GORYAINOV, O.A.; RAYMES, R.L.; GINZBURG, S.A., redaktor; FRIDKIN, A.M., tekhnicheskiy redaktor.

[Remote control] Teleupravlenie. Moskva, Gos. energ. izd-vo, 1954. 511 p. (MLRA 7:12)
(Remote control)

RAYNES, R. L.

AID P - 2341

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 5/30

Author : Raynes, R. L., Eng., Moscow

Title : Principles of a system of telecontrol with static components

Periodical : Elektrichestvo, 5, 24-26, My 1955

Abstract : The author presents a new approach to telecontrol in which most of the relay-contact components are replaced with contactless static ones. He describes an experimental installation developed at the Central Scientific Research Electrical Laboratory in which components of input signals and all the path that initiates control action are executed by static elements. The installation uses a 50 cycle current. A 30-km long overhead steel line was used as communication channel. Step-by-step line finders were used as signal distributors. All auxiliary circuits employed a total of 5 contact relays. During a 1 1/2 year period about 4000 experimental telemissions were carried out with satisfactory results. Five diagrams.

Translation M-1104, 8 May 56

AID P - 2341

Elektrichestvo, 5, 24-26, My 1955

Card 2/2

Institution: No data

Submitted : Ag 24, 1954

RAYNES, R. L.

"Installation of Remote Control of TsNIEL*in Electric Power Systems" (Ustroystva teleupravleniya TsNIEL v energeticheskikh sistemakh) from the book Telemechanization in the National Economy, pp. 189-202, Iz. AN SSSR, Moscow, 1956

(Given at meeting held in Moscow, 29 Nov to 4 Dec 54 by Inst. of Automatics and Telemechanics AS USSR)

Raynes identified with Central Scientific Research [redacted] Electrical Engineering Laboratory of the Min. of Elec. Power Stations (TsNIEL MES)*

L 20329-65 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

AM5013204 BOOK EXPLOITATION UR/
621.398

Raynes, Roman Lazarevich; Goryeinov, Oleg Aleksandrovich

Remote control (Teleupraveniye) 2d ed., rev. Moscow, Izd-vo "Energiya", 1965. 535 p. illus., biblio. 15,000 copies printed

TOPIC TAGS: remote control system, remote signalling system, information theory, coding, remote control, signal separation, multichannel remote control system, remote control equipment, pulse generator, distribution unit, decoding unit, coding unit, trigger unit, telemechanics

PURPOSE AND COVERAGE: This book is intended for specialists in the field of designing, construction, and operation of remote control and telemechanical equipment, as well as for students at schools of higher education taking related courses. The book contains information on the main elements and units of remote control equipment and also on industrial remote control devices. The principles of message coding and the fundamentals of information theory are discussed. The authors express their gratitude to the reviewer, Candidate of Technical Sciences N. D. Soukhoprudskiy and the editor, Candidate of Technical Sciences A. N. Yurasov. The introduction, Chapters 1-4, 6 (except for § 6-4, b and § 6-7, a and b), 7 (except for § 7-3,d), 9,10 and 8, § 8-1, 8-2, 8-6-8-9 were written by R. L. Raynes, § 6-4, b, § 6-7,

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AM5013204

a and b, and § 8-3-8-5, by O. A. Goryaninov, and Chapter 5, by Candidate of Technical Sciences V. A. Zhozhikashvili.

TABLE OF CONTENTS:

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AM5013204

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SUB CODE: EL, DP SUBMITTED: 26DEC64 NO REF SOV: 103

OTHER: 007

Card 7/7

RAYNES, R.L., kand. tekhn. nauk

Present-day status of remote control in electric power distribution systems. Trudy VNIIE no.12:14-30 '61. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektroenergetiki.

RAYNES, Roman Lazarevich; GORYANOV, Oleg Aleksandrovich. Prinimal uchastiye ZHOZHIKASHVILI, V.A., kand. tekhn. nauk; SUKHOPRUDSKIY, N.D., kand. tekhn. nauk, retsenzent YURASOV, A.N., red.

[Remote control] Teleupravlenie. Izd.2., perer. Moskva, Energiia, 1965. 535 p. (MIRA 18:2)

RAYNES, R.L., inzh.

Use of remote control in electric power systems. Trudy VNIIE [redacted] no.7:7-16 '58.

Methods for increasing the speed of a time distributed code. (MIRA 16:12) Ibid.:91-114

RAYNGOL'TS, YURIY ANATOL'YEVICH

Elektricheskoye oborudovaniya portovykh pod"yemno-transportnykh mashin (Electric equipment of harbor hoisting-conveying machinery) Leningrad, Rechnoy transport, 1955.
356 p. diagrs., tables.

BYKHOVSKIY, Ya.L., kand. tekhn. nauk; RAYNES, R.L., inzh.; SOKOLOV, V.B., inzh.

Selection of telemetering equipment. Elek sta. 30 no.2:76-77 F '59. (MIRA 12:3)
(Telemetering--Equipment and supplies)

RAYNES, R. L.: Master Tech Sci (diss) -- "Analysis of time-sharing systems for remote control". Moscow, 1958. 16 pp (Min Higher Educ USSR, Moscow Order of Lenin Power Engineering Inst), 150 copies (KL, No 4, 1959, 127)

RAYNIN, B.L.

AID P - 1885

Subject : USSR/Electricity

Card 1/2 Pub. 28 - 2/5

Authors : Azimov, B. A., Mel'nikov, M. I., and Raynin, B. L.

Title : Operation characteristics of electric drive of drilling hoist

Periodical : Energ. byul., no.3, 13-21, Mr 1955

Abstract : The authors present the results of their analysis of observations of the electric drive operation of the U2-5-4 drilling hoist of the "Uralmash-4E" petroleum drilling outfit, a very late design, equipped with two 330 kw motors of MAB-138-6 type. Five diagrams and two tables accompany the text. The second table provides detailed information on lowering and hoisting drilling tools and casing, the techniques involved, and the time and power consumed by each operation.

Energ. byul., no.3, 13-21, Mr 1955 AID P - 1885

Card 2/2 Pub. 28 - 2/5

Institution : None

Submitted : No date

IONAS, B.Ya.; GIROVSKIY, V.F.; RAYNIN, S.N.; SYRTSOVA, Ye.D.; USPENSKIY, V.V.; SHASS, M.Ye.

Basic financial problems of housing and public building construction in Moscow. Gor.khoz.Mosk. 28 no. 7:15-20 Jl '54. (MLRA 7:7)
(Moscow--Construction industry) (Construction industry--Moscow)

RAYNIN, V.Ye., inzh.

Formation of a percolation [illegible] loess-like loams. Izv. VNIIG [illegible]

RAYNKHOLD, Y.

