URUSOV M M.

USSR/Engineering - Machines

Card 1/1 : Pub. 70 - 8/11

Authors : Urusov, M. M.; Fink, I. G.; and Fioletov, I. S., Engineers

Title : Conveyer-belt type vacuum press SM-142

Periodical : Mekh. stroi. 4, 22-24, Apr 1954

Abstract : The technical characteristics of a conveyer-belt type vacuum press SM-142, used in the manufacture of structural bricks, are described. The press, manufactured at the Krasnyy Oktyabr Plant of the Ministry of Heavy Machine Industry, was tested at one of the largest brick producing factories and the results are listed. Drawing.

Institution : .....

Submitted : .....

UROSOV, M. M.

UROSOV, M.M., inzhener; FIOLETOV, I.S., inzhener.

SM-307 automatic saw for cutting building blocks. Mekh.stroi. 11 no.8:25 Ag '54. (MLRA 7:8)
(Rotary saws) (Building blocks)

VASIL'YEV, A.A., laureat Stalinskoy premii, inzhener, redaktor; BORODACHEV, I.P., kandidat tekhnicheskikh nauk; PRUSSAK, B.N. inzhener; UMUSOV, M.M., inzhener; MYSMONT, A.V., inzhener; YAROSHEV, D.M., kandidat tekhnicheskikh nauk; NEMIROVSKIY, E.I. inzhener, retsenzent; PETROV, G.I., inzhener, redaktor; PESTRYAKOV, A.I., inzhener, redaktor; POPOVA, S.M., tekhnicheskiy redaktor.

[Road building machinery] Dorozhnostroitel'nye mashiny; spravochnik. Izd.2-oe perer. i dop. Pod. red. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1955. 432 p. (MLRA 8:10)
(Road machinery)

100-4-7/16

AUTHOR: Urusov, M.M. (Engineer)

TITLE: Turf Cutting Machine. (Tuforeznaya mashina).

PERIODICAL: "Mekhanizatsiya Stroitel'stva" (Mechanisation of Construction), 1957, Vol.14, No.4, pp.21-22 (USSR).

ABSTRACT: The Moscow factory, Strommashina, of the Minstroydormash, constructed a turf-cutting machine CM-580 according to the design of Stolyarov with a compressive capacity up to 400 kg/cm^2. It comprises a frame with an attached bracket and a trolley for the saw. To the frame are also attached: a mechanism for longitudinal and cross-deliveries, a delivery compartment, an electromotor, a winch, an enclosed panel with starting and safety electrical fittings, front guiding table, two double button regulators and a lifting mechanism. The cutting is carried out by horizontal and vertical disc-cutters (1253 mm dia and 34 mm thick). Two electromotors operate the cutting machine, one of which is 55 kW and is fitted with a reductor. The second electromotor ([illegible] kW) operates the winch. Technical data are tabulated. [illegible] results are reported. The most [illegible] [illegible] of cut turf blocks are: [illegible] x [illegible] mm to [illegible] x [illegible] mm (width x depth) and [illegible] x [illegible] mm (length). There is 1 photo [illegible]

AVAILABLE:

