

LUR'YE, M. I., kand. tekhn. nauk; SYTIN, K. Yu.

Determining characteristics of a hydraulic torque converter under starting conditions during the test of automobiles on a stand. Avt. prom. 28 no.9:12-16 S '62. (MIRA 15:10)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotornyy institut.

(Automobiles--Transmission devices)

TARANENKO, P.I.; LUR'YE, M.I., kand.tekhn.nauk; SERGEYEV, N.M.; YURCHEVSKIY, A.A.

Program controlled stand for investigating unsteady motion
conditions of motor vehicles. Avt.prom. 31 no.10:26-30 0 '65.

(MIRA 18:10)

1. Moskovskiy avtomobil'no-dorozhnyy institut i Tsentral'nyy
nauchno-issledovatel'skiy ordena Trudovogo Krasnogo Znameni
avtomobil'nyy i avtomotorny institut.

LUR'YE, M.I.; ALESHIN, V.V.

Selecting optimum angles for the alignment of rear wheels of the "Zaporozhets" automobile by testing on a stand with running drums. Avt. prom. 30 no.3:33-34 M' '64.

(MIRA 17:6)

1. Gosudarstvennyy soyuznyy ordena Trudovogo Krasnogo Znameni nauchno-issledovatel'skiy avtomobil'nyy i avtomotorny institut.

L 59635-65 EWT(d) IJP(c)

ACCESSION NR: AT5002494

S/0000/64/000/000/0059/0066

5
B+1

AUTHOR: Lur'ye, M.I.

TITLE: The method of functional-operator transforms for electronic modelling of the non-stationary boundary value problems of mathematical physics

SOURCE: Analogovyye metody (sredstva resheniya krayevykh zadach (Analog methods and means of solving boundary value problems); trudy Vsesoyuznogo soveshchaniya, Moskva, 1962 g. Kiev, Naukova dumka, 59-68

TOPIC TAGS: electromodel, differential equation, harmonic function, transfer function, circuit design, boundary value problem, analog computer

ABSTRACT: The paper is devoted to a theoretical analysis of the synthesis of analog schemes for the solution of non-stationary boundary value problems in mathematical physics. The following theorem is first proven: It is possible to realize any rational-fractional transfer function $R_n(p)$ of the operator p by means of a circuit with regulated resistors, constant-value capacitors, and two amplifiers. The paper then applies this theorem to the problem of constructing an electronic model for the solution of the equation

$$L(u) = a(x) \frac{\partial^2 u}{\partial x^2} + b(x) \frac{\partial u}{\partial x} + c(x) u + a_1(x) \frac{\partial^2 u}{\partial t^2} + b_1(x) \frac{\partial u}{\partial t} = \varphi(x) \quad (1)$$

Card 1/2

L 59635-65

ACCESSION NR: AT5002494

with the initial and boundary conditions where the solution is desired at the points $x_i, i = 1, \dots, N$.

$$u(x, 0) = \psi_0(x), \quad \frac{\partial u(x, 0)}{\partial t} = \psi_1(t); \quad (2)$$

$$u(0, t) = f_0(t), \quad u(l, t) = f_1(t). \quad (3)$$

It is shown that: For each solution of equation (1), satisfying the initial conditions (2), for each triplet of values x_{i-1}, x_i, x_{i+1} , we have the relationship

$$A_{i,i+1}(\rho) u(x_{i+1}, t) + A_{i+1,i-1}(\rho) u(x_i, t) + A_{i-1,i}(\rho) u(x_{i-1}, t) = B_i(\rho) \eta(t). \quad (4)$$

$$\eta(t) = \begin{cases} 1 & t > 0 \\ \text{npH} & t = 0 \\ 0 & t < 0. \end{cases} \quad (5)$$

On the basis of this theorem, the authors construct a general block diagram for an electronic model capable of solving this non-stationary boundary value problem. Orig. art. has: 4 figures and 24 formulas.

ASSOCIATION: none

SUBMITTED: 05Sep64

ENCL: 00

SUB CODE: MA, DP

NO REF SOV: 002

OTHER: 001

2.2 *LOP*

LUR'YE, M.L.; CHEREMUKHIN, I.K.; MOROZOV, Ye.F.

Work practice of the Khakass Hydrolysis Plant. Gidroliz. 1
lesokhim. prom. 9 no.8:23 '56. (MLRA 10:2)

1. Giprogidroliz (for Lur'ye) 2. Khakasskiy gidroliznyy zavod
(for Cheremukhin and Morozov).
(Wood-using industries) (Alcohol) (Hydrolysis)

LUR'E, M.I. i OBRUCHEV, S.V.

25418 Lur'e, M.I. i Obruchev, S.V. Geologicheskie Issledovaniya v Severo-Vostochnoy
Tive v 1945 i 1946 gg. Izvestiya Akad. Nauk SSSR, Seriya Geol., 1948, No. 4, s
97-114. - Bibliogr: 6NAZV

SO: Letopis' Zhurnal Statey, No. 30, Moscow, 1948

LUR'YE, M. L.

USSR/Geology
Tectonics
Stratification

Jul/Aug 48

"Geological Studies in the Northeastern Tuva in 1945 and 1946," M. L. Lur'ye, S. V. Obrucher, 18 pp

"Iz Ak Nauk SSSR, Ser Geol" No 4

PA 17/49T50
Presents results of authors' work in northeastern part of Tuva Autonomous Oblast in 1945, 1946. This part of Tuva is a direct continuation of Eastern Sayan in its geological structure. It is composed of Pre-Cambrian faulted by Archaean, Proterozoic and Caledonian intrusions; Cambrian and Jurassic in-

17/49T50

USSR/Geology (Contd)

Jul/Aug 48

trusions occupy small areas. Tectonically, the country is a deeply eroded substructure of a Caledonian syncline.

17/49T50

177T40

LUR'YE, M. L.

USSR/Geophysics - Stratigraphy

Nov/Dec 50

"The Pre-Cambrian of Eastern Sayan and Khamar-Daban:
Stratigraphy and Magmatism," M. L. Lur'ye, S. V.
Obruchev

"Iz Ak Nauk SSSR, Ser Geol" No 6, pp 77-91.

On the basis of personal investigations conducted
in Sayan-Tuva Highlands and in western Khamar-Daban,
authors briefly outline stratigraphy and magmatism
of the Pre-Cambrian. Distinguishes 3 formations
with total thickness of 23 km: lower is gneiss and
crystalline schist; middle is same with carbonate
rocks; and upper is fine granular metamorphic rocks.

FDD

177T40

LUR'YE, M. L.

USSR/Geophysics - Cambrian Stratigraphy Jan/Feb 52

"Stratigraphy of the Cambrian of East Sayan and the Dzhida Basin," M. L. Lur'ye, S. V. Obruchev

"Iz Ak Nauk SSSR, Ser Geol" No 1, pp 89-106

Summarizes the Cambrian stratigraphy on the basis of numerous works of the authors in East Sayan and in the Dzhida Basin and also on the basis of data in the literature. The Cambrian of this region possesses geosynclinal character and great thickness. Reveals 2 sharply different facies: Okinsk and Dzhidinsk (Oka and Dzhida).

205T68

OBRUCHEV, S.V.; LUR'YE, M.L.

Kropotkin and Peretolchin volcanoes in the Eastern Sayan Mountains.
Trudy Lab.vulk. no.8:210-225 '54. (MIRA 8:4)
(Sayan Mountains--Volcanoes)

LUR'YE, M. L.

KRISHTOFOVICH, A.N., redaktor [deceased] SPIZHARSKIY, T.N., redaktor;
BELYAYEVSKIY, N.A., redaktor; VADRANYANTS, L.A., redaktor;
ZAITSEV, I.K., redaktor; KRASNOV, I.I., redaktor; KULIKOV, M.V.
redaktor; LABAZIN, G.S., redaktor; LIBROVICH, L.S., redaktor;
LUR'YE, M.L., redaktor; MALINOVSKIY, P.M., redaktor; NESTEROV,
L.Ya., redaktor; NEKHOROSHEV, V.P., redaktor; SERGIYEVSKIY, V.M.
redaktor; TALDYKIN, S.I., redaktor; KHABAKOV, A.V., redaktor;
SHABAROV, N.V., redaktor; SKVORTSOV, V.P., redaktor; KISELEVA,
A.A., tekhnicheskij redaktor GUROVA, O.A., tekhnicheskij redaktor.

[Geological dictionary] Geologicheskii slovar'. Moskva, Gos.
nauchno-tekhn.izd-vo lit-ry po geologii i okhrane nedr.Vol.1
A-L 1955, 402 p. (MLRA 8:10)

(Geology--Dictionaries)

DRUGOVA, G.M.; LUB'YE, M.L.; OBRUCHEV, S.V.

Pre-Cambrian of northeastern Tuva. Trudy Lab.geol.dokem. no.5:
255-314 '55. (MLBA 9:1)
(Tuva Autonomous Province--Geology, Stratigraphic)

LUR'YE, M.L.; OBRUCHEV, S.V.