BULGARIA/Cultivated Plants - Potatoes, Vegetables, Melons. M-3

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10839

Author : Raynkhold, Y., G'och, V.
Inst : -
Title : New, Improved Bulgarian Tomato Varieties.

Orig Pub : Ovoshcharstvo i Gradinarstvo, 1957, No 1, 44-47

Abstract : A comparative greenhouse trial, conducted in Bulgaria, of 6 Bulgarian varieties selected by Professor Daskalov, 4 widely used German varieties, and 4 Dutch heterozyse varieties has demonstrated the superiority of the following Bulgarian heterozyse varieties in yield: No 10 x Bizon, No 10 x Plovdivskiy konservnyy, and Kometa x Zarya. The German variety, Helfrucht, was in the fourth place. All the other ten varieties gave significantly lower yields. The Bulgarian varieties were outstanding for their heightened resistance to cladosporiosis.

Card 1/1

27

BEDNAR, Zdenek, inz.; HOSEK, Emil, inz.; RAYNOCH, Bedrich

Contribution to the information on fir regression in the former Olomouc region. Les cas 9 no.7:649-672 J1'63.

1. Ustav pro hospodarskou upravu lesu, pracoviste Olomouc.

[illegible], kand. [illegible]

Determining the permeability of soils to water by the method of large rings under field conditions. Gidr. i mel. 17 no.1:34-35 '65. (MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki i melioratsii imeni A.N.Kostyakova.

L 54708-65 EWT(1)/EWG(v) Po-L/Pe-5/Pq-4/Pg-4 GW

ACCESSION NR: AT5014771 UR/2552/65/000/043/0083/0087

28
29
BH

AUTHOR: Bagramyants, V.O.; Raynot, A. P.

TITLE: Some results of the investigation of marine gravimeters made by VNII geofiziki

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki. Prikladnaya geofizika, no. 43, 1965, 83-87

TOPIC TAGS: marine gravimeter error, overdamped ship gravimeter, universal-joint supported gravimeter gyrostabilized gravimeter, platform supported gravimeter

ABSTRACT: Earlier results of gravity measurements on surface vessels during large accelerations could not be explained by the general theory of gravitation of moving frames (A.I. Frolov, P.A. Stroyev, Opyt opredeleniya sily tyazhesti na more s zatushennymi gravimetrami, Symposium Prikladnaya geofizika, No. 37, Gostoptekhizdat, 1963). Consequently, the answer was sought in simultaneous observation of differently supported gravimeters (universal-joint and gyrostabilized platform instruments). This became possible in 1963 when the VNIIgeofiziki produced and mounted overdamped gravimeters for use at sea on a hydrographic ship (6000 t displacement).

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ACCESSION NR: AT5014771

With 8-9 point waves, the heeling of the specially stabilized ship rarely exceeded 10-15°. The SZ-4 gravimeter was mounted on a short-period universal joint and it used a visual registration approach, while the SZ-11 and SZ-7 gravimeters mounted on the gyrostabilized N-55 platform used photographic registration. Tests showed that data from the universal-joint supported gravimeter agreed with the theory of perturbing acceleration effects on the reading (Brown corrections). However, in the gyrostabilized gravimeter readings, the systematic errors were not correlated with the amplitude of the perturbing accelerations. The use of two gravimeters at appropriate locations of the common gyrostabilized platform considerably reduces the influence of the $\ddot{x}, \varphi$ acceleration component. Orig. art. has: 5 formulas and 2 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki, Moscow (All-Union Scientific Research Institute of Geophysical Surveying Methods)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 002 OTHER: 000

Card 2/2 MB.

BULGARIA

RAYNOV, A., IVANOV, B., and KOLAROV, V., Chair of Pathophysiology (Director, Prof. St. Pisarev), Advanced Medical Institute, Sofia; Scientific Research Institute of Radiation Hygiene (Director, Docent Iv. Nikolaev); Institute of Physics, Bulgarian Academy of Sciences (Director, Academician G. Nadzhakov)

''Protein Synthesis in Protected and Unprotected White Mice with Acute Radiation Sickness''

Sofia, Eksperimentalna Meditsina i Morfologiya , Vol 5, No 1, 1966, pp 13-18

Abstract: The inclusion of methionine S^{35} into the tissue proteins of white mice irradiated with X-rays in a dose of 525 r was studied. Some of the mice were protected before irradiation by intraperitoneal injection of thiophene-2-carboxylic acid N-phenylamidine or ergamine.

Physiology

BULGARIA

RAYNOV, A., KOLAROV, V.: Chair of Pathological Physiology (Head Prof. St. Pisarev), Higher Medical Institute, Sofia

"Disturbances in the Intensity of Protein Synthesis on Multiple Exposure of the Organism to Streptococcal Infection"

Sofia, Eksperimentalna Meditsina i Morfologiya, Vol 5, No 3, 1966, pp 179-182.

Abstract: In experiments conducted on rats, the intensity of protein metabolism in the brain, heart, liver, kidneys, and adrenals was studied by injecting ^{35}S-methionine and determining the activity in these organs. For healthy, uninfected animals the rate of assimilation of methionine decreased in the order kidneys > liver > adrenals > myocardium > brain. Upon infection of rats with streptococci, the rate of assimilation of methionine decreased in comparison with control animals. The extent of the decrease reached a maximum in the brain, liver, adrenals, and myocardium after the third infection and in the kidneys after the second infection. After the fourth (last) infection, a tendency towards an increase in the intensity of protein synthesis developed, as indicated by the rates of assimilation of methionine. The initial rates of assimilation were not reached, however. The infections were carried out at intervals of 14 days. Tables, 10 references (8 USSR, 2 Western). Russian and English summaries. Manuscript received Oct 65.

1/1

RAYNOV, K. K., DEREVITSKIY, P. F., SEMENENKO, N. A., SHURYGIN, A. P., SIDEL'KOVSKIY, L. N., and Malets, A. M.

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001444410019-3

Furnace for high-temperature roasting of fine-grained pyrite.

USSR patent 102,612, 25 May 1957

DURASS, G.S.; RAYNOV, K.K.

Technical development of the manufacture of sulfuric acid by the contact process. Zhur.VKHO 6 no.1:27-38 '61. (MIRA 14:3)
(Sulfuric acid)

RAYNOV, R.

PHASE I BOOK EXPLOITATION 319

Raynov, R., Professor

Meteorologiya (Meteorology) 2d rev. ed. Sofia, Universitetska pechatnitsa, 1948. 520 p. (Universitetska biblioteka, no. 356)

PURPOSE: This is an improved (second edition) manual of meteorology for university students.