AUTHOR: Urusov, M.M. (Engineer) 100-5-5/10

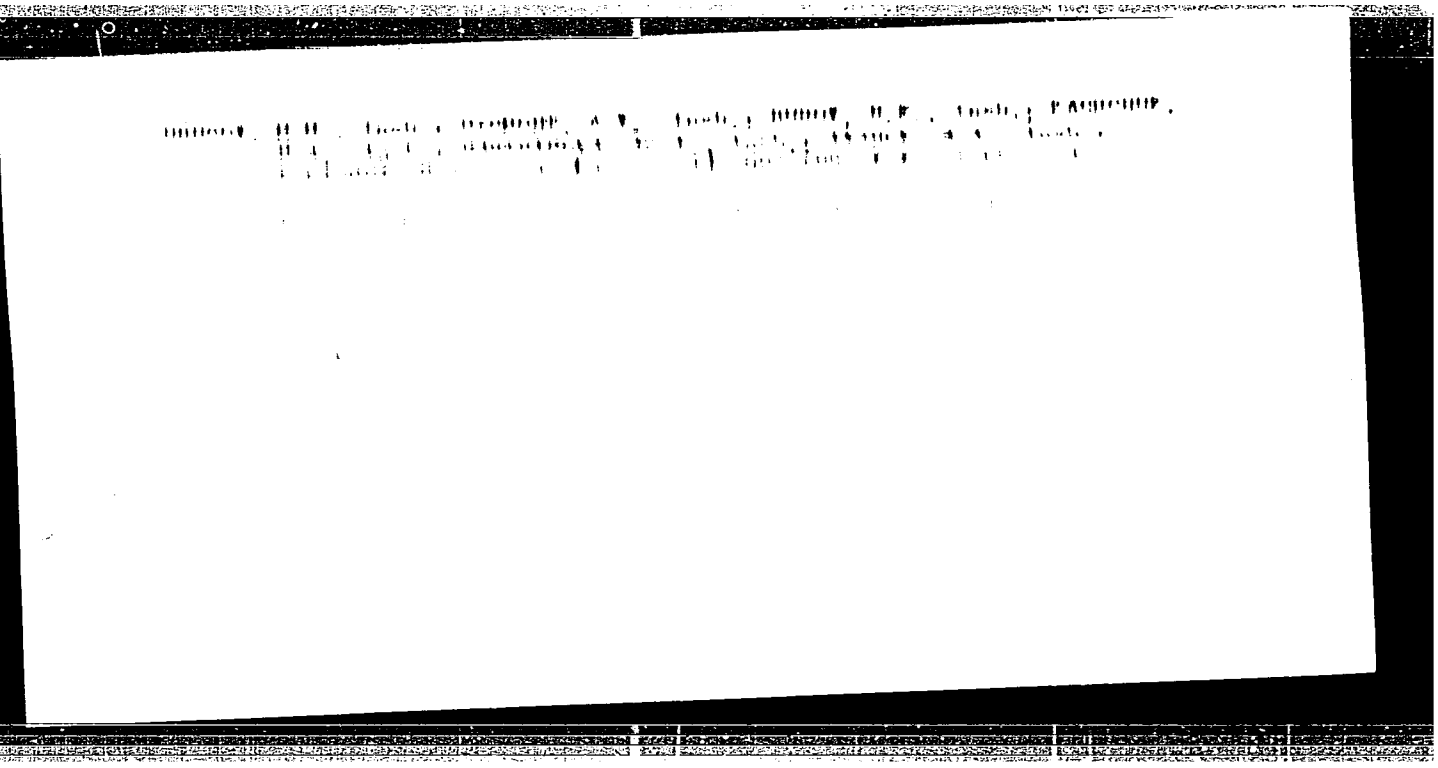
TITLE: Crushing Plant CM-559 Constructed on the Impact Principle. (Drobilka Udarnogo Deystviya CM - 559).

PERIODICAL: "Mekhanizatsiya Stroitel'stva" (Mechanisation of Construction), 1957, Vol.14, No.5, p.16 (USSR).

ABSTRACT: The Vyksun factory for crushing and grinding machines constructed the above plant. It was designed to crush natural stone up to a crushing strength of 1500 kg/cm^2. 1000 mm stones are the largest lumps which can be crushed. The final grade of crushing can be adjusted. The output is 200 - 400 m^3/hour. The weight of the plant is 64 500 kg. The overall measurements are: length: 6110 mm, width: 5015 mm, height: 6960 mm. The plant consists of 2 rotors fixed on to the frame, inside the rotors are fixed crushing jaws which are made of manganese steel. The stones are crushed by the kinetic energy accumulated by the rotor during its rotation. A mesh for fine and coarse grading is attached. This machine crushes the stone in nearly cubic shapes which improves the strength of the concrete which contains this aggregate. The crushed material is transported on conveyor belts. Detailed technical data are given.

AVAILABLE:

Card 1/1



APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001858110006-1"

BORDACHEV, I.P., kand. tekhn.nauk; VASIL'YEV, A.A., inzh., laureat Gosudarstvennoy premii; PRUSSAK, B.N., inzh.; URUSOV, M.M., inzh.; NEKHOROSHEV, I.I., inzh., red.; SERGEYEV, V.M., red. izd-va; MODEL', B.I., tekhn. red.

[Road-building machinery]Dorozhno-stroitel'nye mashiny; spravochnoe posobie. Pod red. I.I.Nekhoroshego. 3., perer. i dop. izd. Moskva, Mashgiz, 1963. 596 p. (MIRA 16:3)
(Road machinery)

URUSOV, N.

