LAPTEV, G.F.

(1)

Mathematical Reviews
Vol. 15 No. 3
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Geometry

7-9-94 LL

**Laptev, G. F.** Differential geometry of imbedded manifolds. Group theoretical method of differential geometric investigations. Trudy Moskov. Mat. Obšč. 2, 275–382 (1953). (Russian)

As the subtitle of this paper indicates, the method of investigation of subspaces is group-theoretic. For this reason the first part of the paper is a resumé of the essential properties of Lie groups. In particular, the fundamental differential forms of Cartan $\theta^r$ and $\bar{\theta}^r$, defined by

$$g\theta \circ v = v + dv = v \circ \bar{\theta},$$

are used to obtain the equations of Lie. This group $G$, of $r$ parameters, is realized by means of an $n$-dimensional analytic coordinate space. Let $H$ be a fixed subgroup of $G$ having no invariant subgroup in common with $G$ (or if $G$ and $H$ have a maximal invariant subgroup $D$, one takes the factor groups $G/D, H/D$). This subgroup $H$ is the "group of support" and has an image $F$ in the realization space, $H$ being stationary for $F$. A geometrical object is then defined as a point in any realization space $\mathcal{S}$ of the group of support, whose coordinates are referred to the coordinate frames of $F$. This definition agrees with that of Veblen and Whitehead, but it is constructive in the sense that the components (coordinates of a point in $\mathcal{S}$) are given as solutions of systems of total differential equations. It is in this manner that generalizations of tensors, affinors, pseudo-tensors are constructed. The last two chapters are devoted to the study of the geometrical objects of a subspace, but beyond the general relations and conditions that they must satisfy, the

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results are meager. Only in the case of the projective differential geometry of a surface is the work complete and all the classical invariants are obtained from this general principle. In conclusion, the author states that the methods developed can be applied equally well to affine and conformal geometry of subspaces, but that the algebraic difficulties become unresolvable. In the reviewer's opinion, the main value of this group-theoretic method is not so much as a means of investigating any particular geometry, but as a unifying principle for all of modern differential geometry.

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

LAPTEV, G. [F]

USSR/Mathematics - Mathematician FD-1181

Card 1/1 Pub. 118-22/30

Author : Laptev, G.

Title : Mathematical life in the USSR. Sergey Pavlovich Finikov, on his 70th birthday (16 November 1953)

Periodical : Usp. mat. nauk, 9, No 3(61), 245-252, Jul-Sep 1954

Abstract : All of the investigations of S. P. Finikov relate to the field of differential geometry, particularly the geometric configuration of ordinary three-dimensional space, as shown in the list of his 87 works (35 preliminary reports and notes, 1925-1954; 35 memoirs, 1912-1951; 5 monographs, 1917-1950; 5 textbooks, 1932-1952; 8 popular articles, 1927-1953). He presently holds the chair of differential geometry in Moscow University and is an honorary member of and member of directorate of the Moscow Mathematical Society. All his works are noted for their simplicity and clarity of exposition. Some of his students are: N. V. Laktanova, V. I. Korovin, T. A. Shul'man, R. V. Smirnov, T. L. Koz'mina, V. T. Bazylev, I. N. Grigor'yev.

Institution :

Submitted :

AUTHOR: Laptev, G.F. SOV/20-121-1-10/55

TITLE: Hypersurface in the Space of Projective Connection (Giperpoverkhnost' v prostranstve proyektivnoy svyaznosti)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 1, pp 41-44 (USSR)

ABSTRACT: The author constructs the differential geometry of the hypersurface in a multidimensional space of projective connection with a curvature and a torsion. The author considers especially the generalization of the notions of the projective differential geometry of an ordinary surface. He uses a group theoretical method. The results have an invariant character and are valid in the spaces of Riemann, Weyl and in spaces with an affine connection. The obtained formulas are interpreted geometrically by giving the geometric objects to which they correspond in the local spaces (Darboux-cone, linear element of Fubini, direction cone of Fubini etc).
There are 3 references, 2 of which are Soviet, and 1 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova (Moscow State University imeni M.V.Lomonosov)

PRESENTED: February 25, 1958, by P.S.Aleksandrov, Academician
SUBMITTED: February 11, 1958

1. Mathematics

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AUTHOR: Laptev, G.F.

SOV/20-126-3-8/69

TITLE: Invariant Equipment of a Surface in Affine-Connected Space

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 490-493 (USSR)

ABSTRACT: The problem of invariant equipment of an n-dimensional surface in an N-dimensional space of affine connection consists in the determination of a field of (N-n)-dimensional planes (normals), connected invariantly with the surface, each of which has only one common point with the corresponding tangenting plane. In the plane affine space the problem was considered by A.Ye.Liber [Ref 1] and P.I.Shveykin [Ref 2]. In the present paper the author considers the invariant equipment of a surface in the space of affine connection with curvature and torsion; the author restricts himself to the simplest case: $N \leqslant n + \frac{1}{2} n(n+1)$. The author starts from the relative invariant of a certain tensor and then he applies the method of continuation elaborated by him in an earlier paper [Ref 3]. There are 4 Soviet references.

PRESENTED: January 24, 1959, by P.S.Aleksandrov, Academician
SUBMITTED: January 9, 1959

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VASIL'YEV, A.M.; LAPTEV, G.F.

Sergei Pavlovich Finikov, 1883-1964; obituary. Usp. mat. nauk 19 no.4:155-162 '64. (MIRA 17:10)

SHLYAKHTIN, Ye.I.; ZHOROVA, A.G.; ANANCHENKO, M.V.; GRISHUTIN, V.G.; IVANOV, V.I.; DORONIN, A.A.; POPOVA, M.S., inzh.; TARASENKO, I.I.; ROMANOV, A.I.; ZHUKOV, A.V.; LAPTEV, G.I., inzh.

Who should perform the forwarding and carrier services? Zhel. dor. transp. 45 no.6:42-45 Je '63. (MIRA 16:7)

1. Zamestitel' nachal'nika stantsii Smolensk Moskovskoy dorogi po gruzovoy rabote (for Shlyakhtin). 2. Nachal'nik pogruzkontory stantsii Smolensk Moskovskoy dorogi (for Zhorova). 3. Zaveduyushchiy gruzovym dvorom stantsii Smolensk Moskovskoy dorogi (for Ananchenko). 4. Nachal'nik tovarnoy kontory stantsii Smolensk Moskovskoy dorogi (for Grishutin). 5. Zaveduyushchiy konteynernoy ploshchadkoy stantsii Smolensk Moskovskoy dorogi (for Ivanov). 6. Sekretar' partiynogo byuro stantsii Smolensk Moskovskoy dorogi (for Tarasenko). 7. Stantsiya Smolensk Moskovskoy dorogi (for Doronin, Romanov, Popova). 8. Upravlyayushchiy Smolenskim oblastnym avtotrestom (for Zhukov).
(Freight and freightage)

ACCESSION NR: AP4025104 S/0020/64/155/003/0499/0502

AUTHORS: Askerov, N. G.; Kreyn, S. G.; Laptev, G. I.

TITLE: One class of not self-adjoint boundary value problems

SOURCE: AN SSSR. Doklady*, v. 155, no. 3, 1964, 499-502

TOPIC TAGS: boundary value problem, differential equation, mathematical physics, differential operator, Hilbert space, scalar product, linear operator, Riesz theorem

ABSTRACT: A number of problems in mathematical physics can be reduced to homogeneous boundary value problems with one and the same parameter $\lambda$ in the differential equations and boundary conditions. In spite of the fact that with every fixed $\lambda$, the differential operator and boundary conditions are self-adjoint, the problem is very often not self-adjoint; the spectrum can be imaginary. The article is a general examination of one class of these problems. Suppose a linear operator A with an everywhere dense domain of definition D(A) is given in a separable Hilbert space H with a scalar product ( , ). Also suppose that two linear operators T and $\Gamma$, mapping D(A) into some other separable Hilbert space

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$H_1$ with scalar product $(\ ,\ )_1$, are defined on D(A). The operators A, T, and $\Gamma$ have the following properties: totality of the elements of D(A) satisfying the conditions $Tv = 0$ and $\Gamma v = 0$, dense in H; the restriction $A_0$ of the operator A to the set of all elements of D(A), for which $Tv = 0$, is a self-adjoint, positively defined operator having a completely continuous reciprocal; and the operator $\Gamma$ maps $D(A_0)$ into a set, dense in $H_1$, and is thus as completely continuous as the operator from the space $H_{1/2}$ into the space $H_1$. The Green formula

$$(Au, v) = A(u, v,) - (Tu, \Gamma v)_1$$

where A(u,v) is a bilinear function such that $A(u,u) \geq 0$, is valid. For each $\varphi \in H_1$ there exists a unique element $\omega \in N$ which satisfies the identity

$$(A_0^{1/2}w, A_0^{1/2}z) = (\varphi, \Gamma z)_1$$

for any $z \in D(A_0^{\frac{1}{2}})$. The equation

$$f = \lambda Pf + \frac{1}{\lambda} Qf,$$

was examined generally in the Hilbert space H. Here, $P$ is positive and $Q$ are non-negative completely continuous operators in H. It can

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ACCESSION NR: AP4025104

be immediately verified that equation (3), is equivalent to the system of equations $P^{1/2}BP^{1/2}g + P^{1/2}BQ^{1/2}h = \frac{1}{1+\lambda}g$,

$$-Q^{1/2}BP^{1/2}g + (I - Q^{1/2}BQ^{1/2})h = \frac{1}{1+\lambda}g,$$

where $g = P^{1/2}f$, $h = \frac{1}{\lambda}Q^{1/2}f$ и $B = (I + P + Q)^{-1}$.

All eigenvalues of equation (3) have a non-negative real part. If the condition

$$4\|P\|\|Q\| < 1,$$

is fulfilled, then all the eigenvalues are real. Starting with some number, all eigen values of the problem $Ay = \lambda y$, $\lambda Ty = \sigma Ty$ are real. If the condition

$$\sum \frac{1}{\mu_n} < \infty, \quad \sum \frac{\|\Gamma e_n\|^2}{\mu_n} < \infty,$$

is fulfilled, then the system $\{y_k^{(i)}\}$ of generalized and adjoint solutions of the problem $Ay = \lambda y$, $\lambda Ty = \sigma Ty$ is repeatedly complete. This becomes valid if the coefficient $\sigma$ is substituted by a restricted non-negative operator in $H_1$. Orig. art. has: 11 equations.

Card 3/4

LAPTEV, G.I., inzh.

Principles of volunteer participation in economics work.
Zhel. dor. transp. 46 no.1:65-67 Ja '64. (MIRA 17:8)

L 22701-66 EWT(d)/EWT(1) IJP(c) GG

ACC NR: AP6010540 SOURCE CODE: UR/0376/66/002/003/0382/0390

AUTHOR: Kreyn, S. G.; Laptev, G. I.