COVERAGE: The book covers the entire field of meteorology, weather forecasting, and to a certain extent the field of climatology, with special emphasis on conditions in Bulgaria. Relatively small attention is paid to the practice of long-term and short-term forecasting. The following meteorological instruments are described and illustrated by figures (photographs or drawings): three types of psychrometers; the Richard thermograph; two pyrheliometers; an actinometer; two heliographs; a soil thermometer; a katathermometer (of the Hill type); a coolometer (called here a "frigorometer"); a meteorograph (mounted on an airplane); two evaporation gauges; a hygrograph; a hygrometer; a nephoscope (of the Besson type); three rain-gauges (one of them a pluviograph); a snow-gauge; an aneroid barometer; a thermo-

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barometer; a barograph; four wind vanes. Many of these instruments were made by R. Fuess, Berlin-Steglitz. There are 198 figures (including maps) and no references.

TABLE OF CONTENTS:

Meteorology

Ch. III. Temperature Conditions in the Earth Crust and Soils

Ch. IV. Temperature Conditions in Lower Atmospheric Layer

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Ch. VII. Condensation of Atmospheric Moisture

Meteorology

Card 13/20

Ch. XV. Weather Forecast

AVAILABLE: Library of Congress (QC861.R34,1948)

Card 20/20

MM/vm
6-11-58

RAYNOV, R., dotsent; CHERKEZOVA, Ye.; MILKOV, G.

Etiopathogenesis of acute pancreatitis. Vest.khir. 83 no.10:29-31 O '59. (MIRA 13:2)

1. Iz kafedry operativnoy khirurgii (zaveduyushchiy - dotsent Rayko Raynov) Sofiyskogo vysshego meditsinskogo instituta (Narodnaya Respublika Bolgariya). Adres avtorov: Bolgariya, Sofiya, ul. Georgi Sofiyski, 1, Vysshiy meditsinskiy institut.
(PANCREATITIS etiology)

MAKKAVEYEV, N., prof.; RAYNOV, V., inzh.; KOSARSKIY, P., inzh.

Laboratory investigation of channel formating processes at river bends. Rech. transp. 20 no.11:29-31 N '61. (MIRA 15:1)
(Hydraulic models)
(Rivers—Models)

Bulgaria/Military B-572

RAYNOVSKI, Dimitur, Podpolkovnik, Med Ser; author of an article entitled "Pneumomediastinum -- a Newer Method for Roentgen Diagnosis." (Voenno Meditsinsko Delo, Sofia, Mar 61, pp 51-57)

24
(1)

RAYNUS, E.S.

Building panel houses in large-scale block planning in Leningrad. Trudy MIEI no.14:345-348 '59. (MIRA 13:1)

1. Glavnyy inzhener stroytresta No.3 Glavleningradstroya.
(Leningrad--Precast concrete construction)
(Apartment houses)

RAYNUS, L.S., inzh.; SHLYAPNIKOVA, A.G., inzh.; KREYZMAN, I.N., inzh.; ROBINSON, D.V., inzh.

Folding -type stairs. Suggested by L.S.Rainus and others. Rats. i izobr.v stroi. no.9:8 '59. (MIRA 13:1)

1. Po materialam stroitel'nogo tresta No.3 Glavleningradstroya. (Staircases)

RAYNUS, L.S., inzh.

Large-panel construction in Czechoslovakia. Biul. tekh. inform. po stroi. 5 no.7:29-32 Jl '59. (MIRA 12:10)
(Czechoslovakia--Apartment houses) (Concrete slabs)

RAYNUS, R.N., inzh., BARANOV, I.A., red.; FREGER, D.P., tekhn.red.

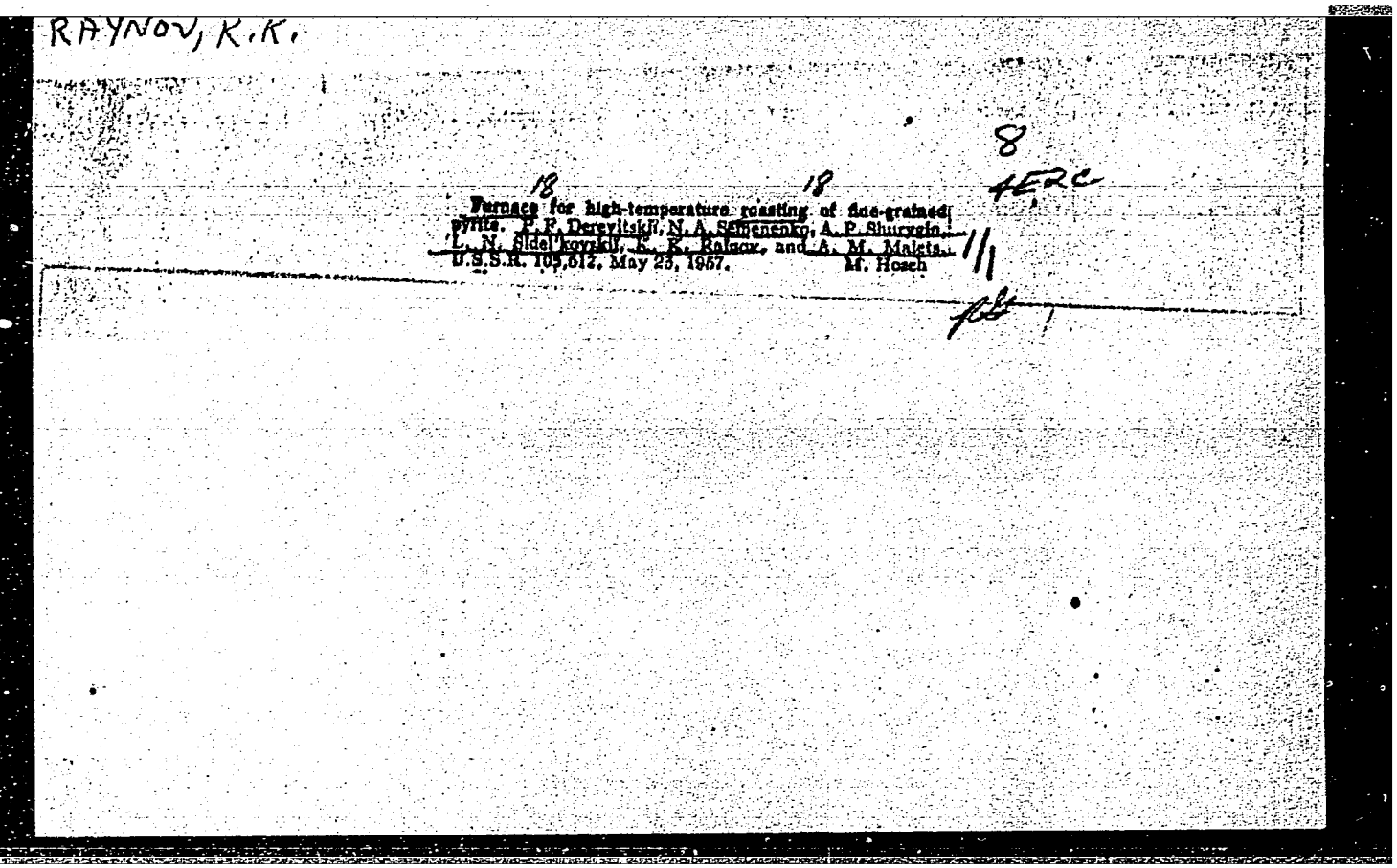
[Core mixtures based on "soluble glass" binder used for non-ferrous alloy castings; practices of the "Ekonomaizer" Plant] Sterzhnevye smesi na krepitele "zhidkoe steklo" dlia otlivok iz tsvetnykh splavov; opyt zavoda "Ekonomaizer." Leningrad, 1955. 11 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Informatsionno-tekhnicheskii listok, no.80(768)) (MIRA 10:12)
(Founding)