Main features of effusive volcanism of the trapp formations in the
Siberian Platform. Mat. VSEGEI no.7:159-206 '55. (MLRA 10:4)
(Siberian Platform--Rocks, Igneous)

LUR'YE, M.L.

Terminology of Siberian trapp. Mat. VSEGEI no.7:207-212 '55.
(Siberia--Rocks, Igneous) (MLRA 10:4)
(Petrology--Terminology)

LUR'YE, M.L.; MASAYTIS, V.L.

Traps in the Siberian Platform. Sov.geol. 2 no.4:50-66 Ap '59.
(MIRA 12:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut.
(Siberian Platform—Rocks, Igneous)

AFANAS'YEV, G.D., otv. red.; Primalni uchastiye: LUR'YE, M.L., red.;
FROLOVA, N.V., red.; LEBEDEV, A.P., red. izd-va; SHLEPOV, V.K.,
red. izd-va; POLENOVA, T.P., tekhn. red.

[Petrography of Eastern Siberia] Petrografiia Vostochnoi Sibiri.
Moskva, Izd-vo Akad. nauk SSSR. Vol.1. [Siberian Platform and
its northern margin] Sibirskaiia platforma i ee severnoe obramlenie.
1962. 740 p. (MIRA 15:5)

1. Akademiya nauk SSSR. Otdeleniye geologo-geograficheskikh nauk.
2. Chlen-korrespondent Akademii nauk SSSR (for Afanas'yev).
3. Vsesoyuznyy geologicheskii nauchno-issledovatel'skiy institut
(for Lur'ye). 4. Institut geologii, Irkutsk (for Frolova).
(Siberian Platform--Petrology)

MAROCHKIN, N.I., glavnyy red.; MARKOVSKIY, A.P., zamestitel' glavnogo red.;
TATARINOV, P.M., zamestitel' glavnogo red.; BELYAKOVA, Ye.Ye.,
nauchnyy red.; GANESHIN, G.S., red.; ZAYTSEV, I.K., red.; KULIKOV,
M.V., red.; KUREK, N.N., red.; KNIPOVICH, Yu.N., red.; LUR'YE, M.L.,
red.; SIMONENKO, T.N., red.; SPIZHARSKIY, T.N., red.; STERLIN, D.Ya.,
red.

[Results of the research carried out by the All-Union Geological
Institute in 1959] Ezhegodnik po rezul'tatam rabot VSEGEI za 1959
g. Leningrad, Otdel nauchno-tekh.informatsii VSEGEI, 1961. 195 p.
(Informatsionnyi sbornik, no.44). (MIRA 15:4)
(Geology)

MAROCHKIN, N.I., glav. red.; MARKOVSKIY, A.P., zam. glav. red.;
UL'YANOV, N.K., zam. glav. red.; GANESHIN, G.S., red.;
ZAYTSEV, I.K., red.; KNIPOVICH, Yu.N., red.; KULIKOV, M.V., red.;
LABAZIN, G.S., red.; LUR'YE, M.L., red.; SIMONENKO, T.N., red.;
SPIZHARSKIY, T.N., red.; STERLIN, D.Ya., red.; TATARINOV, P.M., red.;
BELYAKOVA, Ye.Ye., nauchnyy red.; MAKRUSHIN, V.A., tekhn. red.

[Yearbook of the results of studies by the All-Union Geological
Institut] Ezhegodnik po rezul'tatam rabot VSEGEI. Leningrad,
Otdel nauchn.-tekhn. informatsii, 1961. 203 p. (Leningrad.
Vsesoiyuznyi geologicheskii institut. Informatsionnyi sbornik,
no.49.) (MIRA 15:6)

(Geology)

LUR'YE, M.L.

Conference on the division of trap rocks in the Siberian Platform.
for geological mapping. Sov.geol. 6 no.2:160-164 F '63. (MIRA 16:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut.
(Siberian Platform—Rocks, Igneous)(Siberian Platform—Geology—Maps)

SOBOLEV, V.S., akademik, otv. red.; LEBEDEV, A.P., zam. otv. red.;
LUR'YE, M.L., red.; ZCLOTUKHIN, V.V., red.; KOSTYUK, V.P.,
red.

[Plateau basalts] Bazal'ty plato. Moskva, Nauka, 1964. 135 p.
(Its: Doklady sovetskikh geologov. Problema 7) (MIRA 17:9)

1. International Geological Congress. 22d, 1964.

LUR'YE, N. N.

33498. Lecheniye Yazvennoy Bolezni Novokainovoy Blokadoy. Trudy Herskogo Gos. Med. In-ta
T. 11, Vyp. 2, 1948, c. 97-104

SO: Letopis'nykh Statey, Vol. 45, Moskva, 1949

10

MAKARENKO, G.A.; IL'INSKAYA, V.N.; LUR'YE, M.N., red.

[Book to aid the agricultural specialist engaged in production; an index of literature for 1961] Knigu - v pomoshch' spetsialistu sel'skogo khoziaistva na proizvodstve; ukazatel' literatury za 1961 god. Moskva, Sel'khozizdat, 1962. 101 p. (MIRA 17:8)

1. Moscow. Tsentral'naya nauchnaya sel'skokhozyaystvennaya biblioteka.

LUR'VE, M.S.
USSR/Electricity - Dielectrics

G-2

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6979

Author : Lur'ye, M.S., Medovoy, A.I.
Title : Influence of Unilateral Mechanical Pressure on the Dielectric Constant of Ceramic Ferroelectrics.

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 7, 1437-1442

Abstract : An investigation was made of the influence of unilateral pressure on the dielectric constant (ϵ) of ceramic ferroelectrics with a BaTiO_3 base. It was observed that there is a non-stationary variation in ϵ with time depending on the pressure p in weak fields E at $T < T_c$ (T_c is the Curie temperature), and this variation is characterized by the relation

$$\left| \frac{1}{\epsilon} \frac{\Delta \epsilon}{\Delta p} \right| = A_0 e^{-\alpha t}$$

where $A_0 > 0$ and is independent of the sign of the variation in ϵ . When $T > T_c$ the result is a stationary relation

$\frac{1}{\epsilon} \frac{\Delta \epsilon}{\Delta p} = -k$. The non-stationary variation of ϵ with E changes into a stationary variation when $E > E_{cr}$. With

Card : 1/2

Lur'ye, M.S.

SUBJECT: USSR/Luminescence

48-3-22/26

AUTHOR: Lur'ye M.S.

TITLE: Dependence of Dielectric Permittivity of Polycrystalline Ferroelectrics on Time under the Action of Mechanical Load and Constant Electric Field (Zavisimost' dielektricheskoy pronitsayemosti polikristallicheskikh segnetoelektrikov ot vremeni pri vozdeystvii mekhanicheskoy nagruzki i postoyanogo elektricheskogo polya)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya fizicheskaya, 1957, Vol 21 #3, pp 439-443 (USSR)

ABSTRACT: Investigations of the effect of one-sided mechanical load and constant electric field on dielectric permittivity of polycrystalline ferroelectrics permitted to discover some new regularities in the behavior of ferroelectrics.

A load was applied along the direction of the field. It was established that the dependence of dielectric permittivity on the time of applying a mechanical load bears a clearly defined non-stationary character for nonpolarized ferroelectric ceramics in weak electric fields at temperatures below the Curie

Card 1/3

48-3-22/26

TITLE:

Dependence of Dielectric Permittivity of Polycrystalline Ferroelectrics on Time under the Action of Mechanical Load and Constant Electric Field (Zavisimost' dielektricheskoy pronitsayemosti polikristallicheskikh segnetoelektrikov ot vremeni pri vozdeystvii mekhanicheskoy nagruzki i postoyanogo elektricheskogo polya)

point. The dependence was of an exponential character for small time intervals, but deviated from the exponential law at long intervals.

At temperatures higher than the Curie point, the conventional stationary dependence of dielectric permittivity on the time of applying load held.

A pulse effect of a constant electric field on dielectric permittivity was also investigated. Square pulses of long duration (up to several min) were applied. Phenomena observed were analogous to those occurred at mechanical pressure. Below the Curie point, the value of dielectric permittivity increases and then decreases according to an exponential law. At temperatures higher than the Curie point, the stationary dependence holds.

Card 2/3

48-3-22/26

TITLE: Dependence of Dielectric Permittivity of Polycrystalline Ferroelectrics on Time under the Action of Mechanical Load and Constant Electric Field (Zavisimost' dielektricheskoy pronitsayemosti polikristallicheskikh segnetoelektrikov ot vremeni pri vozdeystvii mekhanicheskoy nagruzki i postoyanogo elektricheskogo polya)

The results obtained can be qualitatively explained from the viewpoint of the domain structure of ferroelectrics.

The article contains 5 figures and 2 tables. No references are given.

INSTITUTION: All-Union Scientific Research Institute for Methods and Techniques of Prospecting.

