Uspekhi Matematicheskikh Nauk, 1958, Vol 13, Nr 3, pp 3-110 (USSR)

ABSTRACT: The present paper has its origin in the lectures delivered by the author at the Moscow University in 1955/56 and it is the mathematically most correct representation of the subject in the international literature. Of course, the author restricts himself to the foundations of the theory without treating the principal problem itself - the calculation of the scattering matrix. The representation of the foundations is indisputable. It deviates from the usual way in so far as the well-defined notion of the state of a photon- and electron-position-field plays the central part. Then the necessary operators are certain precisely defined operators in the space of state. The general program of the paper is as follows: In § 1 the necessary knowledge on coordinate spaces, impulse spaces and spinor spaces is summarized. The §§ 2-10 treat the photon field. At the same time the necessary mathematical equipment is introduced, especially linear functionals with operator values serving for the comprehension of the mathematical sense of the operator fields of the theory. In the §§ 11-17 in a similar manner the

Card 1/2

On the Mathematical Foundations of the Quantum Electrodynamics SOV/42-13-3-1/41

electron-position-field is considered. In § 18 both fields are combined. In § 19 the principal problem - the construction of the scattering matrix - is established formally. At the same time the author hints at the numerous difficulties and insufficiencies of the general theory.
There are 10 references, 7 of which are Soviet, 1 French, 1 German and 1 American.

Card 2/2

RASHEVSKIY, P.K. (Moskva)

Geometry and its axiomatics. Mat. pros. no.5:73-98 '60.
(MIRA 13:12)

(Geometry)

RASHEVSKIY, P.K. (Moskva)

Projective representations of homogenous spaces. Mat. sbor. 50 no.2:171-202 F '60. (MIRA 13:6)
(Groups, Theory of)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013442

KAGAN, Veniamin Fedorovich [1869-1953]; SHESTOPAL, G.A [translator]; BRONSHTEYN, I.N. [translator]; LOPSHITS, A.M., red.; RASHEVSKIY, P.K., red.; LAPKO, A.F., red.; KRYUCHKOVA, V.N., tekhn. red.

[Subprojective spaces] Subproektivnye prostranstva. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1961. 218 p. (MIRA 14:6)
(Projection) (Spaces, Generalized)

MISHINA, A.P.; PROSKURYAKOV, I.V.; LYUSTERNIK, L.A., red.; YANPOL'SKII, A.R., red.; RASHEVSKIY, P.K., red.; LATYSHEV, V.N., red.; PLAKSHE, L.Yu., tekhn. red.

[Higher algebra; linear algebra, polynomials, universal algebra]Vysshaia algebra; lineinaia algebra, mnogochleny, obshchaia algebra. Pod red. P.K.Rashevskogo. Moskva, Fizmatgiz, 1962. 299 p. (MIRA 15:9)

(Algebra)

RASHEVSKIY, P.K.

Associative supershell of a Lie algebra and its infinite dimensional representations in spaces of analytic sprouts. Dokl. AN SSSR 151 no.4:778-780 Ag '63. (MIRA 16:8)

1. Predstavleno akademikom I.G.Petrovskim.

(Lie algebras)

RASHEVSKIY, P.K.

Closed ideals in a denumerably normalized algebra of integral analytic functions. Dokl. AN SSSR 162 no.3:513-515 My '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Submitted December 9, 1964.

MISHINA, A.P.; PROSKURYAKOV, I.V.; RASHEVSKIY, P.K., red.; LYUSTERNIK, L.A., red.; YANPOL'SKIY, A.R., red.; LATYSHEV, V.N., red.

[Higher algebra; linear algebra, polynomials, universal algebra] Vysshaia algebra; lineinaia algebra, mnogochleny, obshchaia algebra. Izd. 2., ispr. Moskva, Izd-vo "Nauka," 1965. 300 p. (MIRA 18:3)

RASHEVSKIY, S.A.

RASHEVSKIY, S.A.

[Colonel S.A.Rashevskii's diary (Port Arthur, 1904)] Dnevnik polkovnika S.A.Rashevskogo (Port-Artur, 1904). Moskva, Akad. nauk SSSR, 1954. 344 p. (MIRA 8:3D)

KASHEVSKIY, S. A.