RAYON, A.I. Prof.

Basic principles and results of surgical treatment of cancer of the stomach. Khirurgiia, Sofia 10 no.6:481-488 1957.

1. Akademiia na meditsinskite nauki na SSSR-leningrad onkologichen institut.

(STOMACH NEOPLASMS, surg.
(Bul))



RAYNOV, K.K.

18 18 8 HERC

Furnace for high-temperature roasting of fine-grained pyrite. F. F. Dereviteki, N. A. Semenenko, A. P. Shurygin, L. N. Sidel'kovskii, K. K. Rainov, and A. M. Maleta. U.S.S.R. 105,612. May 25, 1957. M. Hoech 1/1

RAYNOV, R.

5.9-14

Raĭnov, R. Meteorologiia. [Meteorology.] 2nd ed. rev. Sofia, Universitetska Pechatnitsa, 1948. 520 p. 198 figs., tables, refs., eqs., table of symbols p. 517. DLC—An apparently standard college textbook on meteorology, this edition contains a number of unusual features which make it especially useful for training government meteorologists as well as those intending to engage in university or other fields where meteorology is required. The theoretical aspects are not neglected in the first chapters, the structure and composition of the atmosphere, gas laws, equations of motion, thermodynamics laws, etc. are taken up. Radiation in the atmosphere is treated in all of its aspects in Chap. II, with a great deal of illustrative data presented to give a quantitative basis for understanding the theory and applications of this most important element; temperature of the earth's soil and water surfaces comprises Chap. III; Temperature of the microclimatic layer, Chap. IV; of the upper atmosphere including the stratosphere, Chap. V; Water vapor, Chap. VI; Condensation and hydrometeors, Chap. VII; precipitation, Chap. VIII; pressure, Chap. IX; Wind, Chap. X; Turbulence, Chap. XI; General Circulation and monsoons, trad ı, etc., Chap. XII; Synoptic meteorology, Chap. XIII; Storms of various types, Chap. XIV; Short range and long range forecasting, Chap. XV; and Climatology, Chap. XVI. The last named chapter is especially slanted towards the climate of Bulgaria as many of the illustrations and applications in the other chapters. The point of view of a synoptic dynamic meteorologists is of course mentioned in all of the discussion on climatology, but the particular (i.e. agricultural) applications and the interests of the instrumental workers are not neglected. *Subject Headings:* 1. Meteorology textbooks 2. Climatology 3. Bulgaria.—*M.R.* 551.5(02) 551.58

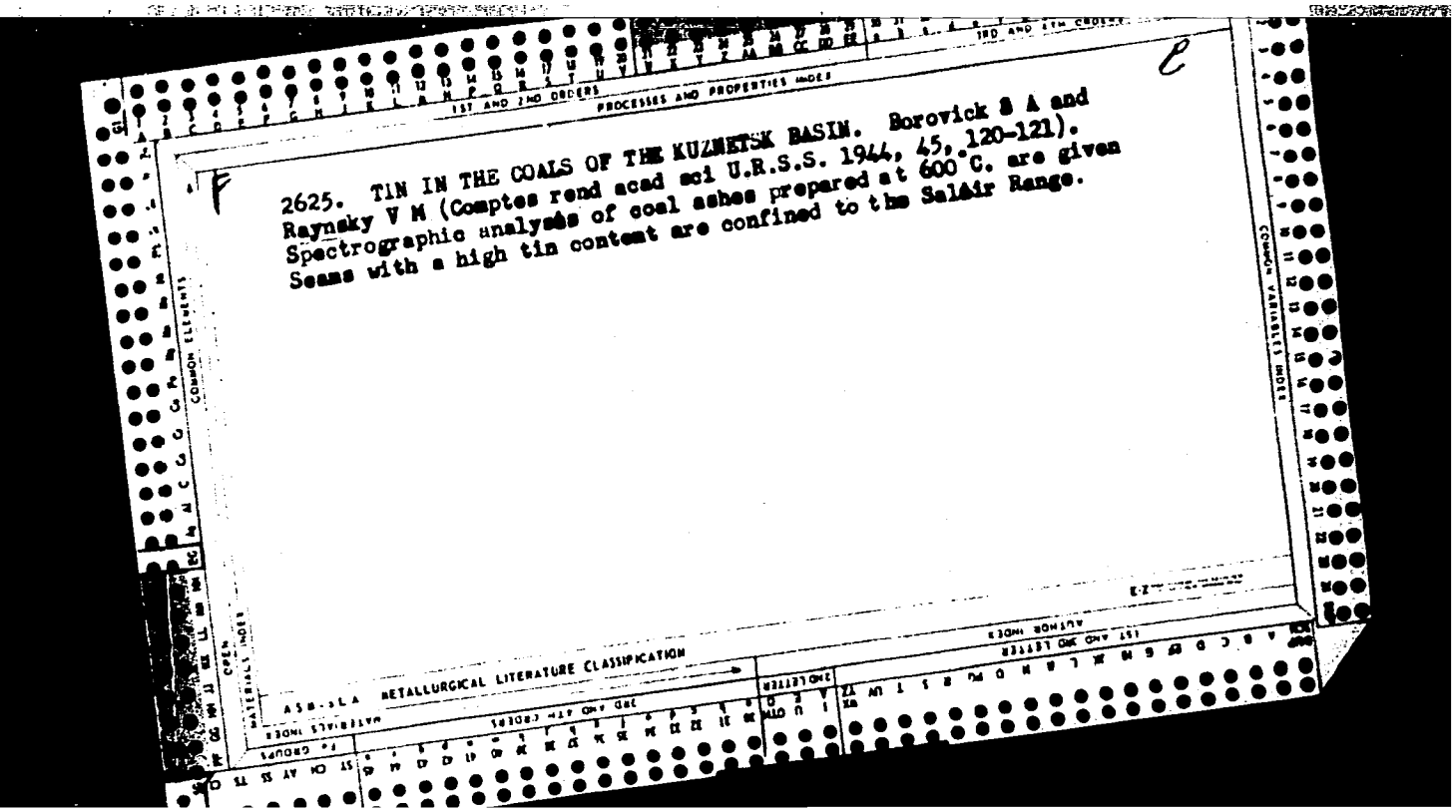
800 1

geophys

RAYNOV, R.; VASILEV, I.