22
B

ORG: Voronezh State University (Voronezhskiy gosudarstvennyy universitet)

TITLE: Boundary-value problems for second-order differential equations in Banach space

SOURCE: Differentsial'nyy uravneniya, v. 2, no. 3, 1966, 382-390

TOPIC TAGS: second order differential equation, Banach space, boundary value problem

ABSTRACT: It is indicated that a series of problems in mathematical physics (theory of wave-guides, hydrodynamics, and others) can be considered as boundary-value problems for the second-order equation

$$\frac{d^2u}{dt^2} = Au - f(t) \quad (0 \leqslant t \leqslant T), \tag{1}$$

where u(t) is a function to be determined and f(t) is a given function of a complex Banach space E and A in a bounded linear operator. The solution u(t) is sought which satisfies the system of boundary conditions of the form

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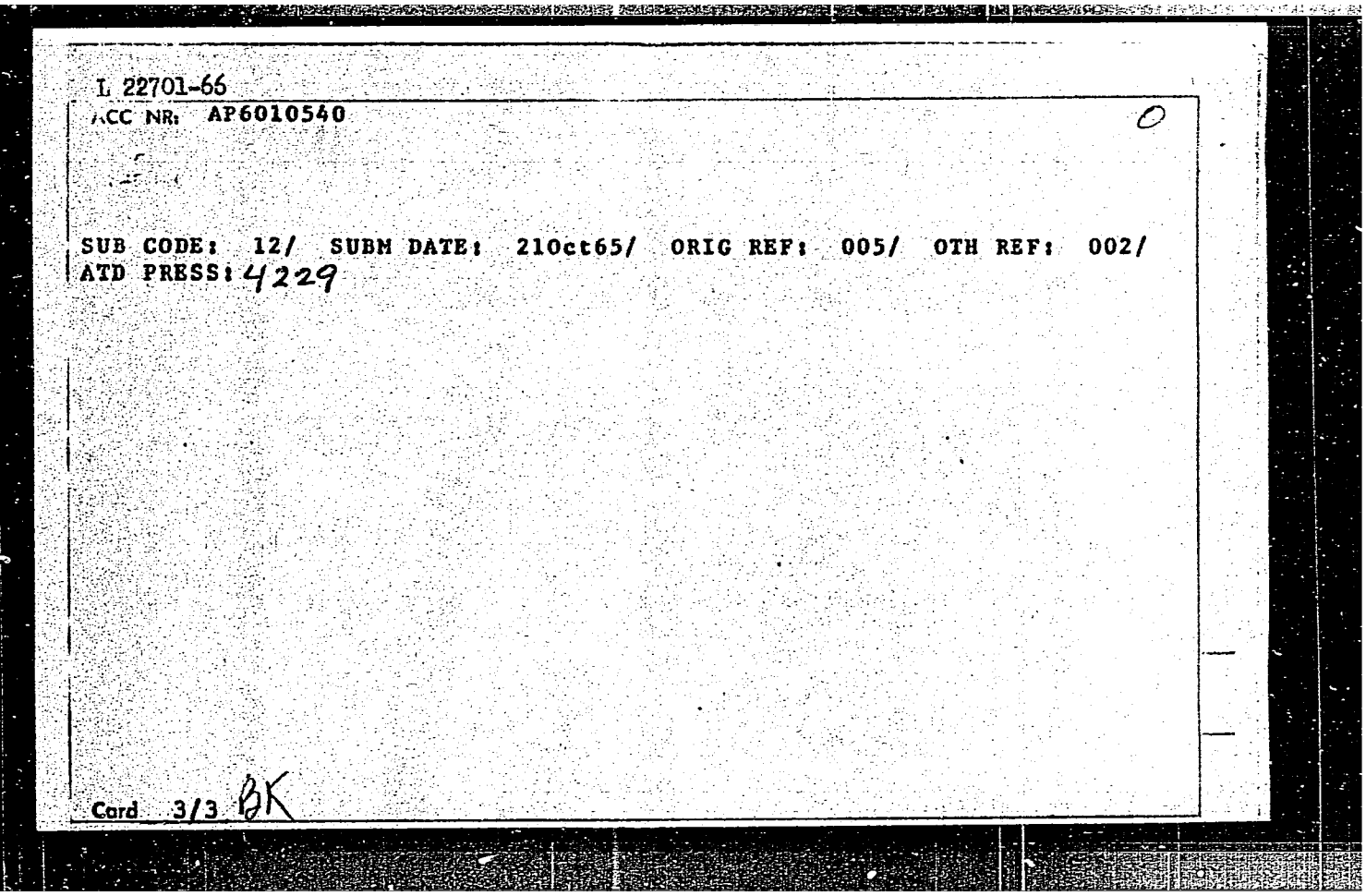
$$L_1(u) \equiv \alpha_{11} u_0 + \alpha_{12} u'_0 + \beta_{11} u_T + \beta_{12} u'_T = f_1;$$
$$L_2(u) \equiv \alpha_{21} u_0 + \alpha_{22} u'_0 + \beta_{21} u_T + \beta_{22} u'_T = f_2, \quad (2)$$

where $\alpha_{ij}$ and $\beta_{ij}$ (i, j = 1, 2) are complex numbers; $f_1$ and $f_2$ are certain functions of space E; and $u_0$, $u'_0$, $u_T$, and $u'_T$ are elements of u(0), u'(0), u(T), and u'(T), respectively. When f(t) satisfies the Holder condition, it is proven that the solution of (1) can be represented in the form

$$u(t) = U_1(t) g_1 + U_2(t) g_2 + \int_0^T U_0(t, \tau) f(\tau) d\tau \quad (3)$$

where $g_1$, $g_2 \in E$. By substituting (3) into equations (2), a system of two equations in $g_1$ and $g_2$ is obtained; it is shown that the problem of the existence and uniqueness of the generalized solution of the boundary-value problem for arbitrary $f_1$, $f_2$, f(t) depends on the solution of that system (on the characteristic determinant D) in space E. Conditions are derived under which a unique solution of the boundary-value problem exists and the integral formula of the solution is obtained. The adjoint boundary-value problem is formulated and its relation with the original problem is analyzed. The solution of the homogeneous boundary-value problem is also analyzed. Orig. art. has: 43 formulas. [LK]



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ACC NR: AP6010540 O

SUB CODE: 12/ SUBM DATE: 21Oct65/ ORIG REF: 005/ OTH REF: 002/
ATD PRESS: 4229

Card 3/3 BK

KHAL'FINA, M.V., red.; LAPTEV, I.A., red.; MOISEYEV, I.N., red.; ALEKSEYEV, A.G., tekhn. red.; IVANOVA, Z.V., tekhn. red.

[Hydrological yearbook] Gidrologicheskii ezhegodnik. Leningrad, Gidrometeoizdat. 1959. Vol.4.[Basin of the Caspian Sea; not including the Caucasus and Central Asia] Bassein Kaspiiskogo moria; bez Kavkaza i Srednei Azii. Nos.4, 8.[Kuybyshev Reservoir (basin of the Volga River below Cheboksary and the basin of the Kama River below the Vyatka River to the Volga Hydroelectric Power Station) and the basin of the Volga River below the Volga Hydroelectric Power Station] Kuibyshevskoe vodokhranilishche (bassein r. Volga nizhe g.Cheboksary i bassein r.Kama nizhe r.Viatka - do Volshskoi GES) i bassein r.Volga nizhe Volshskoi GES. Pod red. M.V.Khal'finoi, I.A.Lapteva. 1962. 165 p. (MIRA 16:5)

(Hydrology--Tables, calculations, etc.)

LAPTEV, Ivan Danilovich, 1900-

Kolkhoz system under the conditions of World War II (Moskva) Gospolitizdat, 1943.

1. Agriculture, Cooperative- Russia.
2. World War, 1939-1945- Russia.

LAPTEV, I.D.

[Power and vitality of the collective farm system] Sila i zhiznennost' kolkhoznogo stroya. Moskva, 1946. 21 p. (MIRA 12:1)
(Collective farms)

LAPTEV, I.D.; KARAVAYEV, kand.ekonom.nauk, red.

[I.V.Stalin as the creator of the collective farm system; stenographic record of a lecture delivered in the central hall of the society in Moscow] I.V.Stalin - tvorets kolkhoznoto stroia. Moskva, Vses. ob-vo po rasprostraneniiu polit. i nauch.znanii, 1950. 39 p. (MIRA 12:9)
(Stalin, Iosif Vissarionovich, 1879-1953) (Collective farms)

LAPTEV, I. (D.)

1. LAPTEV, I.

2b. USSR

4. Economist - Agriculturalist

7. "The Liquidation of the Opposition Between Town and Country," Socialist Agriculture, October 1951 (over 123,000 collective farms; indicates merger campaign is over)

D-324

LAPTEV, Ivan Danilovich, 1900- ed.

Problems of Kolkhoz organization in the USSR; collection of articles (Moskva) Gos. izd-vo polit. lit-ry, 1951. 487 p. (51-36878)

HD1992.L35

1. Agriculture - Economic aspects - Russia.

1. LAPTEV, I. D.

2. USSR 600

4. Russia - Social Conditions

7. Doing away with the contrast between town and village in the U. S. S. R. and methods of accomplishing it, Latv. PSR Zin. Akad, Vestis, No. 11, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

LAPTEV, I. D., D'YACHENKO, V. I.
KARAVAYEV, A. A.

Collective Farms

"Problems in the development of the collective farms in the U.S.S.R." Reviewed by Ya. Lovkov Sots. sel'khoz, 23, No. 1, 1952.

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

LAPTEV, I.

"The Retail Consumers' Cooperatives in the Soviet Union." p.4
(NARODNA KOOPERATSIIA No. 5, May 1953 Sofiya, Bulgaria)

SO: Monthly List of East European Accessions, Library of Congress, Vol. 2, No. 9, Oct. 1953, Uncl.

LAPTEV, I.
"Machine-tractor station, industrial basis of the collective farm system" (p. 31)
"On the Sverdlov Collective Farm" (p. 34)
"Veterinary service in the Soviet Union" (p. 37)
"Distribution of state land to collective farmers and poor peasants in the People's Republic of Rumania (p. 38)
"Constant improvement of the standard of living of Albanian agricultural workers" (p. 39)
KOOPERATIVNO ZEMEDELIE
(Ministerstvo na zemedelieto) Sofiya Vol 8 No 9 1953

SO: East European Accessions List Vol 2 No 7 Aug 1954

LAPTEV, Ivan Danilovich, 1900-

Combining individual interests with those of the community on collective farms; lecture Moskva Gos. izd-vo polit. lit-ry, 1954. 19 P. (V pomoshch' rabotnikam pechati) (54-44211)

HD1491.R9L362

LAPTEV, I. D., KUZ'MINOV, I. I., GATOVSKIY, L. M., SHEPILOV, D. T., LEONT'YEV, L. A., and OSTROVITYANOV, K. V.

"Political Economy," textbook, State Publishing House of Political Leterature, Moscow, 1954

LAPTEV, I.D.

AVRAAMOVA,A.A.; ALAMPIYEV,P.M.; BADIR'YAN,G.G.; BORODIN,I.A.; VASYUTIN, V.P.; GUBER,A.A.; GURARI,Ye.L.; DANILOV,A.D.; DEREVYANKO,P.A.; YELSUKOV,M.P.; KOLOSKOV,P.I.; LAPTEV,I.D.; LEONT'YEV,N.F.; PECHNIKOV,A.M.; PROKHOROV,A.I.; RUDENKO,N.A.; CHERDANTSEV,G.N.; YAKIMOV,A.T.