134 Dnevnik Polkovnika S. A. Kashevskogo. (Portartur, 1904). (Red. I Vstupit. Stat'ya A.-L., Sidorova. Primech. S. A. Zalesskogo). M.-L., Izd-Vo Akad. Nauk Sssr, 1954. 344 S. So Skhyem 6 L. Ill. I Kart. 23 SM. (Akad. Nauk Sssr. In-T Istorii. Ist. Arkhiv. 10. Glav. Arkhivnoye Upr. Mvd Sssr. Filial Tsyentr. Gos. Voyer. Is . Arkhiva Sssr V. Lyeningrade). 4,000 Ekz. 13 R. 85K. V Pert.--Na Oborotye tit. L. Sost: A. A. Bregman, T. V. Vinogradov.--Na Pereplete Tol'ko Zagl. Serii.--(54-14 502n)

SO: Knizhnaya, Letopis, Vol. 1, 1955

PROCESSES AND PROPERTIES INDEX

A thermodynamic study of the use of a two-stage absorption cooling machine. V. K. Rashchypkin. J. Chem. Ind. (U. S. S. R.) 17, No. 7, 29-31 (1940).—Such a machine is more efficient than a one-stage refrigerator. The necessary equns. for operating the machine are given.

H. M. Leicester

METALLURGICAL LITERATURE CLASSIFICATION

ANTONOV, Yu.N.; ZINOV'YEV, L.P.; KOZHUKHOV, I.V.; RASHEVSKIY, V.E.; SARANTSEV, V.P.; CHZHAN Chzhun-mu [Chang Chung-mu].

[Focusing and adjusting the injector beam of a linear accelerator] Fokusirovka i iustirovka puchka inzhektora lineinogo uskoritelia. Dubna, Ob"edinennyi in-t iadernykh issl., 1961. 19 p. (MIRA 15:1)
(Particle accelerators)

L 20722-66
EPF(n)-2/EWP(j)/EWP(k)/EWT(d)/EWT(1)/EWT(m)/EWP(h)/ETC(f)/EWG(m)/T/EWP(1)/EWP(e)/
EWP(v) IJP(c) AT/RM/WH/DJ

ACC NR: AP6007826 SOURCE CODE: UR/0120/66/000/001/0139/0143

AUTHOR: Kozhukhov, I. V.; Muratov, Yu. V.; Rashevskiy, V. P.; Ryl'tsev, P. I.; Sarantsev, V. P.; Smirnov, Ye. V.

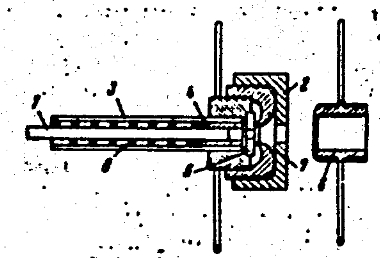
ORG: Joint Nuclear Research Institute (Ob"yedinennyy institut yadernykh issledovaniy)

TITLE: Use of a plasma gun for producing high electron-current peaks

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 139-143

TOPIC TAGS: plasma gun, pulse shape

ABSTRACT: A new plasma-gun electron source (see figure) consists of three electrodes: discharge electrode 1, diaphragm 5, and extraction electrode 6 mounted on two stainless-steel disks. Plexiglas bushing 4 (active material) is fed by spring 8 toward the gap as the bushing end is burned up. The discharge electrode is insulated by porcelain bushing 3. The tungsten diaphragm has a 1-mm port. Insulated cathode 2 is intended for improving the extraction conditions and focusing; its insulation is designed to withstand a working voltage of 30 kv. The



plasma-gun electron source

Card 1/2

UDC: 621.384.623

L 20722-66

ACC NR: AP6007826

stainless-steel cylindrical extraction electrode is grounded. When a +17-kv "trigatron" pulse is applied to the discharge electrode, a spark to the diaphragm evaporates some of the plexiglass and forms a plasma in chamber 7. An electric field extracts electrons from the plasma. An electron current of 200 amp was produced in 0.15—0.2-msec peaks when a constant d-c voltage was used for extraction. With a pulse extraction voltage (provided by a capacitor), an electron-current peak of 1 ka 10^{-6} sec has become possible. "In conclusion, the authors wish to thank P. F. Chernyayev for his great contribution to the construction of the experimental outfit." [03]

Orig. art. has: 7 figures.