Filatov's tissue therapy. Med. letopisi 42 no.5-6:509-516 May-June 50. (CLML 20:7)

1. Dr. Rayko Raynov, Chief Assistant; Dr. Ivan Vasilev, Assistant.
2. Surgical Clinic, Medical Academy, Sofia.



2625. TIN IN THE COALS OF THE KUZNETSK BASIN. Borovick S A and Raynsky V M (Comptes rend acad sci U.R.S.S. 1944, 45, 120-121). Spectrographic analyses of coal ashes prepared at 600° C. are given Seams with a high tin content are confined to the Salair Range.

S/879/62/000/000/068/088
D234/D308

AUTHOR: Raynus, G. E. (Leningrad)

TITLE: Design of a three-dimensional cable lattice

SOURCE: Teoriya plastin i obolochek: trudy II Vsesoyuznoy konferentsii, L'vov, 15-21 sentyabrya 1961 g. Kiev, Izd-vo AN USSR, 1962, 387-390

TEXT: The author considers a shallow net consisting of flexible elastic cables fastened to a rigid frame and subjected to a vertical load. Relative elongations, horizontal displacements, flexural and torsional rigidity of cables are neglected. The equation of equilibrium is reduced to:

$$H_x \frac{\partial^2 z}{\partial x^2} + H_y \frac{\partial^2 z}{\partial y^2} = p(x,y) \qquad (7)$$

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Design of a three- ...

Boundary conditions are formulated for the case of prestressed cables and

$$H_x(y_o) = \bar{H}_x(y_o) + \frac{1}{2} C_x(y_o) \int_{x_1}^{x_2} \left[\left(\frac{\partial z}{\partial x}\Big|_{y=y_o} \right)^2 - \left(\frac{\partial z_o}{\partial x}\Big|_{y=y_o} \right)^2 \right] dx;$$

$$H_y(x_o) = \bar{H}_y(x_o) + \frac{1}{2} C_y(x_o) \int_{y_1}^{y_2} \left[\left(\frac{\partial z}{\partial y}\Big|_{x=x_o} \right)^2 - \left(\frac{\partial z_o}{\partial y}\Big|_{x=x_o} \right)^2 \right] dy \qquad (11)$$

is obtained. It is stated that the relevant equation is obtained by substituting (11) into (7). The author describes in detail a poss-

Card 2/3

S/879/62/000/000/068/088
D234/D308

Design of a three- ...

ible method of successive approximations based on the use of equations for the force in an inclined elastic string.

Card 3/3

Raynus, E.S.

25(5);30(5) PHASE I BOOK EXPLOITATION SOV/2935

Moscow. Inzhenerno-ekonomicheskiy institut imeni Sergo Ordzhonikidze

Voprosy povysheniya ekonomicheskoy effektivnosti kapital'nykh vlozheniy za schet uluchsheniya ekonomiki i organizatsii stroitel'nogo proizvodstva, a takzhe stroitel'nogo proyektirovaniya (Problems of Increasing Economic Benefits of Capital Investments by Improving the Economy and Organization of Construction Work and Planning) Moscow, Gosstroyizdat, 1959. 673 p. (Series: Its: Trudy, vyp. 14) Errata slip inserted. 2,000 copies printed.

Additional Sponsoring Agencies: USSR. Gosudarstvennyy komitet po delam stroitel'stva. Otdel ekonomiki stroitel'stva, Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-issledovatel'skiy institut ekonomiki stroitel'stva, and Nauchno-tekhnicheskoye obshchestvo stroitel'noy promyshlennosti SSSR. Sektsiya ekonomiki i organizatsii.

Eds.: B. L. Bukshteyn, G. A. Dovzhik, A. S. Ginzburg, S. A. Yefremov, I. A. Kantorovich, A. G. Rotshteyn, V. V. Uspenskiy, N. A. Maslov, V. N. Shafranskiy, and A. N. Shkinev; Tech. Ed.: P. G. Islanson; Editorial Board of the Institute: O. V. Kozlova (Resp. Ed.) Docent; Ye. I. Varenik, Professor, V. I. Veyts, Professor, S. P. Vostrokmutov, Professor, V. G. Davidovich, Professor, N. I. Dunayevskiy, Professor, S. P. Zhebrovskiy, Professor, S. Ya. Karmazin, Professor, P. V. Kaniovskiy, Professor, N. N. Nekrasov, Professor, L. I. Onishchik, Professor, N. Ye. Pestov, Professor, L. N. Roytburd, Professor, N. A. Satel', Professor, G. V. Teplov, Professor, B. A. Telashev, Professor; Editorial Commission of this volume: V. F. Girovskiy (Chairman) Docent, Ye. I. Varenik, Professor, M. S. Gurevich, I. Ya. Ivanin, Docent, S. N. Beynin, Candidate of Technical Sciences.

PURPOSE: This collection of articles is intended for staff members of construction organizations, design bureaus, and scientific research establishments as well as for faculty members and students of institutions of higher education.

COVERAGE: This collection of reports on construction problems was originally presented and discussed at a scientific-technical conference held in Moscow in February 1958 under the auspices of the Moscow Engineering and Economic Institute and other government and scientific organizations. Possibilities of increasing economic benefits from capital investments by improving methods of organizing and planning construction projects are reviewed. Results of efforts by construction and design organizations to reduce the costs of construction and building operations, to introduce economic accountability and planning in lower level construction units, to increase the productivity of labor, and to boost work and planning efficiency are analyzed. Problems in preparing estimates, making financial forecasts, and financing construction projects are discussed. No references are given.

RAYMUS, E.S., inzhener

Large panel cement and slag concrete walls. Sbor. mat. o nov. tekh. v stroi. 17 no.6:1-3'55. (MIRA 8:9)
(Walls)

RAYNUS, Grigoriy Eliozarovich; LINETSKIY, V.D., kand. tekhn. nauk, dotsent, nauchnyy red.; FREGER, D.P., red.izd-va; BELOGUROVA, I.A., tekhn. red.