P.V.Pogorel'skii; Obituary. Izv.AN SSSR. Ser.geog. no.3:94-95 My-Je '55. (MLRA 8:9)

(Pogorel'skii, P.V., 1899-1955)

LAPTEV, Ivan Danilovich ED

Epp.
.R92423

Za rentabel'nuyu rabotu sovkhozov (For profitable work of State farms) Moskva, Izd-vo Ministerstva Sovkhozov SSSR, 1956.
108 p. illus., tables.

HHB

KOZ'YAKOV, N.I.; SHIFRIN, S.S.; LAPTEV, I.D., red.; GOL'DBERG, M.L., red.; VESKOVA, Ye.I., tekhn.red.

[For the highly profitable operation of each state farm] Za vysokodokhodnuiu rabotu kazhdogo sovkhoza. Moskva, Gos. izd-vo sel'khoz.lit-ry, 1956. 278 p. (MIRA 13:1)

1. Deystvitel'nyy chlen Vsesoyuznoy Akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Laptev).
(State farms)

KOLESNEV, S.G., akademik, red.; LAPTEV, I.D., red.; LOZA, G.M., prof., red.; MEL'NIKOV, V.F., kand.ekon.nauk, red.; MOISEYEV, M.I., red.; IVANOVA, A., red.; SMIRNOVA, Ye., tekhn.red.; PEVZNER, V., tekhn.red.

[Triumphs of socialist agriculture in the U.S.S.R.] Pobedy sotsialisticheskogo sel'skogo khoziaistva SSSR. Moskva, Gos.izd-vo sel'khoz. lit-ry, 1958. 430 p. (MIRA 11:12)

1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im.V.I. Lenina (for Kolesnev). 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im.V.I.Lenina (for Moiseyev).
(Agriculture)

SOV/30-58-6-2/45

AUTHOR: Laptev, I. D., Member, Academy of Sciences, VASKhNIL

TITLE: Important Problems of the Development of Kolkhoz System (Vazhnyye voprosy razvitiya kolkhoznogo stroya)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 6, pp. 16 - 27 (USSR)

ABSTRACT: The Kolkhoz property originated and increased on the basis of national and general public property. The Socialist State offered great material-technical, financial- and organizational help for the creation of the Kolkhoz system. The farmers received ground for nothing by distributing large massifs of fertile soil to the Kolkhozes, this being confirmed by charter without charging a rent for the revenue. The Kolkhoz cadres were trained at the expense of the state. Ten thousands of skilled workers were sent by the party from the cities to the Kolkhozes. The National Machine- and Tractor Stations played a historical part in the creation of the Kolkhoz production. Their reorganization was carried out on the basis of the changes which took place in the economics of agriculture. The enlargement of the Kolkhozes

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Important Problems of the Development of Kolkhoz System

began in the years 1950 to 1951. In 1949, 557 ha fell to each Kolkhoz on the average, in 1957 already 1954 ha. Many Kolkhozes in the South and East of the country have from 5 000 to 10 000 ha of arable land. The average net proceeds also amounted to 111 000 Roubles in 1949 - and to 1 247 000 Roubles in 1957. The level of the social revenues of the Kolkhozes has increased at present to such an extent that they are able to purchase the technical equipment of the MTS. The Kolkhoz property belongs to the Kolkhoz farmers, except the indivisible funds which represent a sort of working capital and which must not be distributed amongst the Kolkhoz farmers. In 1932, their total sum amounted to 47 billion and in 1957 to 98,6 billion Roubles. The Kolkhoz property cannot be identified with the general public property. The main difference between Kolkhozes and Public Properties consists in the socialization of production, in the form of the paying for work and in the level of organization of production, as well as in the culture of agriculture. The further development of the Kolkhoz property requires the creation of qualified cadres of mechanizators, agronomists and zoologists. The part played by the Lower Grade Polytechnic-

al School is of decisive importance here. Special importance is also attached to the housing and cultural problems in the villages. The economical interactions between town and village will change radically. Now the problem of the form of the realization of the goods-production effected by the Kolkhozes, arises. Up till now it has been very manifold. The introduction of standard prices is required, in which case the different conditions of production must be taken into account. The great changes taking place in agriculture at present face Soviet economics with great problems: Further increase of the efficiency of labor effected by the Kolkhozes and Sovkhozes as principal resource of the abundance of agricultural products and a decrease in the cost of production. Progressive forms of labor payment which connect the amount of pay with the level of the production cost, as well as with the profitableness, must also be developed. There are 2 references, which are Soviet.

Important Problems of the Development of Kolkhoz System SOV30-58-6-2/45

1. Social sciences--USSR 2. Agriculture--USSR

Card 4/4

OSTROVITYANOV, K.V., akademik; LEONT'YEV, L.A.; LAPTEV, I.D.; GATOVSKIY, L.M., doktor ekonom.nauk; KUZ'MINOV, I.I., doktor ekonom.nauk. Prinimal uchastiye STAROVSKIY, V.N.. RABINOVICH, M., red.; DANILINA, A., tekhn.red.

[Political economy; textbook] Politicheskaia ekonomiia; uchebnik. Izd.3, perer. i dop. Moskva, Gos.izd-vo polit.lit-ry, 1959. 707 p. (MIRA 12:10)

1. Akademiya nauk SSSR. Institut ekonomiki. 2. Chleny-korrespondenty Akademii nauk SSSR (for Leont'yev, Starovskiy). 3. Deystvitel'nyy chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I. Lenina (for Laptev).

(Economics)

KHALTURIN, Vasiliy Vasil'yevich; LAPTEV, I.D., akademik, red.; LEONOVA, T.S., red.; NAZAROVA, A.S., tekhn. red.

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1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Laptev).

(Agriculture—Finance)

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[Communal funds of collective farms and the distribution of collective farm income] Obshchestvennye fondy kolkhozov i raspredelenie kolkhoznykh dokhodov. Moskva, Izd-vo ekon. lit-ry, 1961. 386 p. (MIRA 15:3)

1. Akademiya nauk SSSR. Institut ekonomiki. 2. Sektor ekonomiki sel'skogo khozyaystva Instituta ekonomiki Akademii nauk SSSR (for Laptev, Buyanov, Kassirov, Teryayeva, Suvorova, Sidorova, Semin).

(Collective farms—Income distribution)

LAPTEV, I.D.; TERYAYEVA, A.P.; SAPIL'NIKOV, N.G.; CHENTSOV, R.Ye. [deceased]; SEPP, Ya.P.; SUVOROVA, L.I.; ZASLAVSKAYA, T.I.; GREKOVA, A.I.; TONKOVICH, V.S.; IBRAGIMOV, A.I.; KOTSYUBA, T.Ya.; KURYLEV, V.M.; KOVALEVSKIY, G.T.; KALNYNSH, A.A. [Kalnins, A.]; SIDOROVA, M.I.; MALISHAUSKAS, V.I. [Malisauskas, V.]; PASECHNIK, P.P.; BUGAREVICH, V.S.; KARNAUKHOVA, Ye.I.; AREF'YEV, T.I.; KAZAKOV, I.G.; GUMOVSKIY, I.A.; SEMIN, S.I., red.; LINKUNA, N.I., red.; TSITKO, I.A., red.; VOLKOVA, V.V., tekhn. red.

[Material incentives for developing the collective farm production] Material'noe stimulirovanie razvitiia kolkhoznogo proizvodstva. Moskva, Izd-vo AN SSSR, 1963. 326 p. (MIRA 16:12)

1. Akademiya nauk SSSR. Institut ekonomiki. 2. Institut ekonomiki AN SSSR (for Laptev, Teryayeva, Suvorova, Zaslavskaya, Sidorova, Karnaukhova). 3. Sredneaziatskiy gosudarstvennyy universitet (for Sapil'nikov). 4. Komi filial AN SSSR (for Chentsov). 5. Institut ekonomiki AN Estonskoy SSR (for Sepp). 6. Bashkirskiy filial AN SSSR (for Grekova). 7. Institut ekonomiki AN Belorusskoy SSR (for Tonkovich, Kovalevskiy). 8. Institut ekonomiki AN Uzbekskoy SSR (for Ibragimov).

(Continued on next card)

ACCESSION NR: AT4005967 S/2755/63/000/004/0160/0174

AUTHOR: Dashkovskiy, A. I.; Rozenov, A. N.; By*chkov, Yu. F.; Laptev, I. D.

TITLE: Rupture strength and internal friction of SAP alloys and effect of thermal cycles on their properties

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chisty*kh metallov, no. 4, 1963, 160-174

TOPIC TAGS: SAP alloy, SAP-1 alloy, SAP-2 alloy, SAP alloy property, SAP alloy heat resistance, SAP alloy internal friction, SAP alloy bar, SAP alloy sheet

ABSTRACT: The effect of cyclic temperature changes on the properties of SAP-1 and SAP-2 alloys containing $Al_2O_3$ and Fe and of commercial grade aluminum have been investigated. The average changes in temperature for sheet specimens were 100 degrees per minute during heating and 1000 degrees per second during water quenching. For rod specimens the corresponding values were 60 degrees per minute during heating and 600 degrees per second during hardening. The exposure time at the maximum temperature of the cycle was 10-40 minutes. From 550 C on up cyclic thermal treatment markedly shortened the lengths of the specimens and increased their cross sections at the maximum temperature of the cycle. As a result of

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ACCESSION NR: AT4005967

this treatment, the SAP alloys became increasingly brittle. Also, the rupture strength and ductility decreased. In the temperature interval up to 500 C the properties of the alloys remained stable. The SAP alloy sheet, which was rolled from briquets sintered in a vacuum at 700 C for two hours, showed higher ductility and a lower rupture strength than standard SAP and did not develop blisters even during thermal treatment up to 600 C. SAP-1 of the standard type has a higher heat resistance than other alloys. The prolonged stress rupture strength (up to 100 hours) was determined to be 5.5-7.5 kg/mm$^2$ at 375 C and 4.0-6.5 kg/mm$^2$ at 450 C. SAP-1 with a fine grain structure in the unrecrystallized state shows maximal internal friction. The location on the temperature curve depends on the size of the grain and the content of the secondary, finely dispersed, phase of $Al_2O_3$ in the aluminum. Orig. art. has: 4 tables and 9 figures.

ASSOCIATION: Inzhenerno-fizicheskiy institut, Moscow (Institute of Engineering Physics)

SUBMITTED: 00 DATE ACQ: 17Jan64 ENCL: 00

SUB CODE: MA, ML NO REF SOV: 006 OTHER: 002

Card 2/2

L 40013-65 EWG(j)/EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EWA(d)/EPR/EWP(j)/EWP(t)/EWP(z)/EWP(b) Pc-4/Pr-4/Ps-4/Pu-4 LJP(c) RM/WW/MJW/JD/JG/WB/GS

ACCESSION NR: AT5007906 S/0000/64/000/000/0151/0163

67 62 13+1

AUTHOR: Bychkov, Yu. F.; Laptev, I. D.; Rozanov, A. N.