New objectives, new requirements. Za rul. 21 no.1:9 Ja '63. (MIRA 16:1)

1. Nachal'nik Gor'kovskogo oblastnogo avtomotokluba Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.
(Gor'kiy Province--Automobile drivers--Education and training)

SOV/6-59-11-19/21

3(4)
AUTHOR: Urusov, N. Yu.

TITLE: On the Problem of Accuracy in Geodetic Surveying of High-Voltage Transmission Lines

[illegible] (Ukrainian)

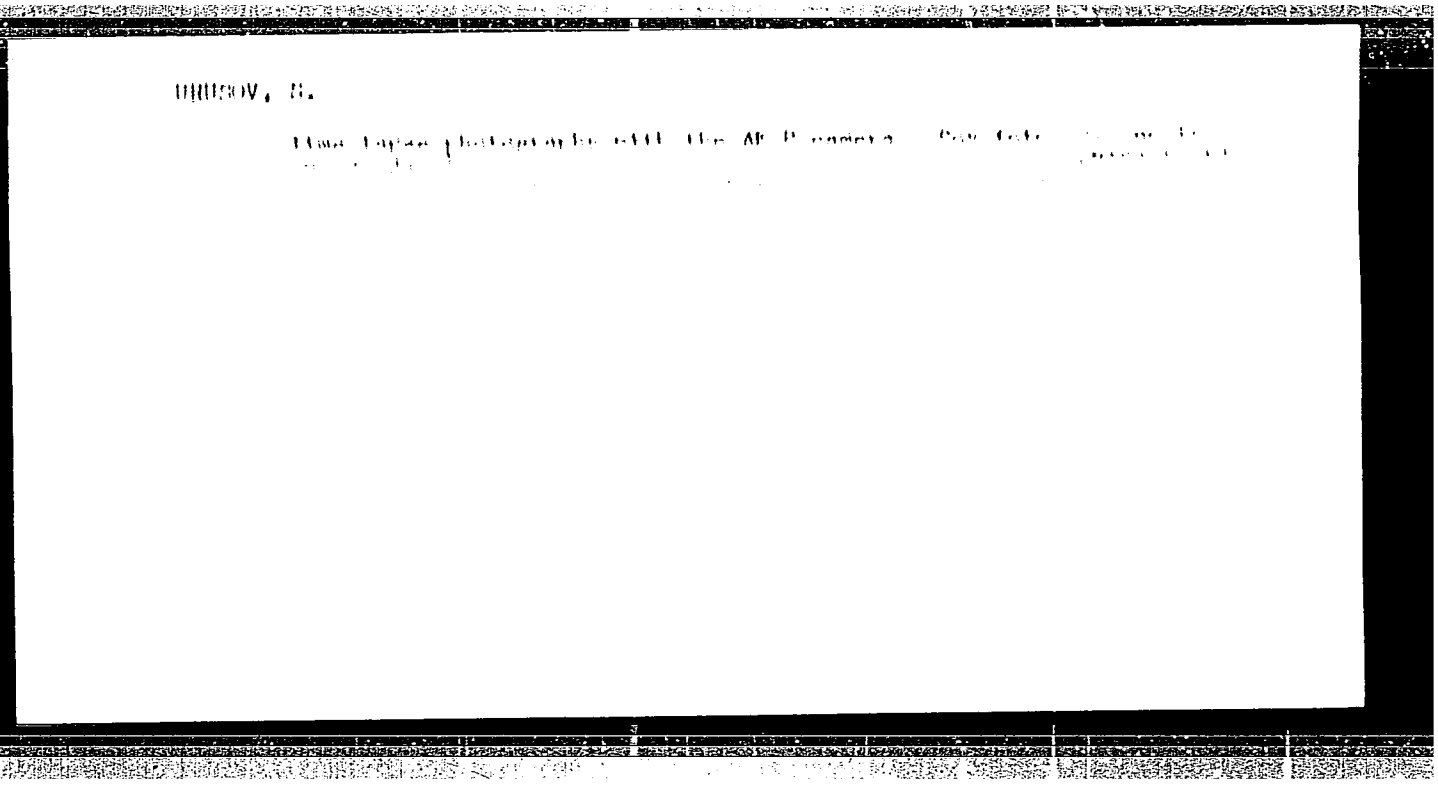
[illegible] side clearance limits and [illegible] lines are then determined. The highest [illegible] required when measuring the horizontal distances and the [illegible] when determining the side clearance limits. The article shows the procedure of these measurings in detail. Measuring methods must allow for the absolute positional and height deviations