[Static analysis of cable trusses]Staticheskii raschet ferm iz torsov; stenogramma lektsii. Nauchn. red. V.D.Linetskii. Leningrad, Leningr. dom nauchno-tekhn. propagandy, 1962. 64 p. (MIRA 16:2)

(Trusses) (Roofs, Suspension)

RAYNUS, L.S., inzh.

Local materials as a reserve source of supply for large-panel construction. Biul. tekh. inform. po stroi. 5 no.4:10-12 Ap '59. (MIRA 12:8)

(Building materials) (Apartment houses)

RAYNUS, Eliazar Samuilovich; KAPLUNOV, Zinoviy Vladimirovich; KLYACHKO, A.L., inzhener, nauchnyy redaktor; KAPLAN, M.Ya., redaktor izdatel'stva; PUL'KINA, Ye.A., tekhnicheskiy redaktor

[Building of large panels without framework; experience in large panel construction in Leningrad] Krupnopanel'nyi beskarkasnyi dom; opyt stroitel'stva krupnopanel'nogo doma v Leningrade. Leningrad, Gos.izd-vo lit-ry po stroit. i arkhit., 1957. 101 p. (MLRA 10:9)
(Leningrad--Apartment houses)

RAYNUS, O.S.

Cast reinforcements for reinforced concrete construction elements. Lit. proizv. no.9:41-42 S '60. (MIRA 13:9)
(Reinforced concrete construction)
(Cast iron)

SOV/137-58-10-21583

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 160 (USSR)

AUTHORS: Raynus, O.S., Demidova, N.M.

TITLE: Investigations of Cast Low-Mn Steel (Issledovaniya litoy nizkomargantsovistoy stali)

PERIODICAL: V sb.: Dokl. 16-y Nauchn. konferentsii prof.-prepodavat. sostava Leningr. inzh.-stroit. in-ta Leningrad, 1958, pp 449-452

ABSTRACT: From the results of an analysis of the composition and the properties of 1000 successive smeltings of low-Mn steel employed for profile casting of excavator components, the following factors were determined: 1) The limits of C and Mn contents in the steel; 2) the values of σ_s, σ_b, δ, ψ, a_k; 3) σ_s / σ_b; 4) the relationship between the a_k values of Charpy and Mesnager impact-test specimens. By processing statistical data, it was established that more than 60% of all melts contain C and Mn in amounts varying between the limits of 0.3 0.38% (0.3-0.4, according to Technical Specifications) and 1.2-1.4% (1.2-1.5%, according to Technical Specifications), respectively. Maxima of curves were observed at the following values:

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Investigations of Cast Low-Mn Steel

σ_s curve, 37 kg/mm^2; σ_b curve, 63 kg/mm^2; δ curve, at 20%; ψ curve, at 35%; a_k curve (investigations were carried out on 12 specimens) 0.5 kgm/cm^2 in the case of Mesnager-type specimens, and 3.3 kgm/cm^2 in the case of Charpy-type specimens. The agreement between the a_k values according to Mesnager and Charpy impact tests was approximately 1.5%. Studies were also performed in order to establish the effect of cooling rate (CR) on the mechanical properties in the range of critical temperatures. The specimens were heated to 900°C and were then cooled in the 900-600° range at rates of 25, 50, 75, 100, and 200-300°/hr. CR's ranging from 25 to 300°/hr did not have any appreciable effect on mechanical properties of specimens. The CR of 100°/hr is the only exception in which the values of a_k and are sharply reduced.

I.B.

1. Manganese steel castings--Properties 2. Manganese steel castings --Test results

Card 2/2

KUZNETSOV, K.A.; RAYNUS, O.S., kand.tekhn.nauk

Cast-iron cages for reinforcing concrete structures. Bet.i zhel.-bet. no.12:564-566 D '60. (MIRA 13:11)

1. Chlen-korrespondent Akademii stroitel'stva i arkhitektury (for Kuznetsov).

(Reinforced concrete)

RAYNYSH, Yu.I.; VOLKOVA, K.I.

Semigraphical method of construction hyperbolic networks in geodetic operations using radio waves. Geofiz. razved. no.6: 124-129 '61. (MIRA 15:4)

(Caspian Sea—Gravity prospecting)

BERKOVICH, T.M.; SURMELI, D.D.; DVORETSKAYA, R.M.; RAYNYSH, Z.B.; NOVIKOVA, D.A.

Autoclave method of producing non-hygroscopic asbestos cement. Trudy NIIAsbesttsementa no.16:108-115 '63. (MIRA 16:8)
(Asbestos cement)

EDEL'MAN, I.I., kand. khim. nauk; MAYNYSH, S.B., inzh.

Method of estimating the degree of aggregation of powders during sintering. Sbor. trud. VNIINSM no.8:146-153 '63. (MIRA 17:9)

RAYNYSH, Z.B.; BERKOVICH, T.M.

Heat and moisture treatment and the hardening of asbestos cement on I.A.Cherneto's unlined mechanized production-line unit. Trudy NIIAsbesttsementa no.15:57-63 '62. (MIRA 16:7)
(Asbestos cement)

IVYANSKIY, G.B., kand. tekhn. nauk; POLYAKOV, V.I., kand. tekhn.nauk; RAYPENBERG, S.M., inzh.; CHEREPAKHIN, N.V., inzh.; PROSKURNINA, V.P., red.; TRUBIN, V.A., glav. red.; SOSHIN, A.V., zam. glav. red.; GRINEVICH, G.P., red.; YEPIFANOV, S.P., red.; ONUFRIYEV, I.A., red.; KHOKHLOV, B.A., red.; ZIMIN, P.A., red.; PEREVALYUK, M.V., red. izd-va; NAUMOVA, G.D., tekhn. red.

[Erection of completely precast apartment houses]Montazh polnosborrykh zhilykh zdanii; spravochnoe posobie. Pod red. V.P. Proskurnina. Moskva, Gosstroiizdat, 1962. 94 p. (MIRA 15:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. (Apartment houses) (Precast concrete construction)

S/139/62/000/006/004/032
E039/E435

AUTHOR: Rays, G.B.

TITLE: The motion of dislocations in twinned crystals of calcite

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika, no.6, 1962, 22-24

TEXT: Experiments are described on the etching of twinned crystals of calcite in HCL solution. It is shown that the position and motion of dislocations in the double part of the crystal is connected with the twinning process. The boundaries between the parent material and the mechanically twinned part of the crystals are always covered with etching figures, thus confirming the dislocation structure of these boundaries. Distortions and non-uniformities due to scratches, flaws and step patterns etc are also disclosed by the etching process. In the double part of the crystal the etching figures show a parallel series of divisions at the twinning boundaries. In addition the cleavage planes are shown and the transitions from one plane to another which must be connected with the twinning mechanism. There are 3 figures.