TITLE: The corrosive effect of biphenyl on metals and oxides 18 27

SOURCE: Moscow. Institut atomnoy energii. Issledovaniya po primeneniyu organicheskikh teplonositeley-zamedliteleyv energeticheskikh reaktorakh (Research on the use of organic heat-transfer agents and moderators in power reactors). Moscow, Atomizdat, 1964, 151-163

TOPIC TAGS: organic reactor coolant, uranium, power reactor, thermal reactor, nuclear power plant, heat transfer agent, biphenyl, reactor corrosion, uranium alloy, aluminum alloy, molybdenum alloy, hydride corrosion 18 27 27 27 27

ABSTRACT: The authors investigated the transformations which can occur with reactor materials exposed to biphenyl and evaluated the effect of such factors as the presence of admixtures and the degree of pyrolytic decomposition. The hydride mechanism of corrosion was investigated first with respect to uranium and its alloys with molybdenum. The corrosion tests with biphenyl were carried out in containers made of 1Kh18N9T stainless steel. After evacuating the containers with the specimens, they were pressurized in an arc furnace in an atmosphere of pure argon. The changes undergone by a variety of metals, alloys and oxides are

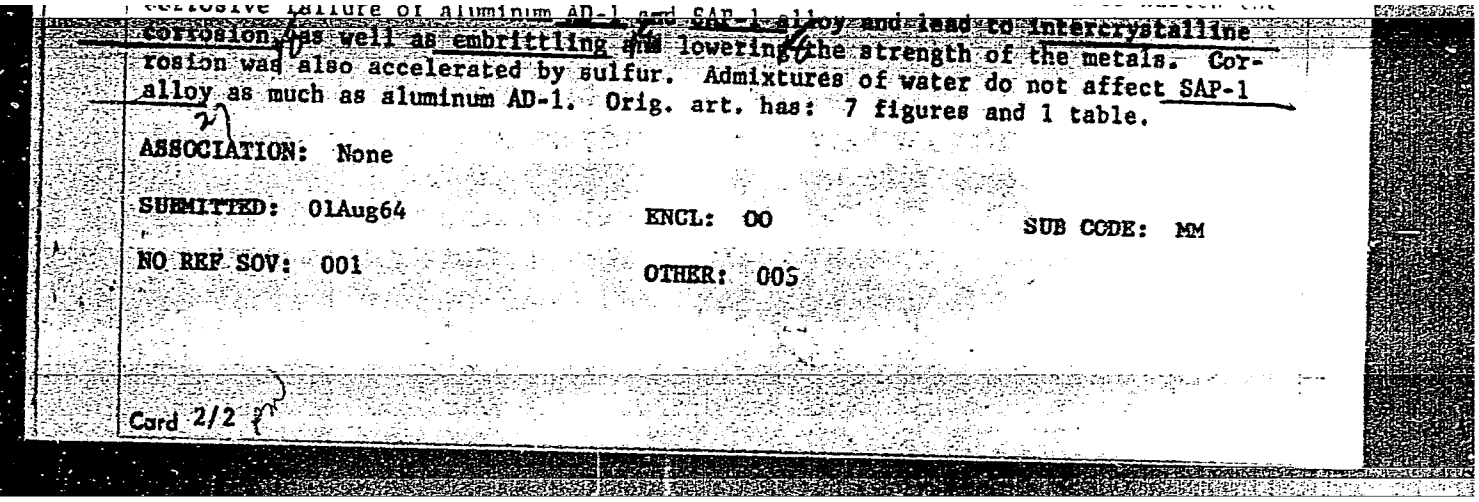
Card 1/2

L 40013-65

ACCESSION NR: AT5007906

5

tabulated. The authors also investigated the effect of admixtures of water (0.0004-0.7 wt.%) and sulfur (1-3 wt.%) to biphenyl on its corrosive properties. The results indicate that metals and oxides are subject to the following types of transformations in biphenyl: reduction of oxides and hydroxides to the metal or another oxide; formation of hydrides; formation of carbides; and oxidation. Admixture of water to biphenyl in amounts greater than 0.2% was shown to hasten the corrosive failure of aluminum AD-1 and SAP-1 alloy and lead to intercrystalline corrosion, as well as embrittling and lowering the strength of the metals.



corrosion as well as embrittling and lowering the strength of the metals. Corrosion was also accelerated by sulfur. Admixtures of water do not affect SAP-1 alloy as much as aluminum AD-1. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 01Aug64 ENCL: 00 SUB CODE: MM

NO REF SOV: 001 OTHER: 005

Card 2/2

L 09506-67 EWT(m)/EWP(w)/EWP(j)/EWP(t)/ETI IJP(c) JD/WB/JM

ACC NR: AT6023744 SOURCE CODE: UR/2755/66/000/005/0199/0203

AUTHOR: Bychkov, Yu. F.; Laptev, I. D.; Rozanov, A. N. 44 43 24 1

ORG: none

TITLE: Unit for dynamic tests of metals and alloys in organic heat transfer media at high pressures and temperatures 14

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Metallurgiya i metallovedeniye chistykh metallov, no. 5, 1966, 199-203

TOPIC TAGS: corrosion rate, heat transfer fluid

ABSTRACT: The article gives details of a unit permitting corrosion tests of metals and alloys in organic heat transfer media at temperatures up to 400-450°C, pressures up to 50 atm, and calculated velocities from 1.4 to 5.7 meters/sec. (See Fig. 1)

Card 1/3

L 09506-67
ACC NR: AT6023744

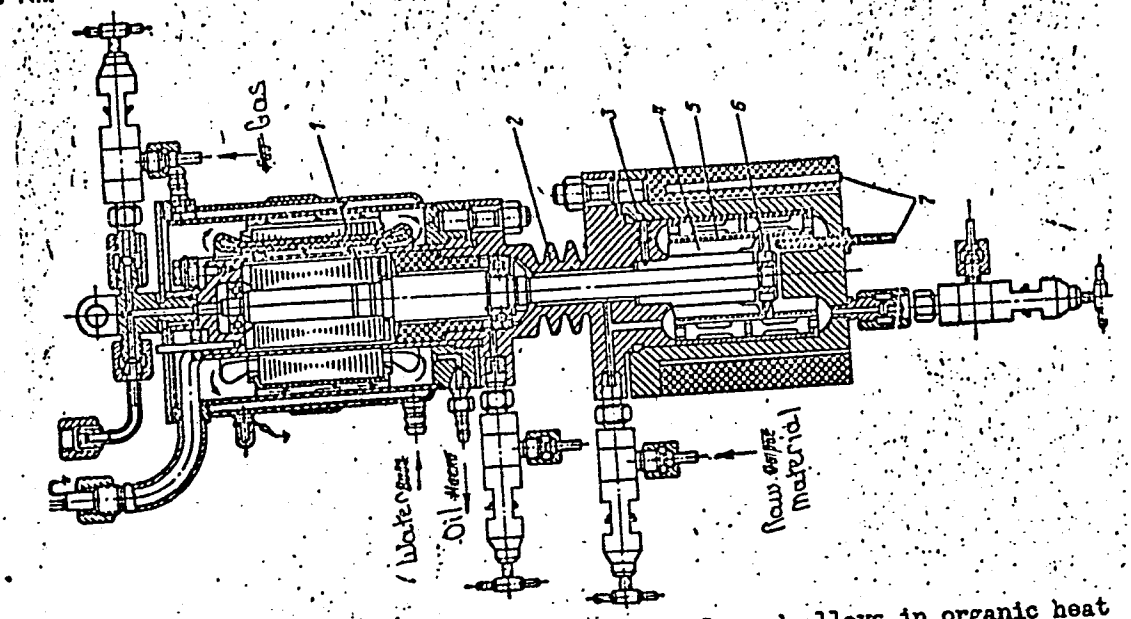



Fig. 1. Scheme of a unit for dynamic tests of metals and alloys in organic heat transfer media at high pressures and temperatures: 1—drive; 2—throat; 3—autoclave; 4—directional apparatus; 5—cell; 6—screw; 7— thermocouple housing

Card 2/3

L 09506-67
ACC NR: AT6023744

The unit pictured has been used successfully under the following experimental conditions: temperature--320°C; pressure 8 atm; organic heat transfer medium--monoisopropyldiphenyl with 0.1% water; duration of operation--500 hours. Orig. art. has: 4 figures.

SUB CODE: 11, 20/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

Card 3/3 LC

TOMAKOV, Andrey Aleksandrovich; DRUZHININ, V.V., kand. tekhn. nauk, retsenzent; PEREGUDOV, V.N., inzh., retsenzent; YEGOROV, S.A., nauchn. red.; OSVENSKAYA, A.A., red.

[Submarine transport boats] Podvodnye transportnye suda. Leningrad, Sudostroenie, 1965. 266 p. (MIRA 18:3)

LAPTEV, G.I., inzh.

Railroad transportation at the Exhibition of Achievements of the Soviet National Economy. Zhel.dor.transp. 41 no.8: 65-66 Ag '59. (MIRA 12:12)
(Railroads--Exhibitions)

LAPTEV, G.I., inzh.

Valuable experience of the Antratsit Station personnel ("Operation practices of the Antratsit Station" by S.T. Degterev. Reviewed by G.I. Laptev). Zhel. dor. transp. 43 no. 1:95 Ja '61. (MIRA 14:4)
(Antratsit--Railroads--Station service)
(Degterev, S.T.)

41331
S/020/62/146/003/002/019
B172/B186

16.4500

AUTHORS: Kreyn, S. G., Laptev, G. I.

TITLE: Boundary value problems for an equation in a Hilbert space

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 3, 1962, 535-538.

TEXT: The differential equation

$$d^2u/dt^2 - Au + \lambda B(t)u = 0$$

with the boundary conditions

$$\alpha_{11}u(0) + \alpha_{12}u'(0) + \beta_{11}u(T) + \beta_{12}u'(T) = 0$$

$$\alpha_{21}u(0) + \alpha_{22}u'(0) + \beta_{21}u(T) + \beta_{22}u'(T) = 0$$

is considered for $0 \leq t \leq T$, where the values of the desired function $u(t)$ are elements of a Hilbert space H whilst A and B are self-adjoint, positive definite operators in H. $A^{-1}$ is required to be completely continuous, and B bounded with sufficiently smooth dependence on t; $\lambda$ is a parameter. The differential equation, together with the boundary conditions,

Card 1/3

Boundary value problems for an...

are reduced to the integral equation

$$y(t) = \lambda \int_0^T B^{1/2}(t)R(t,\tau)B^{1/2}(\tau)y(\tau)d\tau$$

where $y(t) = B^{1/2}(t)u(t)$, and $R(t,\tau)$ is a function of the operator A. Thereupon the following theorem is proved: if the boundary conditions are self-adjoint and $\lambda$ is no eigenvalue, then the boundary value problem under consideration can be reduced to the eigenvalue problem of a completely continuous self-adjoint operator in the Hilbert space $L_2(H,[0,T])$. This theorem is applied to the problem

$$\frac{\partial^2 u}{\partial x_1^2} + \ldots + \frac{\partial^2 u}{\partial x_n^2} + \omega^2/c^2(x_1,\ldots,x_n)u = 0,$$

$$u(T,x_2,\ldots,x_n) = \varrho u(0,x_2,\ldots,x_n),$$

$$u'_{x_1}(T,x_2,\ldots,x_n) = \varrho u'_{x_1}(0,x_2,\ldots,x_n)$$

Card 2/3

Boundary value problems for an...

are reduced to the integral equation

$$y(t) = \lambda \int_0^T B^{1/2}(t)R(t,\tau)B^{1/2}(\tau)y(\tau)d\tau$$

where $y(t) = B^{1/2}(t)u(t)$, and $R(t,\tau)$ is a function of the operator A. Thereupon the following theorem is proved: if the boundary conditions are self-adjoint and $\lambda$ is no eigenvalue, then the boundary value problem under consideration can be reduced to the eigenvalue problem of a completely continuous self-adjoint operator in the Hilbert space $L_2(H,[0,T])$. This theorem is applied to the problem

$$\frac{\partial^2 u}{\partial x_1^2} + \ldots + \frac{\partial^2 u}{\partial x_n^2} + \omega^2/c^2(x_1,\ldots,x_n)u = 0$$

$$u(T,x_2,\ldots,x_n) = \varrho u(0,x_2,\ldots,x_n),$$

$$u'_{x_1}(T,x_2,\ldots,x_n) = \varrho u'_{x_1}(0,x_2,\ldots,x_n)$$

Card 2/3

Boundary value problems for an...

which occurs in the theory of cylindrical waveguides. Hence it follows that if this problem has a solution for a definite $\varrho$ at a real $\lambda$, then it also has a solution for $1/\bar{\varrho}$ at the same $\lambda$. Up to now this statement has been only hypothetical.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

PRESENTED: April 13, 1962, by I. G. Petrovskiy, Academician

SUBMITTED: April 9, 1962

Card 3/3

KREYN, S.G.; LAPTEV, G.I.