Card 1/2

BELIKOV, Yevgeniy Fedorovich, dotsent; VORONIN, Viktor Aleksandrovich, inzh.; GLOTOV, Georgiy Fedorovich, dotsent; ZELENKOV, Yuriy Vladimirovich, inzh.; IVANOV, Leonid Fedorovich, inzh.; KORNEEV, Gleb Sergeyevich, inzh. [deceased]; MASLENNIKOV, Anatoliy Stepanovich, inzh.; SIROTKIN, Mikhail Pavlovich, dotsent; ULITIN, Andrey Il'ich, inzh.; URUSOV, Nikita Yur'yevich, inzh.; FLOROVSKIY, Yuriy Sergeyevich, inzh.; SHAKHIDZHANYAN, Grand Aleksandrovich, inzh.; EGLIT, Vitaliy Ivanovich, inzh.; VASIL'YEVA, V.I., red.izd-va; ROMANOVA, V.V., tekhn.red.

[Guidebook on principles of engineering geodesy used in planning and building hydroelectric power stations] Spravochnoe rukovodstvo po inzhenerno-geodezicheskim izyskaniiam pri proektirovanii i stroitel'stve gidroelektrostantsii. Pod obshchei red. E.F.Belikova. Moskva, Izd-vo geodez.lit-ry, 1960. 447 p. (MIRA 13:11)
(Hydroelectric power stations) (Geodesy)

Lens turret. Soviet [illegible]
(Lenses, Photographic)



URUSOV, S.

How to make copies of an 8 mm film. Sov.foto 23 no.1:34-35 Ja '63. (MIRA 16:5)
(Amateur motion pictures--Equipment and supplies)

[illegible], [illegible]

Sbornik zadach po [illegible] [Collection of [illegible]]. [illegible], [illegible], 1950. 107 p. ([illegible] [illegible] [illegible] SSSR).

SO: Monthly List of Russian Accessions, Vol 7, No [illegible], [illegible].

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001858110006-1"

URUSOV, S.M.

URUSOV, S.M.; LUNEVA, M.G.: ZNAMENSKIY, A.A., redaktor; OSTRIROV, N.S., tekhnicheskiy redaktor.

[Collection of geometry problems for trade, mining and railroad schools] Sbornik zadach po geometrii; dlia remeslennykh, gorno-promyshlennykh i zheleznodorozhnykh uchilishch. Izd.2-oe, perer. i dop.,Moskva, Vses.uchebno-pedagog. izd-vo Trudrezervizdat, 1955. 157 p. (MLRA 9:4)

(Geometry--Problems, exercises, etc.)

URUSOV, V.S.

Calculation of the ionicity of bonds in binary compounds. Zhur. neorg.khim. 6 no.11:2436-2439 '61. (MIRA 14:10)
(Ions) (Chemical bonds)

URUSOV, V.S.

Normal and lognormal distribution of an accidental error in the quantitative spectral analysis. Zhur. anal. khim. 16 no. 4:496-497 Jl-Ag '61. (MIRA 14:7)

1. Institut geokhimii Sibirskogo filiala AN SSSR, Irkutsk.
(Spectrum analysis)

ZHIROV, K.K.; URUSOV, V.S.

Evaluation of analyses of leads of similar isotopic composition.
Dokl. AN SSSR 143 no.6:1432-1434 Ap '62. (MIRA 15:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya. Predstavleno akademikom D.I.Shcherbakovym.
(Lead--Isotopes) (Chemistry, Analytic)

URUSOV, V.S.

Use of the concept of crystal lattice energy. Geokhimiia no.5: 551-555 My '65. (MIRA 18:7)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo AN SSSR, Moskva.

[illegible]OV, V.I.

Direction of the natural exchange reactions and the "affinity" of elements with one another. Geokhimiia no.6:668-673 Je '65. (MIRA 18:7)

1. Vernadsky Institut of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.

URUSOV, V.S.

Shift of X-ray lines during ionization of atoms. Third period elements and their compounds. Dokl. AN SSSR 166 no.3 660-663 Ja '66. (MIRA 19:1)

1. Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR. Submitted [illegible], 1965.

ACC NR: AP6035533 SOURCE CODE: UR/0007/66/000/010/1271/1272

AUTHOR: Yaroshevskiy, A. A.; Urusov, V. S.