SUB CODE: 09 / SUBM DATE: 21Jul64 / ORIG REF: 002/ ATD PRESS: 4223

Card 2/2

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

2

Mechan[illegible] of division of small liquid systems that are the seats of physicochemical reactions. N. Rashevsky. *Physics* [illegible] 374-6(1934); cf. *C. A.* 28, 3713.—The mechanism of division of small liquid droplets that are the seats of [illegible]ochem. reactions is studied from the kinetic instead of the thermodynamic point of view. The degree of stability of a drop a detd.; crit. sizes calcd. by both methods agree closely. Gerald M. Petty

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

RASHEYA, S. [Raszeja, S] (Pol'sha)

Use of hemagglutinins and hemolysins obtained from higher fungi for medicolegal examinations. Sud.-med. ekspert. 7 no.4:43-44 O-D '64 (MIRA 18:1)

RASHICH

YUGOSLAVIA/ Microbiology. Sanitary Microbiology F-4

Abs Jour: Ref Zhur - Biol., No 6, 1958, 24183

Author : Rashich
Inst : Not given
Title : Bacteria of Coli-Aerogenes Groups and Their Significance in Milk Production.

Orig Pub: Mljekarstvo, 1957, 7, No 5, 103-107

Abstract: No abstract.

Card 1/1

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001

YUGOSLAVIA / Microbiology. Sanitary Microbiology. Microbiology of Food Products. F

Abs Jour: Ref Zhur-Biol., No 2, 1959, 5528.

Author : Rashich, J.
Inst : Not given.
Title : Study of the Importance of Milk Refrigeration at the Place of Production and Cleanliness of Vessels for the Quality of Milk from the Microbiological Viewpoint.

Orig Pub: Pol'oprivreda, 1957, 5, No 2, 24-29.

Abstract: No abstract.

Card 1/1

L 62859-65

ACCESSION NR: AP5019039 UR/0286/65/000/012/0070/0070
624.953 : 621.642.34

B

AUTHOR: Zalavin, K. P.; Kolpachev, Yu. G.; Okhotnikov, A. A.; Kireyev, V. G.; Rashidov, N. F.; Grishin, M. S.; Sandakov, Ye. A.; Golovanov, G. F.; Plyshevskiy, I. V.

TITLE: A tank for storage and transportation of liquids. Class 37, No. 172022

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 70

TOPIC TAGS: liquid storage, tank

ABSTRACT: This Author's Certificate introduces: 1. A tank for storage and transportation of a liquid. The unit is made of an elastic material in the form of a truncated cone with a neck and a ring. The floating ring is mounted on the outside of the neck and can be replaced so that buckling of the rim of the neck can be avoided in case the ring is damaged. 2. A modification of this tank in which the floating ring is made replaceable by covering it with a sleeve which is fastened to the neck by straps.

ASSOCIATION: none

Card 1/3

L 62859-65

ACCESSION NR: AP5019039

SUBMITTED: 28Feb64 ENCL: 01 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

Card 2/3

L 24512-66 EWT(m)/EWP(j)/T RM 2C

ACC NR: AP6007680 SOURCE CODE: UR/0413/66/000/003/0050/0050

AUTHOR: Pakushin, G. N.; Bush, V. P.; Sandakov, Ye. A.; Gazizov, R.F.; Rashidov, N. F.; Todyshev, Yu. G.; Kireyev, V. G.

ORG: none

17
13
B

TITLE: Elastic container for storing and transporring liquids. Class 33, No. 178459

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 50

TOPIC TAGS: liquid container, portable container, elastic container

ABSTRACT: An Author Certificate has been issued describing a portable elastic container for storing and transporring liquids, which has a detachable fastener for the filling opening. To facilitate cleansing of the internal surface, the detachable fastener is a part of the filling opening which is equipped with clamping strips and a brass-type lock. To prevent the liquid from shifting in the container when it is partly full, there is a tightening belt attached to one of the clamp strips at the bottom of the container. (see Fig. 1). [LD]

2

Card 1/2 UDC: 685.514.32

L 24512-66

ACC NR: AP6007680

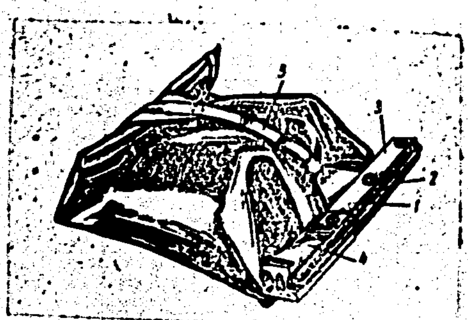


Fig. 1. Elastic containers for storing and transporting liquids. 1 - filling opening; 2 and 3 -- clamping strips; 4 - brass-type lock; 5 - tightening belt.