Boundary value problems for an equation in Hilbert space. Dokl. AN SSSR 146 no.3:535-538 S '62. (MIRA 15:10)

1. Voronezhskiy gosudarstvennyy universitet. Predstavleno akademikom I.G.Petrovskim.
(Hilbert space) (Boundary value spaces) (Differential equations)

LAPTEV, I.I., inzh.

Adjustment of RVK-1 code units. Avtom.telem.i sviaz' 3 no.10:32-33 O '59. (MIRA 13:2)

1. Kontrol'no-ispytatel'nyy punkt stantsii Tikhoretskaya Severo-Kavkazskoy dorogi.
(Electric relays) (Railroads--Electronic equipment)

LAPTEV I.I.

PHASE I BOOK EXPLOITATION SOV/5533

Akademiya nauk SSSR. Institut elektromekhaniki.

Spetsial'nyye voprosy avtomatizirovannogo elektroprivoda (Special Problems of the Automatic Electric Drive) Moscow, Izd-vo AN SSSR, 1961. 248 p. Errata slip inserted. 6,500 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut elektromekhaniki.

Eds. (Title page): D.A. Zavalishin, Corresponding Member, Academy of Sciences USSR, and V.V. Rudakov, Candidate of Technical Sciences; Ed. of Publishing House: N.V. Travin; Tech. Ed.: R.A. Arons.

PURPOSE: This book is intended for technical personnel engaged in designing or operating regulated and automated electric drives for machines and mechanisms. It may also be useful to students in advanced courses working on term and degree projects.

Card 1/9

COVERAGE: The book discusses the principles of operation and the methods of computation of regulated drives with a-c and d-c motors. Special attention is paid to problems related to the frequency method of induction motor control, which the authors consider the most promising. Recommendations regarding the use of a-c commutator motors and induction motors with special winding and improved starting characteristics are made. A considerable part of the book is devoted to problems of design and calculation of the control circuits for automated d-c drives, and to methods of investigating dynamic characteristics of d-c drive systems by means of electronic and electrodynamic models. Recent developments in regulated d-c drives and modern methods of analyzing and synthesizing automated d-c systems, based on investigations carried out by the Institut elektromekhaniki AN SSSR (Institute of Electromechanics AS USSR), are discussed in detail. The book was written by the following persons: A. A. Dartau (Chs. II and III), D. A. Zavalishin (Introduction, sections 1, 4, 5, and 6 of Ch. I, and Ch. II); S. V. Korotkov (Ch. VI, sec. 3);

I. I. Laptev (sections 4 and 5 of Ch. V); O. V. Popov (Ch. IV; sections 2, 4, and 5 of Ch. V, and sec. 3 of Ch. VI, ); V. A. Prozorov (sections 1, 2, and 3 of Ch. I.); V. V. Rudakov (Introduction, sec. 1 of Ch. V, sections 1 and 4 of Ch. VI); V. V. Semenov ( sec. 3 of Ch. V); Ye. M. Smirnov (sec. 2 of Ch. VI); E. F. Stepura ( sec. 3 of Ch. V); A. V. Fateyev (Introduction). There are 69 references: 59 Soviet, 7 German, 2 English, and 1 French.

TABLE OF CONTENTS:

LAPTEV, I.I.

7

PHASE I BOOK EXPLOITATION SOV/5533

Akademiya nauk SSSR. Institut elektromekhaniki.

Spetsial'nyye voprosy avtomatizirovannogo elektroprivoda (Special Problems of the Automatic Electric Drive) Moscow, Izd-vo AN SSSR, 1961. 248 p. Errata slip inserted. 6,500 copies printed.

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Eds. (Title page): D.A. Zavalishin, Corresponding Member, Academy of Sciences USSR, and V.V. Rudakov, Candidate of Technical Sciences; Ed. of Publishing House: N.V. Travin; Tech. Ed.: R.A. Arons.

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Special Problems of (Cont.) SOV/5533

I. I. Laptev (sections 4 and 5 of Ch. V); O. V. Popov (Ch. IV; sections 2, 4, and 5 of Ch. V, and sec. 3 of Ch. VI, ); V. A. Prozorov (sections 1, 2, and 3 of Ch. I.); V. V. Rudakov (Introduction, sec. 1 of Ch. V, sections 1 and 4 of Ch. VI); V. V. Semenov ( sec. 3 of Ch. V); Ye. M. Smirnov (sec. 2 of Ch. VI); E. F. Stepura ( sec. 3 of Ch. V); A. V. Fateyev (Introduction). There are 69 references: 59 Soviet, 7 German, 2 English, and 1 French.

TABLE OF CONTENTS:

Special Problems of (Cont.) SOV/5533

LAPTEV, I. P.

"Problems of Combining the Waters of the Yenisey, Ob', Aral, and Caspian and the Possible Influence Upon the Fauna of Land Vertebrates in the Taiga Zone of Western Siberia"
Vopr. Geografii Sibiri, No 3, 249-258, 1953

On the analogy of changes undergone in the land vertebrates in the regions of the Ryba watershed and Moscow Sea, the author considers the possible changes of such fauna in Western Siberia in connection with the realization of the planned hydroelectric and other constructions. He notes the problems arising in connection with such a scientific research operation. (RZhGeol, No 3, 1954)

SO: W-31187, 8 Mar 55

LAPTEV, I.P.

LAPTEV, I.P.

Distribution of some mammals in Western Siberia. Zam. po faune i flore Sib. no.18:3-6 '55. (MIRA 11:1)

1. Kafedra zoologii pozvonochnykh Tomskogo gosudarstvennogo universiteta im. V.V. Kuybysheva.
(Siberia, Western--Mammals)

LAPTEV, I.P.

LAPTEV, I.P.

Survey of works by zoologists of the West Siberian Branch of the Academy of Sciences of the U.S.S.R. Published from 1944 through 1955. Zam. po faune i flore Sib. no.18:93-94 '55. (MIRA 11:1)
(Siberia, Western--Zoology)

LAPTEV, I.P.

[Mamals of the taiga zone of Western Siberia] Mlekopitaiushchie taezhnoi zony Zapadnoi Sibiri. Tomsk, Izd-vo Tomskogo univ., 1958. 284 p. (MIRA 13:3)
(Siberia, Western--Mammals)

LOGANZEN, B.G.; KRYZHANOVSKAYA, V.V.; LAPTEV, I.P.; POSPELOVA, V.M.; TITOVA, S.D.

Zoological research in Western Siberia during the years of Soviet rule. Izv. Sib. otd. AN SSSR no.6:116-125 '58. (MIRA 11:9)

1.Tomskiy gosudarstvennyy universitet.
(Siberia, Western--Zoological research)

LAPTEV, Innokentiy Prokop'yevich, for Doctor of Biological Sciences on the basis of dissertation defended 25 Feb 59 in Council of the Tomsk State University im. Kuybyshev, entitled: "Mammal Fauna of the Tayga Zone of Western Siberia and its transformation." (BMViSSO USSR, 2-61, 25)

KL, 12 1959 p. 127

LAPTEV, I.P.

Teaching conservation problems at Tomsk University. Okhr. prir. Sib. i Dal'. Vost. no.1:233-236 '62.

Tomsk section of the All-Russian Society of Conservation. Ibid.:239-240 (MIRA 17:5)

IOGANZEN, B.G.; LAPTEV, I.P.; POSPELOVA, V.M.; SLAVINA, T.P.; ARKHIPOVA, N.P.; BELOV, M.I.; BURCHAK-ABRAMOVICH, N.I.

Book reviews. Izv. Vses. geog. ob-va 96 no.6:528-534 N-D '64 (MIRA 18:1)

LAPTEV, I.V.

Organization of general dispensary service at the Kriushin rural medical center. Med. sestra no.11:24-26 N '54. (MLRA 7:12)

1. Glavnyy vrach Kriushinskoy uchastkovoy bol'nitsy, Arzamasskaya oblast'.
(CLINICS
dispensary serv. in Russia, rural area)

LAPTEV, I.V.

Organization of dispensary service for the population in rural medical districts. Sov.med.19 no.7:76-79 Jl '55.(MLRA 8:10)

1. Glavnyy vrach Kriushinskoy uchastkovoy bol'nitsy Voznesenskogo rayona Arzamasskoy oblasti.
(PUBLIC HEALTH,
in Russia, med.serv.to rural population)
(RURAL CONDITIONS
same)

LAPTEV, K.P., inzhener.

Attachment for a fanning mill. Masl.-zhir. prom. 23 no.4:33 '57. (MLRA 10:5)

1. Chernovitskiy maslozhirkombinat.
(Oil industries--Equipment and supplies)

Laptev, M.

AID P - 2051

Subject : USSR/Aeronautics

Card 1/1 Pub. 58 - 10/17

Author : Laptev, M.

Title : Parachute jumping in Khabarovsk

Periodical: Kryl. rod., 4, 17, Ap 1955

Abstract : The author gives a brief description of parachute jumping facilities in Khabarovsk. Photo of a 47 m. tower is given. Several names are mentioned. Photos.