ORG: none

TITLE: Symposium on isomorphism [Held in Leningrad State University from 26 to 28 May 1966]

SOURCE: Geokhimiya, no. 10, 1966, 1271-1272

TOPIC TAGS: isomorphism, crystallography, ion energy, x ray crystallography, crystal chemistry, mineralogy

ABSTRACT: This symposium, organized on the initiative of the Institute of the Earth's Crust, was attended by more than 300 crystallographers, crystallochemists, mineralogists, geochemists, chemists, radiochemists, metallographers and physicists. The seven papers presented at this symposium were: "New Findings on Isomorphism" (role of the geometric factor in the isomorphism of ionic compounds, the theory of domain isomorphism, the definition of isomorphism as "the entry of ions which do not disturb x-ray monocrystallinity") (N. V. Belov); "History of Research into Isomorphism" (I. I. Shafranovskiy); "Utilizing the Orbital Atomic

Card 1/3 [illegible]

[illegible]
decrease in isomorphic scattering of rare elements in the principal [illegible] and the Ontogeny of mi-
with increase in pressure) (V. V. Shcherbina); [illegible] chemical impurities [illegible] process of
nerals" (dynamics of the distribution of impurities in crystals as a function of the process of
the formation and growth of crystals) (D. P. Grigor'yev). The presentation of the papers was
followed by a lively discussion which chiefly focused on such problems as the definition of iso-
morphism from the crystallochemical standpoint, the energy characteristics of isomorphic
substitutions, the relation of anomalous ("heterogeneous") isomorphism to isomorphism in
general. Several brief communications were presented on such topics as precision x-ray
structural studies of isomorphism in quartz, analysis of isomorphic substitutions in beryls; in-
vestigation of isomorphism by the electron magnetic resonance method, synthesis of micas of

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001858110006-1

ACC NR: AP6035533

various composition -- lithium, barium, titanium and other micas. The resolution adopted by the Symposium proposed the following two variants of a definition of isomorphism: "Isomorphism is the phenomenon of the substitution of atoms or of their discrete groups (complexes) in a crystalline phase of variable composition" and "Isomorphism is the property of the mutual substitution of atoms or of their discrete groups (complexes) in crystalline matter, thus resulting in the formation of a crystalline phase of variable composition." Further the resolution recommended publishing the proceedings of the Symposium and organizing similar meetings in the future.

SUB CODE: 08, 07,20/ SUBM DATE: none

URUSOV, V.V. DECEASED

1962

c 1958

SEE ILC

CHEMISTRY

[Atlas of the White Russian Soviet Socialist Republic] Atlas Belo-
russkoy Sovetskoy Sotsialisticheskoy Respubliki. Minsk, Akad.nauk
BSSR. Glav.upr.geodez. i kartografii MVD SSSR, 1958. XIV, 140 maps.
(MIRA 12:4)

1. Predsedatel' Gosplana BSSR (for Malinin). 2. AN BSSR; prezident
Akademii sel'skokhoz.nauk BSSR (for Lupinovich). 3. Direktor Minskoy
kartograficheskoy fabriki (for Urusov). 4. AN BSSR; vitse-prezident
AN BSSR (for Lukashev). 5. AN BSSR (for Rogovoy). 6. Chlen-korrespondent
AN BSSR (for Il'yushin). 7. AN BSSR; chlen-korrespondent AN SSSR;
prezident AN BSSR (for Kuprevich).
(White Russia--Maps)

STEPANYAN, L.A., red.; ARUTYUNYAN, A.B., red.; BAGDASARYAN, A.B., prof., doktor geogr. nauk, glav. nauchnyy red.; DAVTYAN, G.S., red.; MARTIROSYAN, G.M., red.; MARUKHYAN, A.O., red.; YERITSYAN, S.S., red.; URUSOV, V.V., red.; SHAKHBAZYAN, M.S., red.; ALLAKHVERDYAN, G.O., kand. ekonom. nauk zam glav. nauchnogo red.; ARUTYUNYAN, N.Kh., akademik, red.; VALESYAN, L.A., kand. geogr. nauk, red.; DUL'YAN, S.M., kand. geogr. nauk, red.; YEREMYAN, S.T., red.; ZOGRABYAN, L.N., kand. geogr. nauk, red.; KOCHARYAN, G.A., prof., red.; POGOSYAN, Kh.P., prof., doktor geogr. nauk, red.; RUTKOVSKAYA, M.S., starshiy red.; SAVELO, A.F., tekhn. red.; YAROSHEVICH, K.Ye., tekhn. red.