SUB CODE: 1/3 SUBM DATE: 20Nov64/

Card 2/2 BLG

URAZBAYEV, M.T., akademik; RASHIDOV, O.T.

Seismic stability of structures erected on ground with a low resistance to displacement and turning. Dokl. AN Uz. SSR 21 no.9:9-13 '64. (MIRA 19:1)

1. Institut mekhaniki AN UzSSR i Vychislitel'nyy tsentr AN UzSSR. 2. Akademiya nauk UzSSR (for Urazbayev).

RASHIDOV, Sh.; ALIMOV, A.; KORTUNOV, A.

To the Central Committee of the Communist Party of the Soviet Union, the Council of Ministers of the Soviet Union, and to Comrade N.S. Khrushchev, First Secretary of the Communist Party of the Soviet Union and Chairman of the Council of Ministers of the Soviet Union. Stroi. truboprov. 6 no. 2:2 F '61. (MIRA 14:5)

1. Sekretar' TSentral'nogo komiteta Kommunisticheskoy partii Uzbekistana (for Rashidov). 2. Predsedatel' Soveta Ministrov Uzbekskoy SSR (for Alimov). 3. Nachal'nik Glavgaza SSSR (for Kortunov).

(Uzbekistan--Gas, Natural)

RASHIDOV, Sharaf Rashidovich

[Speech at the 22d Congress of the CPSU, October 19, 1961] Rech' na XXII s"ezde KPSS 19 oktiabria 1961 goda. Moskva, Gos. izd-vo polit. lit-ry, 1961. 14 p. (MIRA 14:11)
(Communist Party of the Soviet Union)
(Uzbekistan—Economic conditions)

Biblio

26532
S/167/60/000/006/002/003
A104/A133

24.4200 (2406)

AUTHOR: Rashidov, T.

TITLE: Stresses in pipelines occurring during seismic action

PERIODICAL: Akademiya nauk UzSSR. Izvestiya. Seriya tekhnicheskikh nauk, no. 6, 1960, 36 - 40

TEXT: Former papers [Ref. 2: R. M. Mukurdumov, Voprosy seysmostoykosti podzemnykh truboprovodov (Problems of the Seismic Resistance of Underground Pipelines) Tashkent. Academy of Sciences of the UzSSR, 1953 and Ref. 3: Sh. G. Napedvaridze Seysmostojkost' gidrotekhnicheskikh sooryzheniy (Seismic Resistance of Hydraulic structures) M., Gosstroyizdat, 1959] dealt with formulae to determine the stresses in underground pipelines if the seismic waves propagate parallel to the axis of the pipelines and with the same velocity in the pipe and the soil. Coefficient η taking into account the effect of the soil settling or the effect of the pipeline lag from the deformation of the surrounding soil, is assumed as one unit, according to Ref. 3. Assuming that the oscillations of the soil and the pipeline are equal, the propagation velocity of the waves differ from the propagation velocity in the pipe and in the soil respectively. As this velocity is expressed by the mo-

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A104/A133

Stresses in pipelinesoccurring during seismic action

dulus of elasticity of materials participating in the joint movement, this modulus will also differ from the modulus of elasticity of the pipe material and the soil respectively. Therefore the present investigation of the joint motion of pipes and the soil will be based on a new modulus of elasticity called "pipe - soil" modulus and determined by

$$\varepsilon_s = \frac{P_s}{E_s F_s} \qquad (1)$$

where E_s, F_s = modulus of elasticity, the cross-sectional area of the soil surround the pipe, respectively, and P_s = resultant force affecting the cross-sectional area of the soil. [Abstracter's note: subscript s (soil) is the translation from the Russian Г (grunt)] The degree of the pipe deformation is determined by

$$\varepsilon_s = \frac{P_p}{E_p F_p}$$

where E_p, F_p = modulus of elasticity and cross-sectional area of the pipe respectively and P_p = resultant force affecting the cross-sectional area of the pipe.