Institution: DOSAAF

Submitted : No date

L 16036-66 EWT(m)/EWP(j) RM

ACC NR: AP5023878 (A) SOURCE CODE: UR/0329/65/000/008/0003/0006

AUTHOR: Ivanov, S. N. (Dr. of Technical Sciences); Laptev, L. N. (Engr.) 37 B

ORG: Leningrad Academy of Wood Technology im. S. M. Kirov (Leningradskaya lesotekhnicheskaya akademiya im. S. M. Kirova) 15,44

TITLE: Influence of humidity on the mechanical properties of paper

SOURCE: Bumazhnaya promyshlennost', no. 8, 1965, 3-6

TOPIC TAGS: paper industry, moisture measurement, solid mechanical property, tensile strength

ABSTRACT: The influence of humidity on the folding endurance of papers was investigated in the Pulp-Paper Production Laboratory of the Leningrad Academy of Wood Technology imeni Kirov. Samples of laboratory production paper were conditioned for four days in dryers at an air humidity of 5, 15, 35, 65, and 95%, up to a constant balanced humidity. After this the tensile strength, the folding

UDC: 676.017

Card 1/4

L 16036-66

ACC NR: AP5023878

endurance, and the tear factor were determined at the same rate of humidity, or very near to it. The table shows the results.

1. Pulp; 2. degree of beating, Shopper Riegler; 3. folding endurance at air humidity, %; 4. sulfite unbleached; 5. bleached 6. sulfate unbleached; 7. bleached

| 1 Целлюлоза | 2 Степень размола, °ШР | 3 Сопротивление излому при относительной влажности воздуха, % | | | | | |
|---|---|---|---|---|---|---|---|
| | | 5 | 15 | 35 | 65 | 85 | 95 |
| Сульфитная: | | | | | | | |
| 4 небеленая | 15 | 3 | 3 | 2,5 | 2 | 1 | 1 |
| | 25 | 28 | 25 | 19 | 18 | — | 12 |
| | 35 | 24 | 33 | 34 | 78 | 54 | 14 |
| | 50 | 69 | 105 | 212 | 255 | 201 | 143 |
| 5 беленая | 15 | 2,5 | 2 | 2 | 1 | 1 | 1 |
| | 25 | 25 | 28 | 43 | 40 | 27 | 9 |
| | 35 | 34 | 28 | 81 | 43 | 35 | 21 |
| | 50 | 123 | 195 | 110 | 266 | 110 | 76 |
| 6 Сульфатная небеленая | 15 | 17 | 17 | 13 | 11 | 5 | 2 |
| | 25 | 350 | 430 | 580 | 1050 | 700 | 330 |
| | 35 | 200 | 265 | 565 | 1140 | 2040 | 3015 |
| | 50 | 490 | 620 | 650 | 1350 | 5640 | 7540 |
| 7 Хвойная беленая | 25 | 18 | 68 | 63 | 46 | 24 | 10 |
| | 35 | 350 | 152 | 307 | 132 | 46 | 23 |
| | 50 | 336 | 208 | 380 | 220 | 253 | 66 |

Table 1.

Card 2/4

L 16036-66

ACC NR: AP5023678

Figure 1 shows the diagrams of the influence of air humidity on the folding endurance of different samples of industrial production paper.

1. Deep printing paper; 2. electrolytic; 3. drawing pergamyn; 4. base for paraffin; 5. monotypic; 6. drawing transparent.

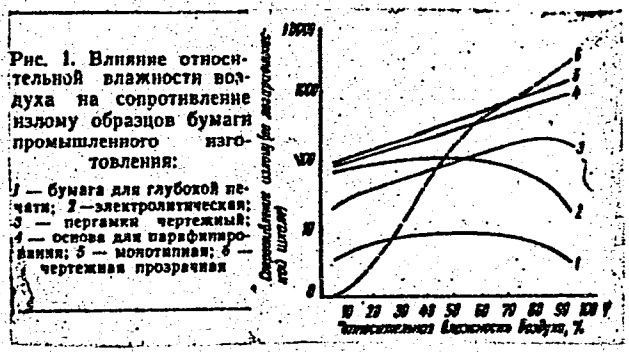

Рис. 1. Влияние относительной влажности воздуха на сопротивление излому образцов бумаги промышленного изготовления:

1 — бумага для глубокой печати; 2 — электролитическая; 3 — пергамин чертежный; 4 — основа для парафинирования; 5 — монотипная; 6 — чертежная прозрачная

Figure 1. Influence of humidity on the folding endurance of industrial production paper.

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The main factors defining the behavior of paper while the humidity was modified were the fiber bond strength, the pliability, and the plasticity of fibers. The tensile strength of paper was always progressively reduced with an increase in humidity, while the folding endurance and tear factor could be reduced or increased depending on the fiber bond strength. The influence of humidity on the mechanical properties of paper was primarily associated with the destruction of the hydrogenous fiber bond. The folding endurance changed differently with increased humidity, depending on the fiber bond strength and the paper strength. The endurance of paper without strength decreased continuously with increasing humidity. Stronger paper showed an increase in the beginning, reaching its maximum at some optimal humidity. With further increase in humidity it started to decrease progressively. The stronger the paper the greater the maximum shift toward greater humidity. The paper tear factor followed the same rule as folding endurance, however the influence of humidity was smaller. Tensile strength decreased progressively with increase in humidity, and was particularly high in the zone of high humidity. The usefulness of correction factors for the conversion of tensile strength to normal humidity was established. Orig. art. has: 6 figures and 1 table.

SUB CODE: 13,07 SUBM DATE: none/ ORIG REF: 002/ OTH REF: 002

Card 4/4

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Practice of simplifying the administrative structure of intraplant railway transportation at the Magnitogorsk Metallurgical Combine. Biul. nauch. inform.: trud i zar. plata 4 no.1:38-42 '61. (MIRA 14:3)

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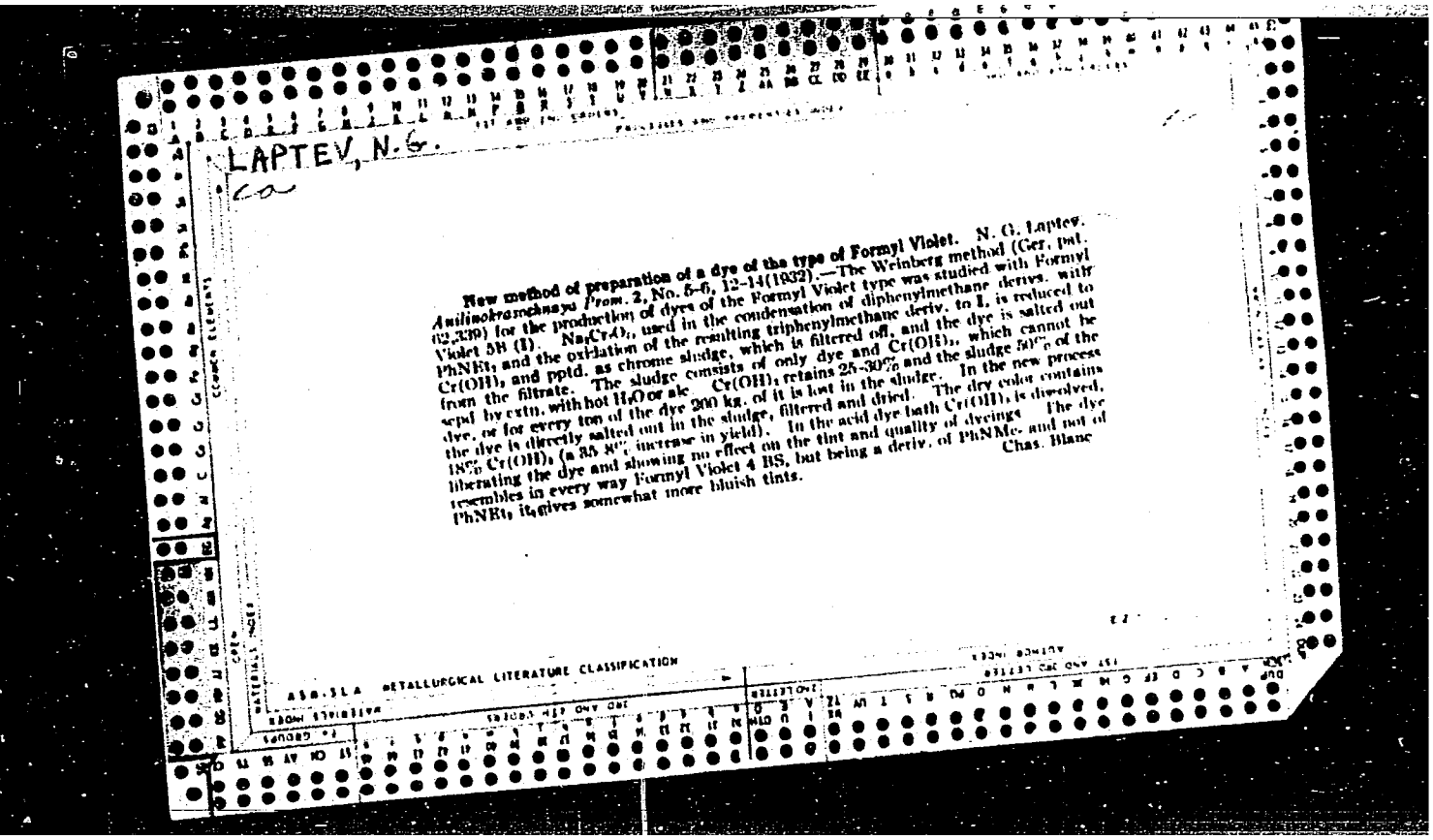
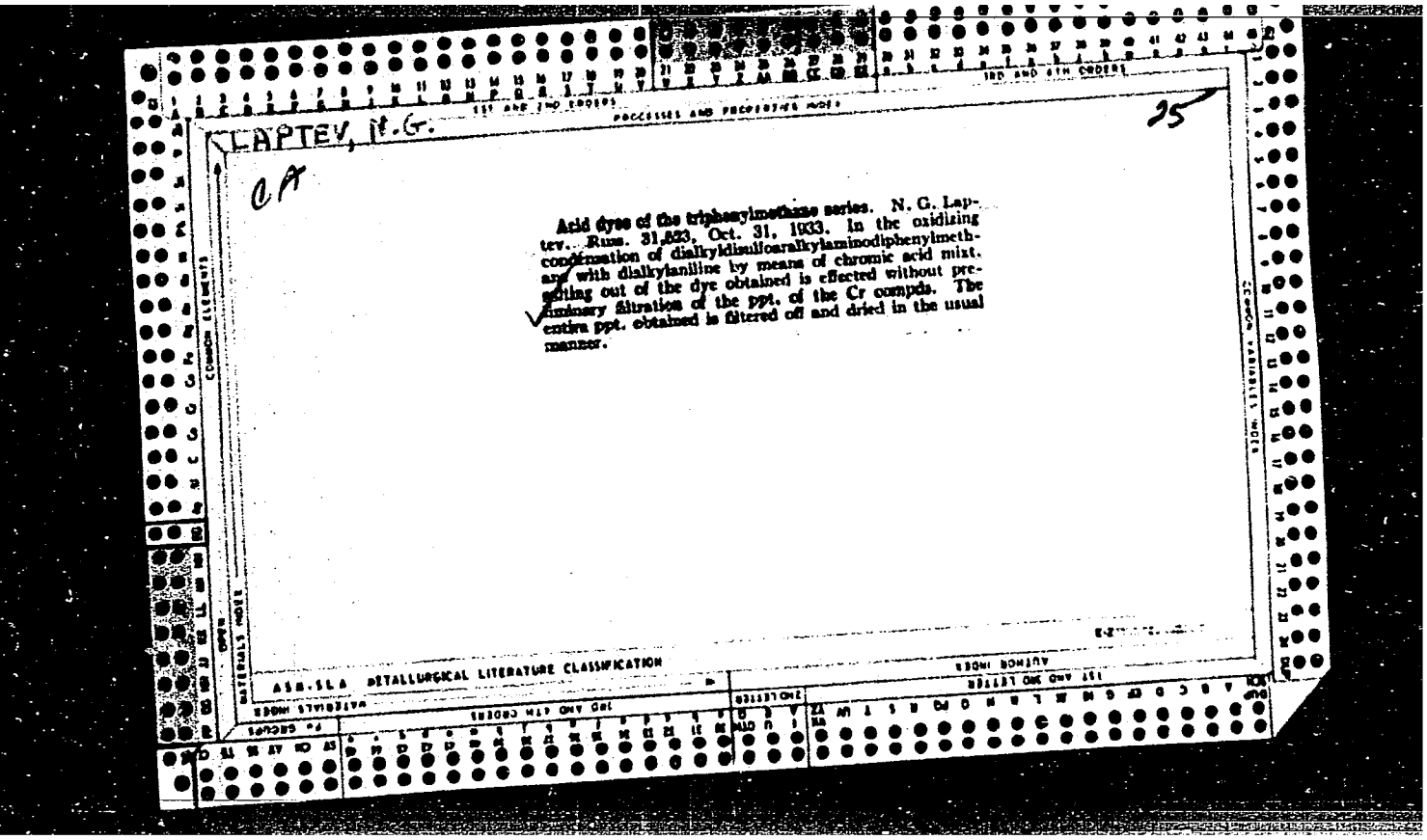
in Russia)