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

Card 3/3

SOV/20-128-1-18/58

24(3)

AUTHOR:

Lur'ye, M. S.

TITLE:

~~Thin Ferroelectric~~ $\text{Pb}[\text{Ti.Zr.Sn}]\text{O}_3$ Films

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1,
pp 73 - 74 (USSR)

ABSTRACT:

An investigation of the properties of ferroelectric films may be very useful for the solution of various problems, which are connected with the existence of space charge near the surface of a ferroelectric. Such investigations are also suited to a determination of electrical conductivity, of the effect of weakly penetrating radiations as well as to the solution of several other problems. The preparation of complex ferroelectric films would be desirable since the preparation of films with various properties would thus be possible. The three-component system of the solid solutions $\text{Pb}[\text{Ti.Zr.Sn}]\text{O}_3$ was chosen out of the presently known polycrystalline ferroelectrics. Provisional investigations carried out with ceramic samples showed that the hysteresis lines of several compositions of this system have a course similar to the rectangular one within a wide temper-

Card 1/3

Thin Ferroelectric $\text{Pb}[\text{Ti.Zr.Sn}]_3\text{O}_3$ Films

SOV/20-128-1-18/58

ature range. These compositions formed the basis of the preparation of ferroelectric films. The films, which were about 2μ thick, were prepared on a Pt foil; they have homogeneous, fine-grained structure. The visible transverse grain dimensions are found within the range $3-5\mu$. According to a microphotogram taken at illumination at an oblique angle, the structure of the film surface is folded, which is obviously due to a variation of the volume during the annealing. Electric measurements yielded a rectangular hysteresis loop; besides, they indicated a great variation of the charge during the polarity reversal. The third diagram shows the dependence of the dielectric constant on the field strengths of the constant field, the alternating field, and the amount of voltages applied to the film. The films have a strongly nonlinear dielectric constant. The great value of the saturation field strength and the extraordinarily high flashover field-strength are also worth mentioning. At room temperature, the latter attains 300 kv/cm in the case of many samples. Such excessively high field strengths can obviously be explained by the existence of space charge in the surface layer (the thickness of which is of the same order as the total thickness of the film). The author

Card 2/3

Thin Ferroelectric $\text{Pb}[\text{Ti.Zr.Sn}]_3\text{O}_3$ Films

SOV/20-128-1-18/58

thanks Ye. I. Vasil'yeva for
tion. There are 3 figures.

assistance in this investiga-

PRESENTED: April 16, 1959, by A. F. Ioffe, Academician

SUBMITTED: April 13, 1959

Card 3/3

L 27521-66 EWT(l)/EWT(m)/EWP(t) IJP(c) JD/HW/JG/JH

ACC NR: AP6007508

SOURCE CODE: UR/0109/66/011/002/0298/0301

AUTHOR: Filaretov, G. A.; Stafeyev, V. I.; Cherkashin, G. A.; Lur'ye, M. S.,
Bubnov, Yu. Z.; Asnina, Zh. S.

56
B

ORG: none

TITLE: Investigation of the negative resistance of Al_2O_3 -metal contacts

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 298-301

TOPIC TAGS: semiconductor, semiconductor device, semiconductor research

ABSTRACT: The N-type negative-resistance region of Al_2O_3 -Me contacts was investigated by measuring current-voltage characteristics of film-type contacts in which the thickness of the dielectric varied from 100 to 500 Å. The Al_2O_3 layer was formed by oxidizing Al films obtained on glass by vaporization in vacuum. The upper electrode was formed by vacuum-spraying Cu, Sn, In, Au, Ni, Al. Measurements were conducted in air and in vacuum. With Ir, Al, Sn electrodes, the negative resistance was observed with both polarities of the applied voltage; with the Al electrode, the negative resistance could be detected only in vacuum. With Cu, Ni,

2

Card 1/2

UDC: 621.382.27.001.5

L 27521-66

ACC NR: AP6007508

0

Au electrodes, the negative resistance was observed only in the forward branch of the current-voltage characteristic. In all cases, the maximum current decreased and the negative resistance increased with the increasing layer thickness. Qualitatively, the I-V function could be explained by the Schottky emission law. Electron capture by multicharge centers is assumed to be responsible for the mechanism of the negative resistance. Orig. art. has: 5 figures.

SUB CODE: 09, 20 / SUBM DATE: 16Nov64 / ORIG REF: 002 / OTH REF: 001

Card 2/2

BNC

LUR'YE, M. S.

LUR'YE, M. S. "On the operation of ring furnaces in brick plants", *Mest. stroit. materilay*,
~~1946~~, Issue 7, p. 24-30.

SO: U-3042, 11 March 53, (^Uetepis 'Zhurnal Stroy, nykh, No. 7 1949).

USSR/ Engineering - Drying kilns

Card 1/1 Pub. 104 - 8/12

Authors : Lurye, M.S.

Title : ~~Problems of exploiting duct-type drying kilns~~
Problems of exploiting duct-type drying kilns

Periodical : Stek. i ker. 1, 24-27, Jan 1954

Abstract : The problems involved in the exploitation of counter-flow duct-type ceramic goods kiln dryers, are discussed. The deficiencies of certain duct-type kiln dryers, are listed. Means for elimination of existing shortages and improvement of kilning operations in duct-type dryers, are described. Table; drawings.

Institution:

Submitted:

LUR'YE, M.

Semipalatinsk. Stroitel' 2 no.8:8-10 Ag '56.
(Semipalatinsk--Building)

(MLRA 9:12)

LUR'YE, M., inzh.

New methods used in foreign brick factories. Stroi. mat. 4
no.1:36-39 Ja '58. (MIRA 11:2)
(Brick industry)

LUR'VE, H., inzh.

Basic principles of the efficient organization of gas flow in
tunnel kilns. Stroil. mat. 4 no. 6:22-25 Ja '58. (MIRA 11:7)
(Kilns)

PATRIN, P.A.; inzh.; KISHENEV, V.F.; TSIPENYUK, M.I., inzh.;
VOZNESENSKIY, A.A., kand.tekhn.nauk; SEDOV, V.G.,
LUR'YE, M.S.; STEPANENKO, M.G., prof.

Over-all mechanization and automatization of the heat
treatment of ceramic stones (comment on M.I. Rogovyi's
and D.O. Konovalov's article). Stroi. mat. 6 no.3:25-27
Mr '60. (MIRA 13:6)

1. Severo-Kavkazskaya nauchno-issledovatel'skaya stantsiya
po stroitel'stvu i stroitel'nyim materialam (for Patrin).
2. Zaveduyushchiy laboratoriyey tresta karagandastroymate-
rialy (for Kishenev).
3. Ukgiprostroymaterialy (for
TSipenok).
4. Zaveduyushchiy kafedroy energeticheskogo
oborudovaniya i avtomatiki Rostovskogo inzhenerno-stroitel'-
nogo instituta (for Voznesenskiy).
5. Glavnyy inzhener
instituta Rosstromproyekt (for Sedov).
6. Glavnyy teplo-
tekhnik instituta Rosstromproyekt (for Lur'ye).
(Kilns) (Automatic control)

85883

9.2181(2303,3203)
24.7800(1144,1162)S/O48/60/024/011/019/036
B006/B056AUTHORS: Lur'ye, M. S., Vasil'yeva, Ye. I., and Ignat'yeva, I. V.TITLE: Ferroelectric Films With Rectangular Hysteresis LoopPERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 11, pp. 1376 - 1379

TEXT: The present paper is a reproduction of a lecture delivered on the 3rd Conference on Ferroelectricity, which took place in Moscow from January 25 to 30, 1960. The authors give a report on experimental investigations of influencing the rectangularity of the dielectric hysteresis by various factors. In the introduction, the influences exerted by the anisotropy of the unit cell (G. A. Smolenskiy) and the domain orientation and crystallographic structure (Ya. M. Ksendzov) are discussed. In the following, the opinion is expressed that the chemical bonds in the crystal lattice essentially influence the shape of the hysteresis; thus, e.g., it is known that when in the system of the solid solution (Ba,Pb)TiO₃, Ba²⁺ ions are replaced by Pb²⁺ ions, the

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Ferroelectric Films With Rectangular
Hysteresis Loop

85883

S/048/60/024/011/019/036
B006/B056

homeopolarity increases and also the rectangularity of the hysteresis, although the anisotropy of the unit cell increases (Smolenskiy had assumed that an improvement of rectangularity is due to a decrease of anisotropy). The authors investigated solid solutions of the system $Pb(Ti,Zr,Sn)O_3$ in form of thin disks, to which silver electrodes were fitted. Fig.1³ shows $\xi(E_{\infty})$ for some of the investigated compositions. It was found that the nonlinearity of the samples increases with increasing $PbTiO_3$ content, and has a maximum near the morphotropic transition from the rhombohedral into the tetragonal phase (near 45% $PbTiO_3$). As may be seen from Fig.2, the rectangularity increases with increasing $PbTiO_3$ content. As shown in Fig.3, the parameters remain unchanged within a wide temperature range. From the compositions given in the Table, the authors produced 2 μ thick polycrystalline films on platinum foils or on platinum-plated ceramics,⁶ which they investigated. Fig.4 shows the hysteresis loops for films with Pt - Ag-electrodes and for films with Pt - In electrodes. Fig.5 shows $\xi(E)$, as in the usual samples recorded at 50 cps, and Fig.6 shows the dependence of the nonlinearity of the

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85883

Ferroelectric Films With Rectangular
Hysteresis Loop

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$\xi(E)$ -curves on the electrode material (measured at 500 cps). There are 7 figures, 1 table, and 8 references: 3 Soviet, 3 US, 1 German, and 1 Japanese.