[Atlas of the Armenian Soviet Socialist Republic] Atlas Armianskoi Sovetskoi Sotsialisticheskoi Respubliki. Erevan, Akad. nauk Armianskoi SSR; glav. upr. geodez. i kartografii MG i OP SSSR, 1961. 111 p. (MIRA 15:2)

MAL'TSEVA, G.K.; POSTNIKOV, V.S.; USANOV, V.V.

Internal friction in Cu-Au and Cu3-Au. Izv. vys. ucheb. zav.; chern. met. 6 no.5:156-161 '63. (MIRA 16:7)

1. Voronezhskiy politekhnicheskiy institut i Kemerovskiy pedagogicheskiy institut.

(Copper-gold alloys--Testing)
(Internal friction)

URUSOVA, L., zven'yevaya; IMAYKIN, A., starshiy nauchnyy sotrudnik, vneshtatnyy korrespondent.

For 150 centners of shelled corn to the hectare! Nauka i pered. op. v sel'khoz. 9 no.2:11-12 F '59. (MIRA 12:3)

1.Kolkhoz "Nartan" Chegemskogo rayona, Kabardino-Balkarskoy ASSR (for Urusova). 2.Kabardino-Balkarskaya sel'skokhozyaystvennaya opytnaya stantsiya (for Imaykin).
(Kabardia--Corn (Maize))

ZHIROV, K.K.; URUSOVA, M.A.

Geochemistry of alkalies in granites of the Taraka Massif in the Yenisey Ridge. Geokhimiia no.2:105-115 '62. (MIRA 15:3)

1. Department of Geochemistry of the Lomonosov State University, Moscow.
(Yenisey Ridge--Granites) (Yenisey Ridge--Alkalies)

S/137/62/000/002/022/114
A006/A101

AUTHORS: Urusova, N. A., Kurilekh, I. N., Peleshchuk, A. G.

TITLE: Testing the system of roller cooling of ingots in continuous steel casting

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 48, abstract 2V285 ('Sb. nauchn. tr. Gos. n.-i. i proyektn. in-t metallurg. prom-sti "Giprostal'", 1960, no. 2, 137-144)

TEXT: Results are given obtained from industrial tests of roller-cooling of ingots during continuous steel casting. It was established that by repeated roller cooling of ingots, the intensity of heat liberation increased with specific water consumption raised up to 7 m^3/m^2 hour. A further increase of water consumption has practically no effect on heat liberation in the repeated cooling zone. The least total length of internal hot cracks in grade St. 3 steel ingots of 150 x 620 mm section was observed at a specific water consumption as high as 6 to 8 m^3/m^2 hour for the broad ingot edges, and from 5 to 6 m^3/m^2 hour for narrow edges, during repeated roller cooling. Under the aforementioned conditions the central porosity is low. During testing of the roller cooling

Card 1/2

Testing the system of roller cooling ...

system its comparative operational simplicity was noted. The main constructional deficiencies were revealed which entail considerable non-uniformity of cooling and the impossibility of regulating heat liberation in the repeated cooling zone.

V. Gasilina

[Abstracter's note: Complete translation]

Card 2/2

KHALTURIN, V.I.; URUSOVA, N.B.

Estimation of the absorption of longitudinal and transverse waves in the earth's crust based on observations above local earthquakes. Trudy Inst. fiz. Zem. no.25:101-129 '62. (MIRA 15:11)
(Seismic waves)

URUBOVA, N.T.; OPOCHINSKAYA, Ye.A.; MARKOV, K.K., red.; RYABCHIKOV, A.M., red.; SAUSHKIN, Yu.G., red.

[List of published works of members of the Geography Department of Moscow State University, as of September 1957] Spisok opublikovannykh rabot sotrudnikov geograficheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta na 1 sentiabria 1957 g. Pod red. K.K. Markova, A.M. Riabchikova i IU.G. Saushkina. Moskva, Mosk. gos. univ., 1957. 196 p. (MIRA 12:2)
(Bibliography--Geography)

URUSOVA, N.T.

Geography in publications by universities and teachers' institutes in 1957. Nauch. dokl. vys. shkoly; geol.-geog. nauki no.3:231-248 '58. (MIRA 12:1)
(Bibliography--Physical geography)

URUSOVA, M.T.