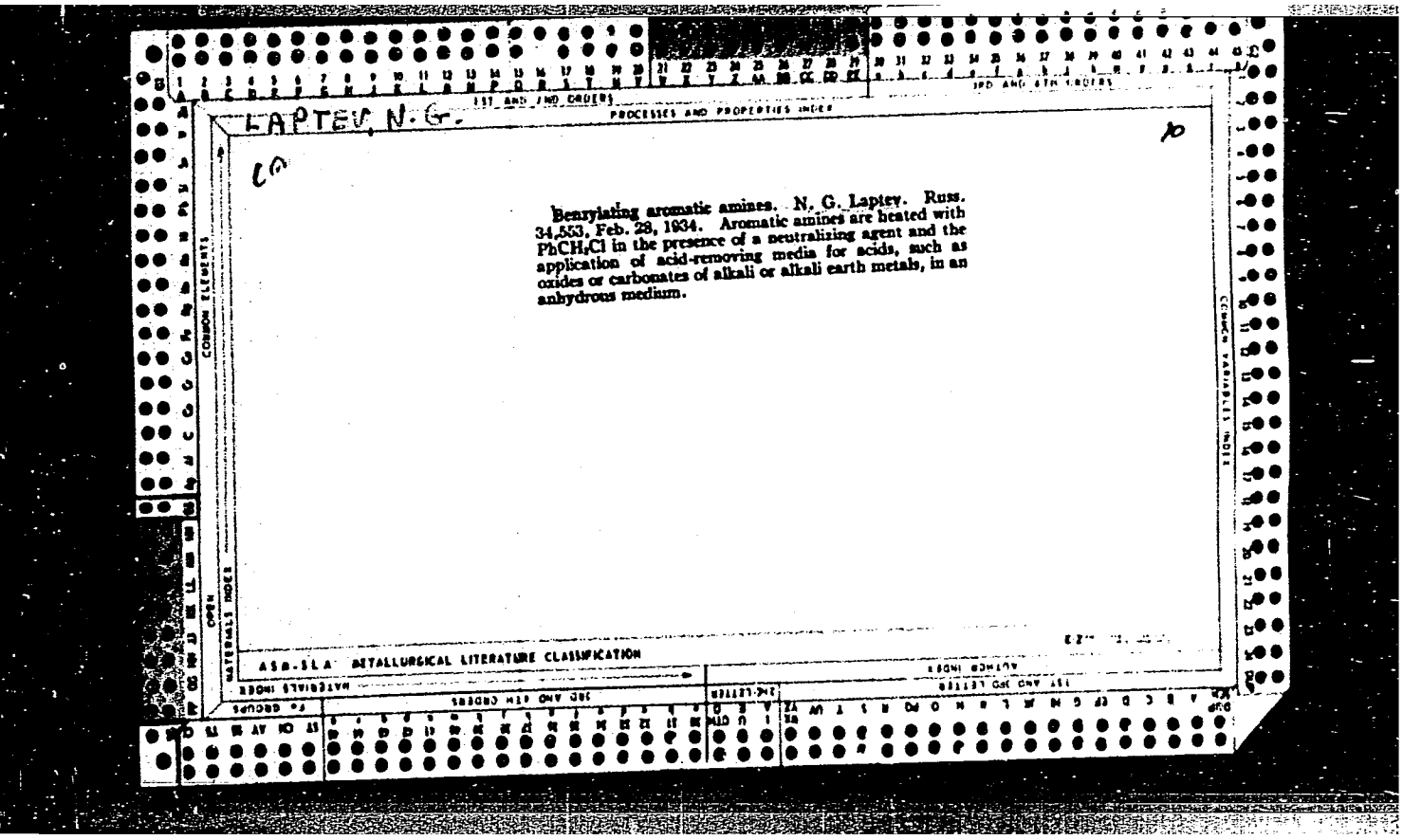


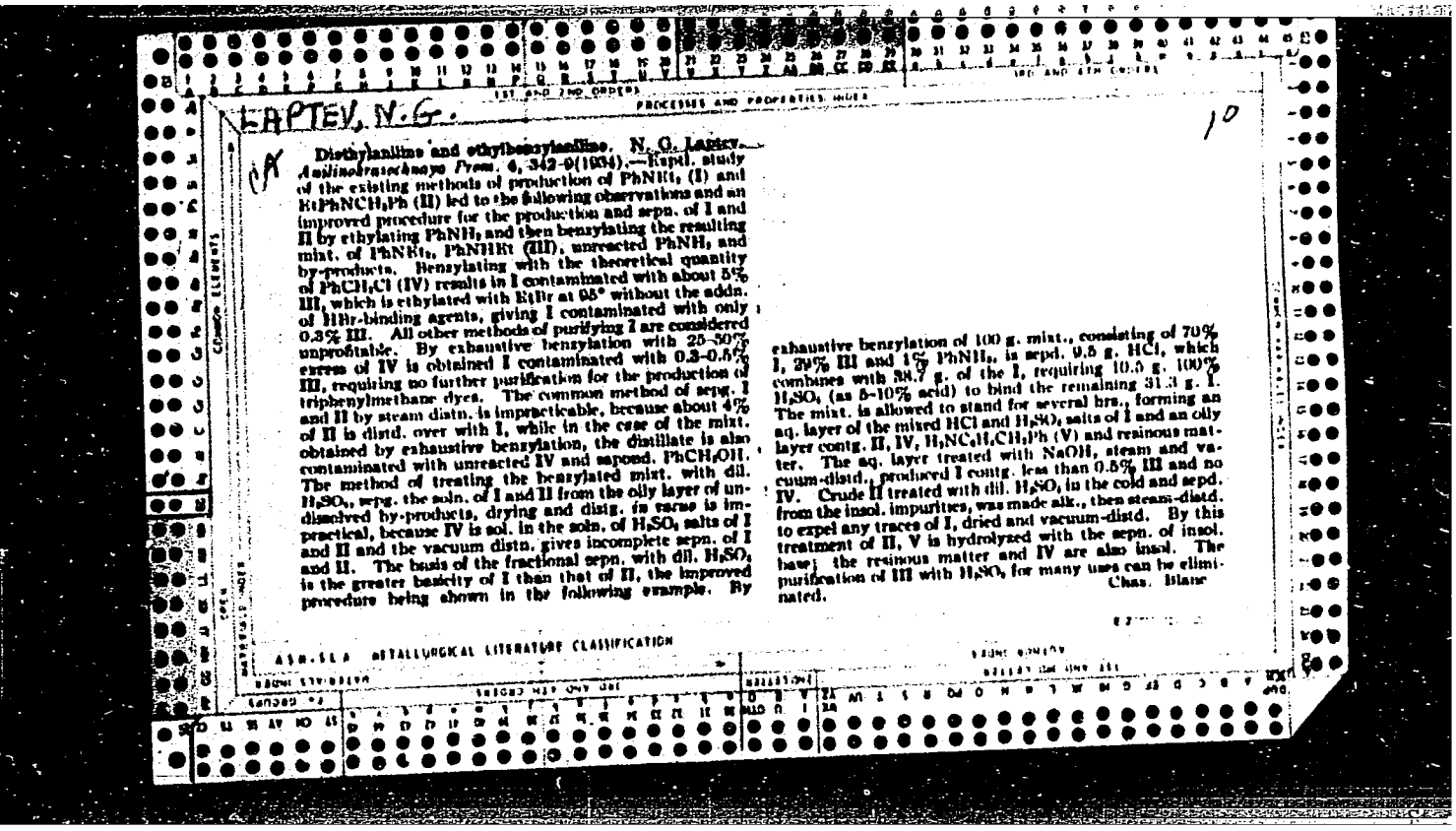
LAPTEV, N. G.

**New method of preparation of a dye of the type of Formyl Violet.** N. G. Laptev. *Anilinokrasochnaya Prom.* 2, No. 5-6, 12-14(1932).—The Weinberg method (Ger. pat. 92,239) for the production of dyes of the Formyl Violet type was studied with Formyl Violet 5B (I). $Na_2Cr_2O_7$, used in the condensation of diphenylmethane derivs. with $PhNEt_2$ and the oxidation of the resulting triphenylmethane derivs. to I, is reduced to $Cr(OH)_3$ and ppld. as chrome sludge, which is filtered off, and the dye is salted out from the filtrate. The sludge consists of only dye and $Cr(OH)_3$, which cannot be sepd. by extn. with hot $H_2O$ or alc. $Cr(OH)_3$ retains 25-30% of the dye, or for every ton of the dye 200 kg. of it is lost in the sludge. In the new process the dye is directly salted out in the sludge, filtered and dried. The dry color contains 18% $Cr(OH)_3$ (a 35-40% increase in yield). In the acid dye bath $Cr(OH)_3$ is dissolved, liberating the dye and showing no effect on the tint and quality of dyeings. The dye resembles in every way Formyl Violet 4 BS, but being a deriv. of PhNMe- and not of $PhNEt_2$ it gives somewhat more bluish tints.