Образец Sample	Состав, Состав, мол. %			$P_r \cdot 10^4$, н см ⁻²	E_H , V см ⁻¹	$k_H = k_{rectang.}$
	PbZrO ₂	PbTiO ₃	*PbSnO ₃ *			
P-10	90	10	—	8,4	8350	0,65
P-24	76	24	—	10,4	6950	0,78
P-36	64	36	—	12,2	6350	0,83
P-36-10	54	36	10	15	5850	0,85
P-40	60	40	—	13	6650	0,85
P-45	55	45	—	14	6900	0,83

Table

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B006/B056

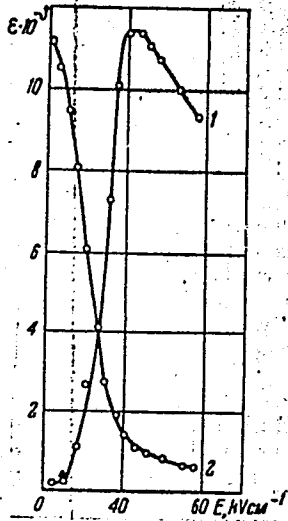


Fig. 5

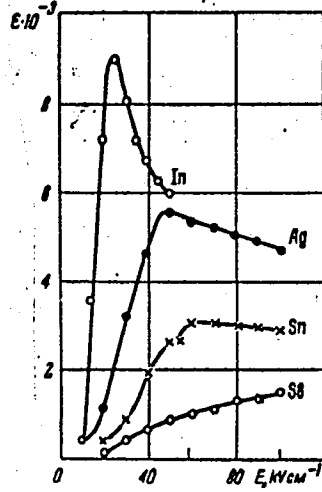


Fig. 6

Legend to Fig. 5:
Dependence of the 2μ thick films on the variable and constant field strength, respectively: 1) $\epsilon = f(E_{\sim})$, $E_{\sim} = 0$; 2) $\epsilon = f(E_{\sim})$, $E_{\sim} = 40 \text{ kv/cm}$.

Legend to Fig. 6:
Dependence of the non-linearity of ferroelectric films on the electrode material.

Card 4/4

LUR'YE, M.S.; VASIL'YEVA, Ye.I.; IGNAT'YEVA, I.V.

Seignettoelectric films with rectangular hysteresis loops. Izv.
AN SSSR Ser. fiz. 24 no.11:1376-1379 N '60. (MIRA 13:12)
(Ferroelectric substances--Magnetic properties)

LUR'YE, M. S. Physician Dr. Med. Sci.

Dissertation; "Clinical Treatment of the Complications of Suppurative Otitis Media in Cases Atypical." Second Moscow State Medical Inst. imeni I. V. Stalin. 28 Apr 47.

SO: Vechernyaya Moskva, Apr, 1947. (Project #17836)

LUR'YE, M. S.

"Clinical Diagnosis of Atypical Mild Purulent Otitis and Its Complications."

SO: Vest. Oto-rino-laringol., No. 4, 1948, Dr. Medical Sci., ORL Mbr., Otorhine leryngological Clinic

im. L. I. Sverzhevskiy, Secnd Moscow Med., Inst.

im. I. V. Stalin, at First Mun., Clinical Hosp., -1948-.

LUR'YE, M. S.

LUR'YE, M. S.

Use of dental burs in otorhinolaryngeal surgery. Vest. otorinolar.
12:4, July-Aug. 50. p. 49-53

1. Of the LOR (Otorhinolaryngological) Clinic imeni Honored Worker
in Science Prof. L. I. Sverzhvskiy (Director--Honored Worker in
Science Prof. B. S. Preobrazhenskiy), Second Moscow Medical
Institute imeni I. V. Stalin located at the First Moscow imeni
N. I. Pirogov Hospital (Head Physician--Prof. A. B. Topchan).

OLML 19, 5, Nov., 1950

LUB'YE, M.S.

Peculiarities of the course of otolaryngological diseases in hypertension.
Vest. otorinolar., Moskva 14 no.2:28-32 Mar-Apr 1952. (CIML 22:1)

1. Doctor Medical Sciences. 2. Of the Department for Diseases of the
Ear, Throat, and Nose (Director -- Honored Worker in Science Prof. B. S.
Preobrazhenskiy), Second Moscow Medical Institute imeni I. V. Stalin.

LUR'YE, M.S., professor.

Laryngocela. Vest,oto-rin. 15 no.4:83-84 J1-Ag '53.

(MLRA 6:9)

1. Klinika bolezney ukha, gorla i nosa Samarkandskogo meditsinskogo instituta
im. I.P.Pavlova. (Larynx--Diseases)

GLEBKOSHANSKAYA, N.V.; IUR'YE, M.S., professor, zaveduyushchiy.

Presence of two foreign bodies in the trachea. Vest.oto-rin. 15 no.4:86 J1-
Ag '53. (MIRA 6:9)

1. Klinika bolezney ukha, gorla i nosa Samarkandskogo meditsinskogo instituta.
(Trachea--Foreign bodies)

LUR'YE, M.S.

Remote results of the treatment of chronic tonsillitis and its complications by galvanocautery of the tonsils. Vest. otorinolar., Moskva 15 no.5:52-55 Sept-Oct 1953. (OIML 25:5)

1. Professor. 2. Of the Clinic for Diseases of the Ear, Throat, and Nose of Samarkand Medical Institute.

LUR'YE, M.S., professor

Problem of treating tonsils in children. Vest.oto-rin. 17 no.3:
78-79 My-Je '55.

1. Iz kliniki bolezney ukha, gorla i nosa Samarkandskogo medi-
tsinskogo instituta imeni akademita I.P.Pavlova.
(TONSILS--SURGERY)

LUR'YE, M. S., prof, doktor med. nauk

Clinical connection of some neurotic reactions of otorhinolaryngological localization with diseases of the gastrointestinal system.
Vest. otorin. no.3:40-43 '62. (MIRA 15:6)

1. Iz Krasnoprudnoy i Spartakovskoy poliklinik Moskovskogo gorodskogo otdela zdravookhraneniya.

(OTORHINOLARYNGOLOGY) (GASTROENTEROLOGY)

FILARETOV, G.A.; STAFKEYEV, V.I.; CHERKASHIN, G.A.; LUR'YE, M.S.; EUBNOV, Yu.Z.;
ASNINA, Zh.S.

Study of the negative impedance of Al_2O_3 -- metal contacts.

Radiotekh. i elektron. 11 no. 2:298-301 F '66
(MIRA 19:2)

LUR'YE, M.Ya.

The trademark is the escort of products. Tekst.prom. 22 no.6:
28-31 Je '62. (MIRA 16:5)

1. Nachal'nik otdela Vsesoyuznogo instituta assortimenta izdeliy
legkoy promyshlennosti i kul'tury odezhdy pri Gosplane SSSR.
(Trademarks)

LUR'YE, M. YE., ENG.

Cold Storage - Insulation

Insulation materials for refrigerator boats. Ryb. khoz., 28, No. 8, 1952.

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

1. LURVE, M. ^{He} Eng.
2. USSR (600)
4. Insulation (heat)
7. Heat insulation of ships. Mor. flot 13 No. 1, 1953

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

AMIRDZHANOV, S.S.; LIBMAN, A.Z.; LUR'YE, M.Ye.

Float liquid level regulators. Vod. i san. tekhn. no.10:19-21 '59.
(MIRA 13:1)

(Liquid level indicators)

LUR'YE, M.Ye., inzh.; AMIRDZHANOV, S.S., inzh.

Float apparatus for regulating liquid level. Sudostroenie 25
no.4:56-57 Ap '59. (MIRA 12:6)
(Liquid level indicators)

LUR'YE, M.Ye.
LUR'YE, M.Ye., inzh.; EYDLIN, M.A., inzh.

Assembling vacuum pipes. Mont. i spets. rab. v stroi. 23
no. 1:11-13 Ja '61. (MIRA 14:1)

1. Tresty Soyuzprommekhanizatsiya i Sibetkhmontazh.
(Vacuum apparatus) (Pipe, Steel)

LUR YE LE

Synthesis of hydrocarbons, XXXVIII. Synthesis of alkenes and alkanes with two quaternary carbon atoms. R. Ya. Leving, N. P. Shusharina, N. I. Volchinskaya, and M. Lurie. *J. Gen. Chem. U.S.S.R.* 23, 407-9 (1953) (Engl. translation).—See C.A. 48, 3883a. H. L. H.