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S/139/62/000/006/004/032
E039/E435

The motion of dislocations ...

ASSOCIATION: Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva (Khar'kov Institute for the Mechanization of Agriculture)

SUBMITTED: July 21, 1961

Card 2/2

AUTHOR: Rays, G.B. 70-3-3-12/36

TITLE: The Distortion of a Crystal Lattice at the Twin Boundary of a Mechanically-twinned Crystal of Calcite (Iskazheniya kristallicheskoy reshetki na granitse razdela mekhanicheski sdvoynikovannogo kristalla kal'tsita)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 3, pp 325 - 328 + three plates (USSR).

ABSTRACT: It has been shown experimentally that intermediate regions exist at the boundaries of separation between the parent part of a crystal of calcite and a mechanically produced twinned part. These regions have been detected by etching in strong and weak HCl and examination with a micro-interferometer at 550 X magnification. The intermediate region has a small volume and extends for a short distance each side of the boundary of separation; in it there is a great concentration of lattice imperfections which make up the strained region extending from 5 to 50 μ each way. The existence of this disturbed region and its disclosure by etching show that the energy residing in the crystal on its plastic deformation is mainly concentrated in this region in the form of potential energy of elastic strain.

There are 10 references, 9 of which are Soviet and 1 English.

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70-3-3-12/36

The Distortion of a Crystal Lattice at the Twin Boundary of a Mechanically-twinned Crystal of Calcite

ASSOCIATION: Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva (Kharkov Institute for the Mechanisation of Agriculture)

SUBMITTED: June 3, 1957

Card 2/2

SOV/51-6-3-16/28

AUTHOR: Rays, G.B.

TITLE: Fresnel's Formulae for Incidence of an Ordinary Wave on the Twinning Plane of a Transparent Uniaxial Crystal (Formuly Frenelya dlya sluchaya padeniya ob y knovennoy volny na ploskost' dvoynikovaniya odnoosnogo prozrachnogo kristalla)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 384-388 (USSR)

ABSTRACT: The author derived the expressions for the reflection (R_{00}, R_{0e}) and refraction (D_{00}, D_{0e}) intensity coefficients when an ordinary wave falls on the plane of separation between twins in a transparent uniaxial crystal. These expressions are given by Eq.(16):

$$R_{00} = u^2v^2(p_1^2 - p_2^2)^2/\left[p_1p_2(u^2 + v^2) + uv(p_1^2+p_2^2)\right]^2,$$

$$D_{00} = p_1^2p_2^2(u^2 - v^2)^2/\left[p_1p_2(u^2 + v^2) + uv(p_1^2+p_2^2)\right]^2,$$

Card 1/3

Fresnel's Formulae for Incidence of an Ordinary Wave on the Twinning Plane of a Transparent Uniaxial Crystal

$$R_{0e} = p_1 p_2 uv(p_1 - p_2)^2(u - v)^2 / \left[p_1 p_2(u^2 + v^2) + uv(p_1^2 + p_2^2)\right]^2,$$

$$D_{0e} = p_1 p_2 uv(p_1 + p_2)^2(u + v)^2 / \left[p_1 p_2(u^2 + v^2) + uv(p_1^2 + p_2^2)\right]^2$$

where subscripts "0" and "e" denote the ordinary and extraordinary waves respectively; p_1 and p_2 are the normal components of the wave vectors of the ordinary and extraordinary waves respectively; $v = \cos^2 \varphi_o$, $u = n_1^2 \sin^2 \varphi_o$; φ_o is the angle between one of the optical axes and the twinning plane (Fig.1). When $p_2 = 0$, $D_{00} = R_{0e} = D_{0e} = 0$, i.e. the incident ordinary wave is totally reflected. This is shown in Fig.2 where R_{00} and R_{0e} are plotted against the angle of incidence α. The total reflection angle ($p_2 = 0$, $R_{00} = 100\%$ and $R_{0e} = 0\%$) is given by

$$\sin\alpha_o = n_e/n_o \qquad (16)$$

SOV/51-6-3-16/28

Fresnel's Formulae for Incidence of an Ordinary Wave on the Twinning Plane of a Transparent Uniaxial Crystal

At angles of incidence $\alpha > 0$, p_2 becomes imaginary and an incident ordinary wave gives rise to ordinary reflected and refracted waves only. The paper is entirely theoretical. Acknowledgment is made to R.I. Garber for suggesting this subject and advice on it. There are 2 figures and 7 references, of which 6 are Soviet and 1 English.

SUBMITTED: January 6, 1958

Card 3/3

RAYS, G.B.; BROMBERG, M.I.

Investigating the etching of twinned ionic and metallic single crystals. Izv. vys. ucheb. zav.; chern. met. no.2:130-134 '60. (MIRA 15:5)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva.
(Metallography) (Metal crystals) (Ionic crystals)

RAYS , G.B.

New method for determining the refraction indices of unusual wave of twin monoaxial negative dielectric crystals. Kristallografia 3 no.1:101-104 '58. (MIRA 11:5)

1. Khar'kovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.

(Crystallography) (Refraction)

SOV/70-3-1-22/26

AUTHOR: Rays, G.B.

TITLE: A New Method for the Determination of the Refractive Index of the Extraordinary Wave in Twin Uniaxial Negative Dielectric Crystals (Novyy metod opredeleniya pokazatelya prelomleniya neobyknovennoy volny dvoynikovykh odnoosnykh otritsatel'nykh dielektricheskikh kristallov)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 1, pp 101-104 (USSR)

ABSTRACT: To explain the principle of this method, consider the reflection of light from the separation boundary of a twin uniaxial dielectric crystal. The directions of the reflected and refracted ordinary and extraordinary waves may be obtained using the geometrical construction due to MacCullagh (Ref 4). These surfaces consist of a sphere of radius n_0 (refractive index of ordinary wave) surrounding an ellipsoid of revolution with semi-axes n_0 and n_e (refractive index of extraordinary wave). Consider the case when the plane of incidence is perpendicular to the principal section of the twin crystal, since in this case the reflection of ordinary and extraordinary waves is a maximum. Figure 1 shows a section

through the refractive index surfaces by the XZ plane which is perpendicular to the principal section to the twin crystal. The spherical surface gives in this figure a circle of radius n_o while the ellipsoid of revolution gives an ellipse with a somewhat reduced major axis GG . The axis OX is a trace of the separation boundary and OZ is normal to it. I_O is the direction of the wave normal of the incident ordinary wave. The wave normal I_O of the incident ordinary wave is extended until it cuts the wave surface belonging to the given wave normal. A straight line NN parallel to the OZ axis is drawn through this point E . The lines connecting the centre point O with E, E', K, K' (points of intersection of the stright line NN with the wave surfaces) give the directions of the wave normals for the reflected and refracted ordinary and extraordinary waves. As can be seen from Figure 1, the angle of incidence α of the normal of the ordinary wave is equal to the angle of

reflection and the angle of refraction of this wave. The reflection and refraction normals for the extraordinary waves are larger than α. When the angle of incidence of the normal of the ordinary wave is α_0 (in this case the line NN touches the wave surface n_e) the wave normals of the extraordinary waves graze the separation boundary, while for incidence angle greater than α_0, the extraordinary rays disappear altogether. From Figure 2, it is clear that:

$$\sin \alpha_0 = n_e/n_0 \quad .$$

This formula may be used in the new method for the determination of the refractive index for extraordinary waves in twin uniaxial negative dielectric crystals. To determine n_e by this method a twin specimen is set up on a goniometer so that the plane of incidence is perpendicular to the principal section of the twin crystal