Geography in publications of universities and pedagogical institutes (conclusion). Nauch.dokl.vys.shkoly; geol.-geog. nauki no.2:229-237 '59. (MIRA 12:8)
(Bibliography--Geography)

URUSOVA, N.T.

Geography in university and pedagogical institute publications for 1960; continuation. Geog. i khoz. no.12:94-99 '63.
(MIRA 16:12)

MINKIN, Ye.V., aspirant; PISKAREVA, L.V., studentka; KOROP'YEVA, F.A.; [illegible], Kh.

Effect of the preliminary treatment of collagen on its dissolving at different pH values. Sbor. nauch. trud. Nauch. trudy MTILP no.27: 39-43 '63. (MIRA 17:11)

1. Kafedra tekhnologii kozhi i mekha Moskovskogo tekhnologicheskogo instituta legkoy promyshlennosti.

PERIODICAL: Tr. N.-i. gornorazved. in-ta "Nigrizoloto". 1957, Nr 22, p 166

ABSTRACT: The mineralogical & chemical composition of the ore is shown and a brief characterization of the Au content, including an assay, is given. The results of experiments dealing with methods of extraction of Au are shown. These methods include precipitation, amalgamation, and cyanidation, as well as combinations of these processes. 98-99% of Au were extracted by means of amalgamation-cyanidation system.

I. D.

1. Gold ores--Analysis 2. Gold ores--Processing

Card 1/1

S/137/61/000/011/039/123
A060/A101

AUTHORS: Rossovskiy, S. N., Urusova, S. M.

TITLE: Study of the concentration of niobium-zirconium ores from one of the Kazakhstan deposits

PERIODICAL: Referativnyy zhurnal. Metallurgiya, no. 11, 1961, 8, abstract 11G61 ("Tr. Tsentr. n.-i. gornometallurg. in-ta", 1960, no. 20, 38 - 39)

BEZBORODOV, A.M.; URUSOVA, S.S.; CHERMENSKIY, D.N.; SHUL'TS, L.M.;

Biosynthesis of amino acids in the cultivation of actinomycetes on various media and the effect of inhibitors on this process. Mikrobiologiia 32 no.3:385-390 My-Je'63 (MIRA 17:3)

1. Leningradskiy khimiko-farmatsevticheskiy institut.

CA URUSOVA, T.P.

23

Absorption of ethylene dichloride by clothing. T. P. Urusova (Leningrad Ind. Hyg. Inst.). *Gigiena i Sanit.* 1951, No. 12, 30-1.—Tests with fabrics used for common clothing show that all take up appreciable amounts of $C_2H_4Cl_2$ (I). Wool products run as high as 0.7 mg./sq. cm. while cotton goods vary from 0.3 for tarpaulin material to 0.07 for thin satin products. Oil staining fabrics absorb more of the I than dry fabrics and retain it longer on attempted removal by airing. Dry fabrics are cleared by 3-hr. open air exposure. G. M. Kondratieff

Toxicol. Lab., Leningrad [illegible] of Labor Hygiene & Occup. Diseases and Industrial Sanitary Lab., Kemerovo Municipal San.-Epidem. Station

1950

URUSOVA, T.P.

Possibility of penetra ion of dichloroethane into milk in mothers exposed to preparation in industry. Gig. sanit., Moskva no.3:36-37 Mar 1953. (CIML 24:3)

1. Of the Industrial Laboratory of Kemerovo Municipal Sanitary Epidemiological Station.

URUSOVA, T. P.

9

(2)

Adsorption of ethylene chloride by the walls of an industrial establishment and coatings. T. P. Urusova (Munic. Sanit. Epidemiol. Sta., Kemerovo). *Gigiena i Sanit.* 1954, No. 2, 51-2.—Generally, adsorption of $ClCH_2CH_2Cl$ on solid surfaces, such as walls, increases with increased concn. of the substance in the atm. The greatest degree of adsorption occurs on walls coated with oil paints which are formulated with natural vegetable oils. Paints based on synthetic oils are much less adsorbent. Least amts. of adsorption occur with wooden walls or white-washed walls.
G. M. Kosolapoff

10-5-54

URUSOVA, T.P.