Lur'ya, M. Yu.

USSR

Cyanoethylated ketones in the synthesis of unsaturated lactones. II. Synthesis and properties of unsaturated lactones from γ -acetylacetonitrile. R. Ya. Levin, N. P. Shusharina, and M. Yu. Lur'ya (Moscow State Univ.). *Zhur. Obshchei Khim.* 24, 1430-44 (1954); cf. R. Ya. Levin, N. P. Shusharina, and T. A. Kaminskaya, *C.A.* 47, 4849f. $\text{CH}_2\text{=CHCN}$ (30 g.) was added at below 10° to 405 g. $\text{Me}_2\text{C=CHCO}$ and 1 g. 30% MeOH-KOH with good cooling; after stirring 1 hr. the mixt. yielded 22-30% $\text{AcCHMeCH}_2\text{CH}_2\text{CN}$ (I), bp. $110-12^\circ$, and 21% γ -acetyl- γ -methylacetonitrile, m. 67° . I (30 g.) refluxed with 180 ml. 2*N* HCl 2 hrs. gave $\text{AcCHMeCH}_2\text{CH}_2\text{CO}_2\text{H}$ (II), bp. $140-1^\circ$, n_D^{20} 1.4483, d_4^{20} 1.0574; semicarbazone, m. 135° ; Et ester, bp. 66° , n_D^{20} 1.4320, d_4^{20} 0.9303. Treatment of the free acid with dioxane-Br gave $\text{AcCBMeCH}_2\text{CH}_2\text{CO}_2\text{H}$, m. $79-80^\circ$. II (34 g.) and 125 ml. Ac_2O refluxed with a few drops AcCl 2 hrs. gave 85% $\text{MeC}(\text{OMe})\text{O}(\text{CO})\text{CH}_2\text{CH}_2$ (III), bp. 210° , m. 69° , n_D^{20} 1.4738, d_4^{20} 1.0525; on standing this slowly developed acidic properties owing to slow hydrolysis. The lactone III treated with Br in CCl_4 gave a dibromide (from petr. ether), which treated with H_2O gave $\text{AcCHMeCH}_2\text{CH}_2\text{CO}_2\text{H}$, identical with the above described sample. Moisture converts III to II; in 2% soln. in 4 days some 40-50% of III is converted to II; but 10% KOH gives total conversion in 1 hr. Shaking I with concd. NH_4OH gave $\text{AcCHMeCH}_2\text{CH}_2\text{CONH}_2$, m. 124° (from EtOAc). III in dry EtOH satd. with dry HCl at 0° gave 60% Et ester, whose semicarbazone, m. $66-7^\circ$, was identical with a specimen from the above described sample of the ester. Hydrogenation of III over $\text{Ni-Al}_2\text{O}_3$ at 200° gave 5,5-dimethyltetrahydro-2-pyrone, bp. $107-9^\circ$, n_D^{20} 1.4550, d_4^{20} 1.0222. G. M. K.

LUR YE. M. Yu.

Unsaturated β -lactones from mono-cyanoethylated cyclic ketones. N. P. Shusharina, B. Ye. Gerasim, M. Yu. Lur'ya, and V. I. Zdanovich. *Vestnik Moskov. Univ.* 10, No. 10, Ser. Fiz.-Mat. i Estestv. Nauk No. 7, 123-5 (1965). — Cyclohexanone with $\text{CH}_2=\text{CHCN}$ (Ia) gave 47% α -(β -cyanoethyl)cyclohexanone (II), d_4^{20} 1.146-7, n_D^{20} 1.4367, d_{20} 1.0215, n_D^{20} 1.4123. It was converted by boiling with dil. acid to the corresponding ketone (85%), b. 90-1°, this heated with Ac_2O gave 83% Δ^2 -hexahydrocoumarin, b. 117-18°, d_{20} 1.1180, n_D^{20} 1.5050, M_R_D 40.42. β -Tetralone with Ia in dioxane contg. KOH gave 40% α -(β -cyanoethyl)- β -tetralone (I), b. 187-8°, b. 202-4°, n_D^{20} 1.5635, d_{20} 1.1367, M_R_D 66.97, E_M_D 0.75. The distn. residue from I was α -bis(β -cyanoethyl)- β -tetralone, m. 96° (from C_6H_6), and boiled with $\text{HCl}-\text{AcOH}$ gave 78% 5,6-benzo- Δ^3 -tetrahydrocoumarin, m. 99-100° (from EtOH), and b. 187-8°. α -Tetralone, Ia, and KOH in dioxane gave 39% β -(β -cyanoethyl)- α -tetralone (II), b. 203-5°, m. 59-60°. Boiling II with concd. $\text{HCl}-\text{AcOH}$ gave 82% β -(β -carboxyethyl)- α -tetralone, m. 107-8°, 70% 7,8-benzo- Δ^3 -tetrahydrocoumarin. Similarly cyclopentanone and Ia gave α -cyclopentylidencyclopentanone, I, b. 125-6°, n_D^{20} 1.5104, d_{20} 1.0175, and 25.5% α -(β -cyanoethyl)cyclopentanone (III), b. 125-6°, n_D^{20} 1.4720, d_{20} 1.0402, M_R_D 36.88. Hydrolysis of III with HCl gave up to 70% α -(β -carboxyethyl)cyclopentanone (IV), b. 175-70°, n_D^{20} 1.4775, d_{20} 1.1432, M_R_D 38.68; semicarbazone, m. 215-16° (decomp.). Heating IV with Ac_2O yielded 74% 5,6-cyclopenteno-3,4-dihydro- α -pyrone, b. 118-19°, n_D^{20} 1.4990, d_{20} 1.1272, M_R_D 33.00.

F. S. Boig

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M. LUR'YE, M. YU.

USSR/Organic Chemistry - Synthetic Organic Chemistry

E-2

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4358

Author : Shusherina, N.P., Levina, R.Ya., Lur'ye, M.Yu.

Title : Cyanoethylated Ketones in the Synthesis of Unsaturated Delta-Lactones. V. Synthesis and Properties of Unsaturated Delta-Lactones from Monocyanoethylated Acetone and Cyclohexanone.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 3, 750-755.

Abstract : By hydrolysis of monocyanoethylated cyclohexanone (I) and acetoacetic ester (II) (in the latter case there takes place concurrently with hydrolysis a decarboxylation) were prepared cyclohexanone-2-beta-propionic (III) and gamma-acetylbutyric (IV) acids, lactonization of which results, respectively, in delta^{9,10}-hexahydro-coumarin (V) and 6-methyl-3,4-dihydro-alpha-pyrone (VI). Structure of I and VI is established by their conversion, respectively, to III and IV (hydrolysis), their esters

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USSR/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4358

(alcoholysis and amides (ammonolysis). On hydrogenation of V and VI over PtO_2 ($\sim 20^\circ$) were obtained beta-cyclohexylpropionic (VII) and caproic (VIII) acids. To 5 mole cyclohexanone and 2 ml 40% solution of NaOH in CH_3OH is added, with stirring, at a temperature $< 40^\circ$, 1 mole acrylonitrile (IX); obtained I, yield 47%, BP 146-147°/6 mm, n_D^{20} 1.4697, d_4^{20} 1.0215. Mixture of 24.5 g I, 40 ml concentrated HCl and 20 ml water boiled 2 hours, III extracted with ether, yield 85.5%, BP 180-181°/10 mm, MP 60-61° (from benzene); semicarbazide, MP 184° (decomposes; from aqueous alcohol). Mixture of 10 g III and 18 g $(CH_3CO)_2O$ heated 4 hours; obtained V, yield 83%, BP 117-118°/5 mm, n_D^{20} 1.5050, d_4^{20} 1.1166. On heating with 10% solution of NaOH (0.5 hours) V is quantitatively converted to III. Solution of 5 g V in 50 ml absolute alcohol saturated with gaseous HCl, poured into water, extracted with ether; obtained ethyl ester of III, BP 134-135°/7 mm,

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USSR/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4358

n_D^{20} 1.4626, d_4^{20} 1.0350; semicarbazide, MP 105-106° (from aqueous alcohol). By shaking V with NH_4OH there is obtained the amide of III, MP 163-164° (decomposes; from water). Hydrogenation of 0.08 mole V over PtO_2 in absolute alcohol gives VII, yield 66%, BP 112-113°/4 mm, n_D^{20} 1.4654, d_4^{20} 1.0104; amide, MP 119-120°; phenylhydrazide, MP 155-156° (from aqueous alcohol). To a solution of C_2H_5ONa (from 0.5 g Na and 100 ml alcohol) added 1 mole aceto-acetic ester and 0.8 mole IX (stirring, temperature $< 40^\circ$), alcohol driven off, neutralized with CH_3COOH and extracted with ether; obtained II, yield 47%, BP 155-156°/10 mm, n_D^{20} 1.4480, d_4^{20} 1.0690, and dicyanethyl-derivative, yield 25 g, MP 82-83° (from alcohol). Mixture of 30 g II, 17 ml water and 17 ml concentrated H_2SO_4 and 50 ml CH_3COOH , boiled 5-7 hours, diluted with water and extracted with ether for 10 hours; obtained IV, yield 57%, BP 152-154°/10 mm, n_D^{20} 1.4462, d_4^{20}