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[Abstracter's note: subscript p (pipe) is a translation from the Russian т (truba)] The deformation of the "pipe - soil" is determined by

$$\varepsilon_{ar} = \frac{P_{ar}}{E_{ar} F_{ar}} \qquad (3)$$

where E_{ar}, F_{ar} = modulus of elasticity and the cross-sectional area of the "pipe - - soil" respectively. [Abstracter's note: subscript ar (area) is a translation from the Russian cp (sreda).] Therefore

$$P_{ar} = P_s + P_p \qquad (4) \qquad\qquad F_{ar} = F_s + F_p \qquad (5)$$

In view of the applicability of the hypothesis of plane sections it is assumed that

$$\varepsilon_s = \varepsilon_p = \varepsilon_{ar} \qquad (6)$$

By determining the meaning of P_s, P_p and P_{ar} in formulae (1) - (3) and applying these values in formula (4), taking into consideration formulae (5) and (6), the modulus of elasticity of the area will be

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$$E_{ar} = \frac{E_p F_p + E_s F_s}{F_p + F_s} \quad (7)$$

The division of the right section of formula (7) by F_t

$$E_{ar} = \frac{E_p + \alpha E_s}{1 + \alpha} \quad (7')$$

where $\alpha = \frac{F_s}{F_p}$ (8).

The determination of the stress is based on the assumption that the waves between the seismic focus and the earth surface are flat and in case of longitudinal waves the "pipe - soil" particles move parallel to the direction of the wave propagation. The compression wave propagates along the "pipe - soil" at a velocity

$$a_{ar} = \sqrt{\frac{E_{ar} \cdot g}{\gamma_{ar}}} \quad (9)$$

where γ_{ar} = volume weight of "pipe - soil", and g = gravity accerleration. The compressed zone $l = a_{ar}t$ will be reduced to a size

$$\Delta l = \frac{\sigma}{E_{ar}} a_{ar} t \qquad (10)$$

where σ = contraction strain, and E_{ar} modulus of elasticity of the "pipe - soil". The velocity of particles in the compressed zone are

$$V = \frac{\Delta l}{t} = \frac{\sigma \cdot a_{ar}}{E_{ar}} \qquad (11)$$

The seismic motion of "pipe - soil" is assumed as

$$y = A_0 \sin \frac{2\pi}{L} (x - a_{ar} t) \qquad (12)$$

where A_0 = oscillation amplitude, L = length of the seismic wave and a_{ar} = velosity of the wave propagation. The relative deformation, velocity and acceleration of "pipe - soil" are

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$$v_{max} = A_0 \frac{2\pi}{L} a_{ar} = k_s g \frac{1}{2\pi a_{ar}} , \qquad (17)$$

$$(\varepsilon_{ar})_{max} = A_0 \frac{2\pi}{L} \qquad (18)$$

or

$$v_{max} = k_s g \frac{T}{2\pi} \qquad (17') \text{ if } \frac{L}{a_{ar}} = T$$

where k_s = seismic coefficient and g = acceleration of the gravity. The oscillation period T, which differs according to the intensity of the earthquake, is usually assumed as 0.4 - 0.8 sec. If the highest v values from the formula (17') are introduced into formula (11) the result will be:

$$\sigma_{max} = k_s g \frac{T}{2\pi} \frac{E_{ar}}{a_{ar}} , \qquad (19)$$

and taking into account the formula (7')

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Stresses in pipelines occurring during seismic action

$$\sigma_{max} = k_s g \frac{T}{2\pi} \frac{E_p + \alpha E_s}{1 + \alpha} \frac{1}{a_{ar}} \qquad (19')$$

The upper limit of the maximum stress is determined as $\gamma_{ar} = \gamma_p$, where γ_p = volumetric weight of the pipe material. The stress value depends on the coefficient α which is determined by the ratio of the thickness of the soil layer to the pipe wall thickness ($\alpha > 0$). Assuming that $\alpha = 0$, the stress value of formula (19') is

$$\sigma_{max} = k_s g \frac{T}{2\pi} \frac{E_p}{a_p} \qquad (20)$$

where E_p = modulus of elasticity of the pipe material and a_p = propagation velocity of the waves in the pipe. If the cross-sectional area of the soil oscillation is considerably greater than the cross-sectional area of the pipe ($\alpha \to \infty$) the result is, according to formula (19)

$$\sigma_{max} = k_s g \frac{T}{2\pi} \frac{E_s}{a_s} \qquad (21)$$

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