SOV/70-3-1-22/26

A New Method for the Determination of the Refractive Index of the Extraordinary Wave in Twin Uniaxial Negative Dielectric Crystals

and the angle α_0 is found at which the reflected and extraordinary refracted/ordinary rays disappear. The value of n_e can then be calculated from the above relation since n_0 can be easily determined by other methods.
There are 4 figures and 5 references, 1 of which is English and 4 Soviet.

ASSOCIATION: Khar'kovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (Khar'kov Institute of Mechanisation and Electrification of Agriculture)

SUBMITTED: April 4, 1956

Card 4/4

RAYS, G. B.

Movement of twinning dislocations in calcite. Izv. vys. ucheb. zav.; fiz. no.6:22-24 '62. (MIRA 16:1)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva.

(Dislocations in crystals) (Calcite)

SOV/70-4-4-21/34

AUTHORS: Rays, G.B. and Bromberg, M.I.

TITLE: Thermal Etching in Vacuo of Twinned Single Crystals of Zinc

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 4, pp 594-596 (USSR)

ABSTRACT: Twinned zinc crystals were heated to 400 °C for 25 min under a vacuum of 10^{-4} mm Hg . After cooling, the surface was examined interferometrically. Etch figures due to selective evaporation were observed. The surface was covered with etch figures, the form and orientation of which were connected with the symmetry of the given crystal. The method could be applied to metals, Be and V alloys for example, where there are no suitable chemical etches. For twinned crystals of Zn preferential etching takes place in twinned regions of the crystal and begins on the twin boundaries and near to them. On heating crystals of Zn in vacuo the formation of etch figures proceeds preferentially on different surface defects, or the steps of cracks and scratches. The experiments show that the formation of etch figures on heating mechanically

SOV/70-4-4-21/34

Thermal Etching in Vacuo of Twinned Single Crystals of Zinc

twinned single crystals of Zn in vacuo proceeds primarily at active parts of the surface and that, together with other surface defects, places with increased energy are, in particular, the boundaries between undeformed and twinned parts of the crystal. There are 4 figures and 9 references, 8 of which are Soviet and 1 German.

ASSOCIATION: Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva (Khar'kov Institute for the Mechanisation of Agriculture)

SUBMITTED: June 18, 1958

Card2/2

RAYS, G.B.

Dislocations in calcite twins obtained by mechanical deformation. Dokl. AN SSSR 117 no.3:419-421 N '57. (MIRA 11:3)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva. Predstavleno akademikom A.V. Shubnikovym.
(Dislocations in crystals) (Calcite)

AUTHOR: Rays, G. B. 20-3-17/52

TITLE: Dislocation in Calcite Crystals Mechanically Twinned (Dislokatsiya v mekhanicheski [illegible] kal'tsita).

PERIODICAL: Doklady AN SSSR, Vol. 117, Nr 3, pp. 419-421 (USSR)

ABSTRACT: According to the author's opinion the natural twins do not differ at all from the original crystal except by the symmetric orientation of the atoms of the crystal lattice. In the case of twins formed mechanically under the action of exterior forces, the part of energy remaining in the deformed crystal must change the state of the crystal essentially. The author here investigates the dissolubility and the production of etched figures on calcite. The carrying out of the experiments is described. From these experiments the following results were obtained:
1.) In the case of a plastic deformation of calcite monocrystals by the formation of twins part of the absorbed energy is distributed uniformly over the entire volume of the deformed crystal particle. A large part of the absorbed energy is concentrated on the boundaries of the twins.
2.) A considerable part of the dislocations is created by

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Dislocation in Calcite Crystals Mechanically Twinned

plastic deformation collects mainly at the dividing boundaries of the twin crystal and also in the deformed part of the crystal on the shift-lines of the process of separation.
3.) In some cases dislocations in the deformed part of the crystal occur in form of so-called negative crystals; in other cases they occur in form of continuous etching spots, the axes of which are parallel to the separating boundary.
4.) The separating boundaries are not constantly shifted by the formation of twins in plastic deformation but they are shifted discretly (shift, pause etc.). The discrete and the continuous spots may be connected with simple and spiral-shaped dislocations. The distance between the etching figures is $\sim 10^4$ cm. There are 4 figures, and 7 references, 2 of which are Slavic.

ASSOCIATION: Khar'kov Institute for the Mechanization of Agriculture (Khar'kovskiy institut mekhanizatsii sel'skogo khosyaystva)

Dislocation in Calcite Crystals Mechanically Twinned 20-3-17/52

PRESENTED: June 10, 1957, by A. V. Shubnikov, Academician

SUBMITTED: June 6, 1957

AVAILABLE: Library of Congress

Card 3/3

Category : USSR/Solid State Physics - Structure of Deformable Materials E-8

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 1311

Author : Rays, G.B.
Title : Concerning the Question of the Existence of a Transition Layer in Mechanically-Twinned Crystals

Orig Pub : Dokl. AN SSSR, 1956, 106 No 5, 841-844

Abstract : It was established that the measured and calculated angular dependences of the intensity of light reflected from the boundary of twinned layers in calcite agree with an accuracy of 1 -- 2%. Inasmuch as it was assumed in the calculations that the layers have sharp boundaries, the Lifshits theory (Zh. eksperim. i teor. fiziki, 1948, 18, 1134), which denies the existence of macroscopically distorted layers, is more acceptable than the Kontorova theory (Zh. eksperim. i teor. fiziki, 1942, 12, 68), which leads to the conclusion that a transition layer exists with a thickness on the order of 500 interatomic distances.

Card : 1/1

RAYS, G.B.

Twins or cracks? Izv.vys.uch.zav.; fiz. no.4:79-82 '62.
(MIRA 15:9)

1. Khar'kovskiy institut mekhanizatsii sel'skogo khozyaystva.
(Crystallography)