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USSR/Organic Chemistry - Synthetic Organic Chemistry

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Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4358

1.110; semicarbazide, MP 173° (from aqueous alcohol). Analogously to V is obtained VI, yield 57%, BP 72-73°/10 mm, 82-83°/15 mm, n_{D}^{20} 1.4650, d_{4}^{20} 1.0782; on using CH_2CCl in lieu of $(\text{CH}_2\text{CO})_2\text{O}$ the yield is 67%. VI, analogously to the above described procedure for V, is converted to IV (semicarbazide, MP 173°), its ethyl ester, BP 104-105°/12 mm, n_{D}^{20} 1.4275, d_{4}^{20} 0.9971; semicarbazide, MP 114-115°; amide, MP 112-113° (from chloroform), and VIII, yield 69.7%, BP 105-107°/15 mm, n_{D}^{20} 1.4190; phenylhydrazide, MP 100° (from aqueous alcohol). Hydrogenation of 15 g VI over Ni/ Al_2O_3 at 180-200°, gives 6-methyl tetrahydro-alpha-pyrone, yield 7 g, BP 114-116°/23 mm, n_{D}^{20} 1.4425, d_{4}^{20} 1.0162.

Preceding communication, see RZhKhim, 1956, 68258.

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~~LUR'K, M. Yu.~~
LUR'K, M. Yu.

5
Cyanooethylated ketones in the synthesis of unsaturated
β-lactones. V. Synthesis and properties of unsaturated
β-lactones from monocyanooethylated derivatives of acetone
and cyclohexanone. N. P. Shusherina, R. Ya. Levin,
and M. Yu. Luc'k. J. Gen. Chem. 30, 26, 3115
(1959) (English translation) - See C.A. 50, 1474a
E.M.P.

RM

WURYE, M. Yu.

Cyanoethylated ketones in the synthesis of unsaturated
lactones. β -Lactones with a hemicyclic double bond
K. Ya. Leyva, N. P. Shusherina, M. Yu. Wurye and N. D.
Orlova. Proc. Acad. Sci. U.S.S.R., Ser. Chem., No. 51-4
(1956) (Engl. translation).—See C.A. 50: 10872
B M R

LUR'YE, M. Yu.

Cyanoethylated ketones in the synthesis of unsaturated lactones. β -Lactones with hemicyclic double bond.

Levina, N. P. Sushkova, M. Yu. Lur'ye, and N. D. Orlova (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 106, 279-80 (1956).—Addn. of 16 g. $\text{CH}_2=\text{CHCN}$ to 161 g. iso-PrCO, 2.5 ml. 30% MeOH-KOH, and 2 ml. $\text{Me}_2\text{CHCOCM}_2\text{CH}_2\text{CH}_2\text{CN}$ (I), at 34-8°, followed by 4 hrs. at room temp. gave 70% I, b_p 124-8°, n_D^{20} 1.4428, d_4^{20} 0.9241. Refluxed with aq. KOH gave 86% $\text{Me}_2\text{CHCOCM}_2\text{CH}_2\text{CH}_2\text{CO}_2\text{H}$ (II), b_p 154-7°, n_D^{20} 1.4500, d_4^{20} 1.0100; *Et ester*, b_p 114-16°, n_D^{20} 1.4370, d_4^{20} 0.9532. II (20 g.) refluxed 3 hrs. with 75 ml. AcCl gave, after aq. treatment, 43.5% 5,5-dimethyl-6-isopropylidene-tetrahydro-2-pyrone, b_p 111-13°, n_D^{20} 1.4500, d_4^{20} 1.0112, and apparently II anhydride, m_p 63-66°, b_p 102-4°. The lactone in abs. EtOH was treated with dry. HCl yielding 78% II *Et ester*. Addn. of 16.0 g. $\text{CH}_2=\text{CHCN}$ to 21.5 g. iso-PrAc, 2.3 g. MeCOH, and 5.3 ml. MeOH-KOH at under 40°, followed by stirring 3-4 hrs. gave 41.7% 4-($\text{Me}_2\text{CH}_2\text{CH}_2\text{CN}$), b_p 126-7°, n_D^{20} 1.4425, d_4^{20} 0.9451. Hydrolysis as above with KOH gave the carboxylic acid, b_p 159-60°, m_p 46-7°, in 97% yield; *Et ester* (III), b_p 117-18°, n_D^{20} 1.4370, d_4^{20} 0.9790 (semicarbazone; m_p 77-8°). The free acid with AcCl gave 85% 5,5-dimethyl-6-methylene-tetrahydro-2-pyrone, b_p 95-6°, n_D^{20} 1.4730, d_4^{20} 1.038. The lactone hydrolyzes slowly to the free acid in moist air; in aq. soln. it is 57-60% hydrolyzed in 20 hrs. The lactone with EtOH and dry HCl, as above, gave 70% III. Shaking with lactones with concd. NH_4OH gave, resp., 83% iso-PrCO-CMe₂CH₂CH₂CONH₂, m_p 86-7°, and 70% AcCMe₂CH₂CH₂CONH₂, m_p 113-15°; the latter on heating readily forms the lactam: 5,5-dimethyl-6-methylene-piperidone, m_p 103-9°.

G. M. Kosolapoff

LUR'YE, M. Yu. Cand Chem Sci -- (diss) "Synthesis and properties of unsaturated
^{iv}
~~*~~ ^(delta) - lactones." Mos, 1957. 8 pp 22 cm. (Mos State U im M. V. Lomonosov), 100 copies.
(KL, 13-57, 97)

SHUSHERINA, N.P.; LEVINA, R.Ya.; LUR'YE, M.Yu.

Chemistry of δ -lactones. Vest. Mosk. un. Ser. mat., mekh., astron.
fiz., khim. 12 no. 6:173-198 '57. (MIRA 11:10)

1. Kafedra organicheskoy khimii Moskovskogo gosudarstvennogo
universiteta.

(Lactones)

LUR'YE, M. Yu.

SHUSHERINA, N.P.; LUR'YE, M. Yu.; LEVINA, R. Ya.

δ-lactones. Part 10: 9,10-dibromooctahydrocoumarin and its reactions.
Zhur. ob. khim. 27 no.8:2250-2255 Ag '57. (MLRA 10:9)

1. Moskovskiy gosudarstvennyy universitet.
(Lactones) (Coumarin)

LUR'YE, M. YU.

AUTHOR: LEVINA, P., SHUSHERINA, N. P., LUR'YE, M. YU. PA - 2762

TITLE: δ -Lactones. Transformation of the Dibromides of Unsaturated δ -Lactones into Bromine Substituted δ -Ketone Acids and their Ethers.
(δ -laktony. Prevrashcheniye dibromidov nepredel'nykh δ -laktonov v bromozameshchennyye δ -ketonkisloty i ikh efiry, Russian)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 4, pp 820 - 823 (U.S.S.R.)
Received: 6 / 1957 Reviewed: 7 / 1957

ABSTRACT: In their previous report the authors for the first time described the reaction between the dibromide of unsaturated β -lactones, i.e. 5,6-dibrom-5,6-dimethyltetrahydro- α -pyron and water, namely, the binding with water with opening of the lactone cycle and separating of a molecule of hydrogen bromide. This leads to the formation of δ -brom- γ -acetyl valeric acid with quantitatively correct yield. The structure of this acid was checked by counter-analysis, i.e. bromizing of the γ -acetyl valeric acid by dioxandibromide. In the present work it is shown that reaction between the dibromides of the unsaturated lactones and water may serve as a general method of preparing a δ - or ϵ -bromine-substitute δ -ketone acid. In this way the following preparations, which have hitherto not been described in publications were produced: 4-bromine hexanon-5-carbonic acid, 6-bromine-4,4-dimethylhexanon-5-carbonic acid, 6-bromine-4,6,6-trimethylheptanon-5-carbonic acid, and 2-bromine-2-(β carboxyethyl)-cyclopentanon. Structure formulae are given. In the course of their

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PA - 2762

δ -Lactones. Transformation of the Dibromides of Unsaturated
 δ -Lactones into Bromine Substituted δ -Ketone Acids and their Ethers.

further investigation of the reactivity of dibromine lactons they first studied their reaction with ethanol. Here the binding of alcohol is effected by the opening of the lactone cycle, the separating of a molecule from hydrogen bromide, and ethyl ethers of γ - or ϵ -substituted δ -keton acids. By means of this reaction the ethyl ethers hitherto not described in publications of the above mentioned bromine-ketone acids were obtained. Also in this case structure was checked by means of a counter-synthesis of one of them: ether XI was obtained by the action of dioxandibromide on ethyl ether of γ -acetyl butiric acid. In the experimental part each single reaction together with conditions and results was described.
(6 groups of chemical formulae, 2 tables, 5 citations from Slav publications)

ASSOCIATION: Moscow State University "M.V. LOMONOSOV"
PRESENTED BY: A.N. NESMEYANOV, Member of the Academy
SUBMITTED: 23.11.1956
AVAILABLE: Library of Congress

Card 2/2

LUR'YE, M. YU.