Chas. Blanc



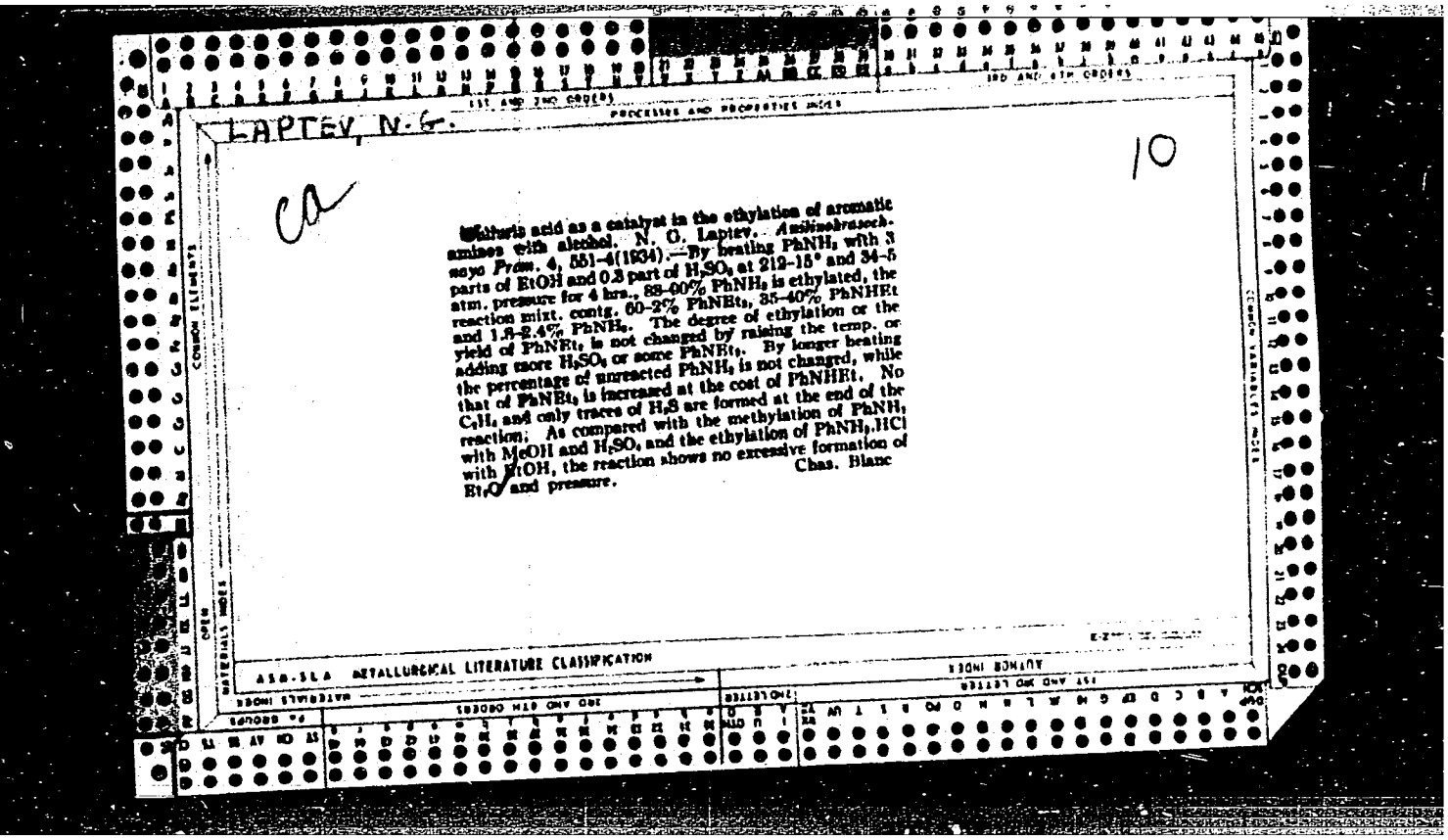




LAPTEV, N.G.

Diethylaniline and ethylbenzylaniline. N. G. Laptev. *Anilinokrasochnaya Prom.* 4, 342-9(1934).—Rapid study of the existing methods of production of $PhNHEt$, (I) and $EtPhNCH_2Ph$ (II) led to the following observations and an improved procedure for the production and sepn. of I and II by ethylating $PhNH_2$ and then benzylating the resulting mixt. of $PhNEt_2$, $PhNHEt$ (III), unreacted $PhNH_2$ and by-products. Benzylating with the theoretical quantity of $PhCH_2Cl$ (IV) results in I contaminated with about 5% III, which is ethylated with $EtBr$ at 95° without the addn. of $HBr$-binding agents, giving I contaminated with only 0.3% III. All other methods of purifying I are considered unprofitable. By exhaustive benzylation with 25–30% excess of IV is obtained I contaminated with 0.3–0.5% III, requiring no further purification for the production of triphenylmethane dyes. The common method of sepg. I and II by steam distn. is impracticable, because about 4% of II is distd. over with I, while in the case of the mixt. obtained by exhaustive benzylation, the distillate is also contaminated with unreacted IV and saponif. $PhCH_2OH$. The method of treating the benzylated mixt. with dil. $H_2SO_4$, sepg. the soln. of I and II from the oily layer of undissolved by-products, drying and distg. in vacuo is impractical, because IV is sol. in the soln. of $H_2SO_4$ salts of I and II and the vacuum distn. gives incomplete sepn. of I and II. The basis of the fractional sepn. with dil. $H_2SO_4$ is the greater basicity of I than that of II, the improved procedure being shown in the following example. By exhaustive benzylation of 100 g. mixt., consisting of 70% I, 30% III and 1% $PhNH_2$, is sepd. 9.5 g. HCl, which combines with 38.7 g. of the I, requiring 10.5 g. 100% $H_2SO_4$ (as 5–10% acid) to bind the remaining 31.3 g. I. The mixt. is allowed to stand for several hrs., forming an aq. layer of the mixed HCl and $H_2SO_4$ salts of I and an oily layer contg. II, IV, $H_2NC_6H_4CH_2Ph$ (V) and resinous matter. The aq. layer treated with NaOH, steam and vacuum-distd., produced I contg. less than 0.5% III and no IV. Crude II treated with dil. $H_2SO_4$ in the cold and sepd. from the insol. impurities, was made alk., then steam-distd. to expel any traces of I, dried and vacuum-distd. By this treatment of II, V is hydrolyzed with the sepn. of insol. base; the resinous matter and IV are also insol. The purification of III with $H_2SO_4$ for many uses can be eliminated.

Chas. Blanc



LAPTEV, N. G.

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Sulfuric acid as a catalyst in the ethylation of aromatic amines with alcohol. N. G. Laptev. *Anilinokrasochnoye Prom.* 4, 551–4(1934).—By heating $PhNH_2$ with 3 parts of EtOH and 0.3 part of $H_2SO_4$ at 212–15° and 34–5 atm. pressure for 4 hrs., 88–90% $PhNH_2$ is ethylated, the reaction mixt. contg. 60–2% $PhNEt_2$, 35–40% $PhNHEt$ and 1.8–2.4% $PhNH_2$. The degree of ethylation or the yield of $PhNEt_2$ is not changed by raising the temp. or adding more $H_2SO_4$ or some $PhNEt_2$. By longer heating the percentage of unreacted $PhNH_2$ is not changed, while that of $PhNEt_2$ is increased at the cost of $PhNHEt$. No $C_2H_4$ and only traces of $H_2S$ are formed at the end of the reaction. As compared with the methylation of $PhNH_2$ with MeOH and $H_2SO_4$ and the ethylation of $PhNH_2.HCl$ with EtOH, the reaction shows no excessive formation of $Et_2O$ and pressure.

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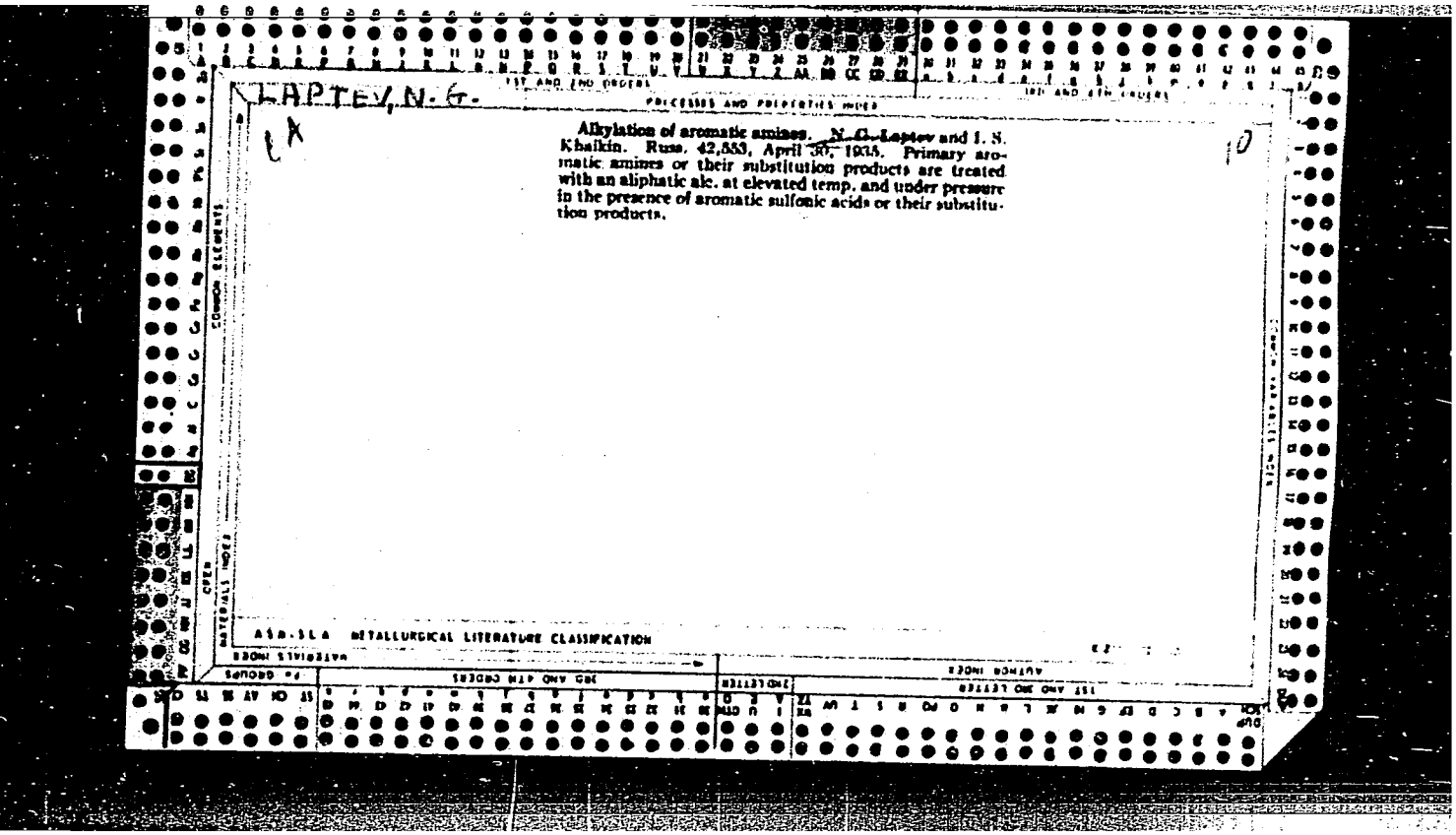

LAPTEV, N. G.

Alkylation of aromatic amines. N. G. Laptev and I. S. Khalkin. Russ. 42,553, April 30, 1935. Primary aromatic amines or their substitution products are treated with an aliphatic alc. at elevated temp. and under pressure in the presence of aromatic sulfonic acids or their substitution products.

A58.51A METALLURGICAL LITERATURE CLASSIFICATION