20-5-39/67

AUTHOR
TITLE

SHUSHERINA N.P., LUR'YE M.Yu., LEVINA R.Ya.
δ-Laktone. Production of Acylated Butyrolactones from γ-Bromine
δ-ketone acids.

PERIODICAL

(δ-laktony. Polucheniye atsilirovannykh butiraktonov iz γ-brom-
δ-ketonokislota -Russian)
Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 5, pp 1084-1087 (U.S.S.R.)
Reviewed 8/1957
Received 7/1957

ABSTRACT

In previous papers the author described the preparative method of production by interaction of dibromides of unsaturated δ-lactones with water. The present paper shows that the γ-bromine and δ-ketone acids obtained in this way go over into butyrolactones under the effect of a cold saturated solution of sodium acetate, which are acylated in position 5. Five different lactones were obtained from the corresponding acids, so that the reaction mentioned may serve as a preparative method for the production of acylated butyrolactones-. In all cases (with the exception of case I: 5-acetylbutyrolactone) also the formation of isomeric saturated 6-membered lactones (VII) can be presumed if the reaction had developed by the intermediate formation of unsaturated ketone acids. This, however, does not apply as it was shown that the unsaturated ketone acid (VII), which was synthesized particularly for this purpose, is not changed under the influence of a saturated aqueous solution of sodium acetate. The substances I-V cannot be titrated with aqueous and alcoholic solutions of alkalies, they do not discolor

A
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Card 1/2

79-28-5-54/69

AUTMORS: Lur'ye, M. Yu., Trubnikov, I. S., Shusherina, N. P.,
Levina, R. Ia

TITLE: δ -Lactones (δ -Laktony). XII. Synthesis and Properties of
6-Phenyl-3,4-Dihydro- α -Pyrone (Sintez i svoystva 6-fenil-3,4-
-digrido- α -pirona)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5,
pp. 1351 - 1355 (USSR)

ABSTRACT: In previous publications a synthesis of unsaturated δ -lac-
tones (3,4-dihydro- α -pyrones) from monocyano-ethylated ali-
phatic and alicyclic ketones (Reference 1-4) was described.
In the present paper the unsaturated lactone, 6-phenyl-
-3,4-dihydro- α -pyrone (formula III), was synthesized this way
(see scheme 1). From references, it is known that the cyano-ethyla-
tion of acetophenone either leads to the tricyano-ethylated
derivative (Reference 5) or to the mixture of monocyano-
ethylated (13%) and dicyano-ethylated acetophenone (Reference
6). The authors succeeded in finding conditions on which this
treatment makes it possible to synthesize the γ -benzoylbutyro-

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79-28-5-54/69

δ -Lactones. XII. Synthesis and Properties of 6-Phenyl-3,4-Dihydro- α -
Pyrone

-nitrile(I)(28-35%) only. The hydrolysis of nitrile (I) in γ -benzoylbutyric acid (II) and its conversion to lactone (III) occurred with respective yields of 100 and 75%. It was further shown that on the action of an equimolar amount of bromine on the lactone (III) a liquid dibromide (IV) forms which, similar to the earlier described dibromolactone (IV), converts on the treatment with water to the γ -bromo- γ -benzoylbutyric acid (VI) in a yield of 86.5%. In the vacuum distillation in a dry air current the dibromolactone converts to the 6-phenyl- α -pyrone(phenylcoumalin,V) on which occasion the initial product, the unsaturated δ -lactone (III), is reforming, however. Thus in the distillation of dibromolactone (IV) the cleavage of two molecules of hydrogen bromide leads to the formation of α -pyrone (V), while the cleavage of bromine causes the formation of the initial lactone (scheme ?). There are 14 references, 6 of which are Soviet.

Card 2/3

79-28-5-54/69

δ -Lactones. XII. Synthesis and Properties of 6-Phenyl-3,4-Dihydro- α -
Pyrone

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State Uni-
versity)

SUBMITTED: April 15, 1957

Card 3/3

SOV/79-29-2-10/71

AUTHORS: Shusherina, N. P., Levina, R. Ya., Sidenko, Z. S., Lur'ye, M. Yu.

TITLE: δ -Lactones (δ -Laktony). XIV. Synthesis of 6-Methyl-5-alkyl- α -pyrones (Sintez 6-metil-5-alkil- α -pironov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 403-407 (USSR)

ABSTRACT: The authors found earlier that on distilling 5,6-dibromosubstituted bi and tricyclic δ -lactones, the corresponding α -pyrones are formed (Scheme 1). δ -lactones are obtained by the bromination of δ -enollactones, which in their turn are formed by condensation from polymethylene cycles in the position 5,6. In the work under review this method was used for the synthesis of 5,6-dialkyl- α -pyrones. It is shown that on distilling 5,6-dibromo-6-methyl-5-alkyl-tetrahydro- α -pyrones (V-VIII), formed in connection with the bromination of 6-methyl-5-alkyl-3,4-dihydro- α -pyrones (I-IV) (Ref 3), the corresponding α -pyrones are obtained in yields of 10-17%. The low yield is explained by the circumstance that besides the dehydrobromination of dibromides (V-VIII) they also undergo debromination which fact leads to the formation of the unsaturated initial δ -lactones (I-IV) (in yields of 50-60%) (Scheme 2). The yield in α -pyrones can be increased to

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δ -Lactones. XIV. Synthesis of 6-Methyl-5-alkyl- α -pyrones SOV/79-29-2-10/71

25-46% by an appropriate pre-heating of the dibromo-lactones at 130-140° in vacuum and by a further fractionated distillation of the δ -lactones forming therefrom (excepting the compound (IX) which is separated from lactone (I) by freezing). The following difficultly accessible and hitherto unknown 5,6-dialkyl-substituted α -pyrones were obtained in this way: 5,6-dimethyl, 6-methyl-5-ethyl, 6-methyl-5-propyl and 6-methyl-5-butyl- α -pyrone (IX, X, XI, XII) in yields of 27, 25, 38 and 46%, correspondingly. There are 1 table and 7 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)
SUBMITTED: December 24, 1957

Card 2/2

5 (3)

AUTHORS:

Shemyakin, M. M., Lur'ye, M. Yu.

SOV/79-29-8-15/81

TITLE:

Investigations of the Chemistry of Chloromycetin (1-Mycetin).
IX. Synthesis of the New Analog of Chloromycetin (D-TREO-1-
(p-formylphenyl)-2-dichloroacetyl-amino-1,3-propanediol)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2531 - 2533
(USSR)

ABSTRACT:

Of the analogs of chloromycetin (I, R=CHCl₂) this hitherto un-
described analog is of special importance (IV, X=CHO; R=CHCl₂).
The presence of the aldehyde group within it allows for the
synthesis of a large number of other hitherto little accessible
chloromycetin analogs, which are important for the further ex-
planation of the varied dependence of the antimicrobial activity
on the structure of these compounds. On the basis of the method
elaborated by W. F. Beech (Ref 2) for the introduction of the
aldehyde group into the aromatic ring by way of diazo compounds,
the authors succeeded in applying the simple synthesis of op-
tically active chloromycetin analogs (IV, R=CHCl₂) directly from
chloromycetin (I, R=CHCl₂), suggested by them (Ref 3), for the

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Investigations of the Chemistry of Chloromycetin SOV/79-29-8-15/81
(1-Mycetin). IX. Synthesis of the New Analog of
Chloromycetin (D-TREO-1-(p-formylphenyl)-2-dichloroacetyl-amino-1,3-propanediol)

synthesis of the aldehyde they were interested in (Schemes). Initially, the transformation did not proceed from compound (I) but from its racemic N-benzyl analog (I, R=C₆H₅), since in this way crystallizing compounds are more easily obtained. With it, the diazo group was replaced by the aldehyde group in compound (III, R=C₆H₅) under conditions suggested by Beech (Ref 2) as an optimum. Compound (IV, X=CHO; R=C₆H₅) was easily separated in crystalline form (yield 15%). This aldehyde was then characterized in the form of the 2,4-dinitrophenyl hydrazone and other derivatives. The synthesis of compound (IV, X=CHO; R=CHCl₂) proceeded more difficultly. It was synthesized as above from compound (III, R=CHCl₂). However, it was not possible to obtain it in crystalline state even after careful purification. This aldehyde was characterized in the form of the 2,4-dinitrophenyl hydrazone (yield 12%). There are 3 references, 2 of which are Soviet.

Card 2/3

Investigations of the Chemistry of Chloromycetin (1-Mycetin). IX. Synthesis of the New Analog of Chloromycetin (D-TREO-1-(p-formylphenyl)-2-dichloroacetylamino-1,3-propanediol) SOV/79-29-8-15/81

ASSOCIATION: Institut biologicheskoy i meditsinskoy khimii Akademii meditsinskikh nauk SSSR (Institute of Biological and Medical Chemistry of the Academy of Medical Sciences, USSR)

SUBMITTED: July 11, 1958

Card 3/3

LUR'YE, M.Yu., doktor tekhn.nauk, prof.

Gas dryers are a powerful means for the intensification of the drying process and for the reduction of construction costs of drying plants. Tekst.prom. 25 no.1:84-87 Ja '65.

(MIRA 18:4)

LUR'YE, M. YU

LUR'YE, M. Y.

Izvestiya teplotekh. Inst. (Bull. Inst. Fuel
Research (Russia)) 1926, No. 1, 5-31.
Specific heat of gases.

CA: 22-4769/6

PROCEDURES AND PROPERTIES MODE

LUR'YE, M. Yu.

CA

Development of drying techniques. M. Yu. Lur'e. *Izv. V. I. I. 15, No. 9/10, 81-8 (1940).*—A review of the development of drying practices in the U.S.S.R. M. II.

AS N. S. L. A METALLURGICAL LITERATURE CLASSIFICATION

GROUP #	SECTION	CLASSIFICATION	INDEX
1	2	3	4

M. YU. LUR'YE

53/49T44

USSR/Engineering
Publications

Jun 49

"New Books on Power Engineering" 1 p

"Elek Stants" No 6

Includes Ye. G. Komar's "Water-Cooled Turbogenerators," M. Yu. Lur'ye's "Drying," P. L. Kalantarov's "Units of Measurement for Electric and Magnetic Values," and B. V. Losikov's "Physicochemical Principles of Oil Regeneration."

53/49T44

SOV/63-3-6-B/43

AUTHOR: Lur'ye, M.Yu., Professor

TITLE: Present Problems of Drying Technique (Sovremennyye problemy su-
shil'noy tekhniki)

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1958, Vol III, Nr 6,
pp 748-752 (USSR)

ABSTRACT: The time needed for drying is reduced if the temperature dif-
ference between the drying gas and the material dried is very
high, or if the specific surface per unit volume is very small.
The drying of granules of 10 mm in diameter in the vacuum filter
lasts 20 min, but the same substance sprayed in the form of
particles 100 μ in diameter dries in 0.5 - 1 sec. The equality
of the drying is of great importance, because the process may
be stopped only after the whole quantity is dry. Tunnel-type
drying installations 75 - 100 m long are used for this purpose.
Installations operating by their own draft are more economical
than the ventilation types. If waste gases are used for dry-
ing, special mixing chambers must be designed, where the gases
are mixed with air in order to obtain the right temperature.
For the drying of cotton drying chambers have been designed
(Figure 2) which are fueled by waste gases. Drying drums have
been developed for the chemical industry (Figure 1). Pneumatic
drying devices are used for the treatment of food products,

Card 1/2

Present Problems of Drying Technique

SOV/63-3-6-c/43

sunflower seeds, etc. A powerful drying installation for cereals is shown in Figure 3. It has an output of 50 t/h. A drying sprayer for sodium-ammonium sulfate (Figure 5) dries and collects the dust in a single apparatus. Another sprayer for medical substances, like antibiotics, operates with temperatures of 150 - 200°C, which heat the dried substance to 40°C (Figure 7). Shelf chambers are used for the drying of small quantities of chemical substances, infrared rays for varnishes and paints as well as for impregnated fabrics. There are 9 diagrams.

Card 2/2

CHERKINSKIY, Boris Mendel'eyevich; GORODOV, Kapiton Ivanovich; VIGDORCHIK, Dariy Yakovlevich; LUR'YE, M. Yu., prof., retsenzent; KOPELEVICH, Ye. I., red.; KOGAN, V. V., tekhn. red.

[Use of gas for speeding up the drying and thermal processing of textile fabrics] Ispol'zovanie gaza dlia intensifikatsii protsessov sushki i termicheskoi obrabotki tkanei. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po legkoi promyshl., 1959. 250 p.
(MIRA 13:2)

(Drying apparatus--Textile fabrics) (Textile finishing)

LUR'YE, M.Yu., prof., doktor

Selecting the type and capacity of drying systems for coal preparation plants. Obog. i brik. ugl. no.21:127-131 '61. (MIRA 16:5)
(Coal preparation plants—Equipment and supplies) (Drying apparatus)

L 13600-66 EWT(m)

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ACC NR: AP6001016

(A)

SOURCE CODE: UR/0286/65/000/022/0101/0101

AUTHORS: Isidorov, V. V.; Akunov, V. I.; Dubinskiy, M. G.; Zavadskiy, G. V.;
Inshtakov, Yu. T.; Lur'ye, M. Yu.; Myasin, N. I.; Nosenko, N. Ye.; Plevako, A. N.;
Rybin, V. R.; Sidochenko, I. M.; Sominskiy, D. S.; Titov, P. P.; Khalov, G. G.;
Shechevel', A. S.; Zavgorodniy, N. S.

ORG: none

BE 1544

TITLE: A reactor for combined pulverizing and burning of a material, such as cement, in a high temperature gas stream. Class 80, No. 115469

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 101

TOPIC TAGS: cement, thermal reactor

ABSTRACT: This Author Certificate presents a reactor for combined pulverizing and burning of a material, such as cement, in a high temperature gas stream. To provide automatic regulation of the burning and calcification time for the material in the reactor, the latter is made in the shape of a flat, lenticular chamber. Nozzles of the combustion chambers are built into the peripheral circle of the lenticular chamber and at an angle to its radii. An opening in the center of the chamber bottom is used to discharge the finished burned product.

SUB CODE: 18,13/

SUBM DATE: 21May61

Card 1/1

LUR'YE, M. Z., Engineer

Mem., ZVSHS (Internal Grinding Machine Plant) (-1945-)

"Multi-Insert Sliding Bearings for Centerless Grinding Machines," Stanki i
Instrument, 16, No. 6, 1945

BR-52059019

LUR, YE, M. Z.

AID P - 4211

Subject : USSR/Engineering

Card 1/2 Pub. 103 - 12/20

Author : Lur'ye, M. Z.

Title : Experimental Application of Textolite Guides in the MV6010-Model Hydraulic Machine.

Periodical : Stan. i instr., 1, 33-36, Ja 1956

Abstract : Use of guides made out of textolite or similar plastics in lathes, boring, milling, broaching machines, etc., has been an accepted practice for some time. The author describes installation of PT-mark textolite guides to safeguard smoothness of moving parts on the MV6010-Model heavy planetary hydraulic internal grinder, which is used for holes 200 to 500 mm in diameter and up to 1,000 mm long. The relevant parts of the machine including the guides were given through tests, and the results obtained were tabulated. The Experimental Scientific Research Institute of Metal-Cutting Machines (ENIMS), as well as several machine-tool plants are

AID P - 4211

Stan. 1 instr., 1, 33-36, Ja 1956

Card 2/2 Pub. 103 - 12/20

conducting similar tests for smoother operation of
carriages, sliding tables, etc. Two pictures, 1 drawing,
1 graph and 2 tables.

Institution : None

Submitted : No date

LUR'YE, M. Z.

AID P - 5167

Subject : USSR/Engineering
Card 1/1 Pub. 103 - 8/19
Author : Lur'ye, M. Z.
Title : ~~Internal grinding machines~~ Rapid-action chucks of internal grinding machines
Periodical : Stan. i instr., 6, 25-30, Je 1956
Abstract : The author describes various quick-acting chucks, such as the triple-jawed chucks, chucks to hold various gears, chucks for thin-walled specimen, chucks actuated by hydroplastics, etc. He presents their characteristics, design and use in internal grinding machines. Ten drawings.
Institution : Moscow Internal Grinding Machine Plant
Submitted : No date

LUR'YE, M.Z.

Thermal deformations of jig boring machines and methods for their
investigation. Stan. i instr. 35 no.1:10-14 Ja '64.
(MIRA 17:3)

KHATIN, M.G., doktor veterinarnykh nauk; LUR'YE, M.Z., kandidat veterinarnykh nauk.

Control of horseflies is a most important task of veterinary medicine. Veterinariia 33 no.3:9-12 Mr '56. (MLRA 9:5)
(WARBLE FLIES)

PRISEL'KOV, A.M., kand.vet.nauk; KHATIN, M.G., doktor vet.nauk;
LUR'YE, M.Z., kand.vet.nauk

Improvement in creolin prescriptions and forms for administration.
Trudy VNIIVSE 11:86-111 '57. (MIRA 11:12)
(Creolin)