Dermal penetration by di[illegible]chloroethane in animals and man. T. P. Urusova (Med. Sci. Research Inst., Kemerovo). *Farmakol. i Toksikol.* 17, No. 4, 54 (1954). —Data are presented for rates at which rabbit ears and human hands take up $C_2H_4Cl_2$ by contact with the liquid, and the rates of elimination in exhaled air. In man, after 10 min. the venous blood contained 4.8 mg. % $C_2H_4Cl_2$, and exhaled air 0.09 mg./l. After 2 hrs. the [illegible] in the blood was 55.5%, and in exhaled air 37% of the amt. first observed.

Julian F. Smith

URUSOVA, T.P., kand.med.nauk

Basic problems of industrial hygiene in the synthetic alcohol industry. Gig.i san. 26 no.1:19-23 Ja '61. (MIRA 14:6)

1. Iz Ufimskogo instituta gigiyeny i professional'nykh zabolevaniy.
(ALCOHOL—TOXICOLOGY) (AIR—POLLUTION)

[illegible] also showed that a rotation of crystal microzones in a [illegible]crystal to considerable angles (to 30°) and that such rotations were accomplished by way of successive pivoting of a series of zones by angles not exceeding 2°. V. N. Bednarski

Inst. Crystallography, AS USSR

URUSOVSKAYA, A. A.

Urusovskaya, A. A.

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-10

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11900

USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-10

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11900

necessary that the crystallographic axes be oriented in a definite manner with respect to the axes of deformation of a specimen, so that the orientation of the specimen makes the slip deformation difficult.

Card 2/2

[illegible] of the kink bands in crystals [illegible] halides. [illegible] V. [illegible] and A. A. [illegible] (Inst. Cryst., Acad. Sci. [illegible]). Kristallografiya [illegible] — Kink bands [illegible] [illegible] crystals. [illegible] the optical pictures of the structure [illegible] and the forms of the [illegible]; the bands [illegible] of regions turned around relative to each other about [110] directions. The layers of the kink are developed approx. perpendicular to the slip planes. The gradualness of kink formation was studied. Kink formation is not always accompanied by slipping but may be due to unsym. rotations of the lattice. A. L. Mackay

URUSOVSKAYA, A. A.

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Crystalline Compounds E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6780

Author : Urusovskaya, A. A.
Title : Plastic Deformation Figures, Observed in TlBr, TlI, CsI and CsBr Crystals

Orig Pub : Tr. In-ta kristallogr. AN SSSR, 1956, vyp. 12, 172-179

Abstract : A study was made of the mechanism of formation of the figures that occur when a needle strikes the stressed surface of TlBr - TlI, CsI, and CsBr crystals. These figures are called surface figures of plastic deformation to distinguish them from the true figures forming on the surface of the crystal plate opposed to the surface struck by the needle. If one strikes with a needle the (001) cube surface of a crystal of the halogenite Tl or Cs, there occur on the plane receiving the stress four small stressed projections, which diverge from the point of load application into four mutually perpendicular directions (along the (100) directions). The surface figures produced by the impact on the (110) plane represent a pair of rhombo-pyramidal pro-

Card : 1/3

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6780

schemes, the complete figures of plastic deformation are formed as a result of slippage over all possible slippage systems. Patterns analogous to the impact and pressure figures, have also been observed when TlBr + TlI crystals are stretched. These patterns are formed by slippage tracks.

Card : 3/3

URUSOVSKAYA, A.A.

Category : USSR/Solid State Physics - Mechanical Properties of Crystals and Polycrystalline Compounds. E-9

Abs Jour : Ref Zhur - Fizika, No 3, 1957, No 6781

Author : Urusovskaya, A.A.
Title : Mechanism of Formation of Through Impact Figures in Zinc

Orig Pub : Tr. In-ta kristallogr. AN SSSR, 1956, vyp. 12, 180-185

Abstract : When the surface of the base of a single crystal of zinc is struck with a needle, there appears on this surface a hexahedral cavity, outlined by tracks of twin streaks. On the opposite side of the plate, there appears a hexagonal pyramidal projection, turned relative to the crater on the upper surface of the base by an angle of 30° (if the outline of the cavity on the surface of the base, on which the impact is made, corresponds to the tracks of the planes of a pyramid of the first kind (1012), then the outline of the projection corresponds to the trace of the planes of a pyramid of the second kind (1122)). An explanation is given for the mechanism of the formation of the punching figures, with allowance for the occurrence of twins and adjacent

Card : 1/2

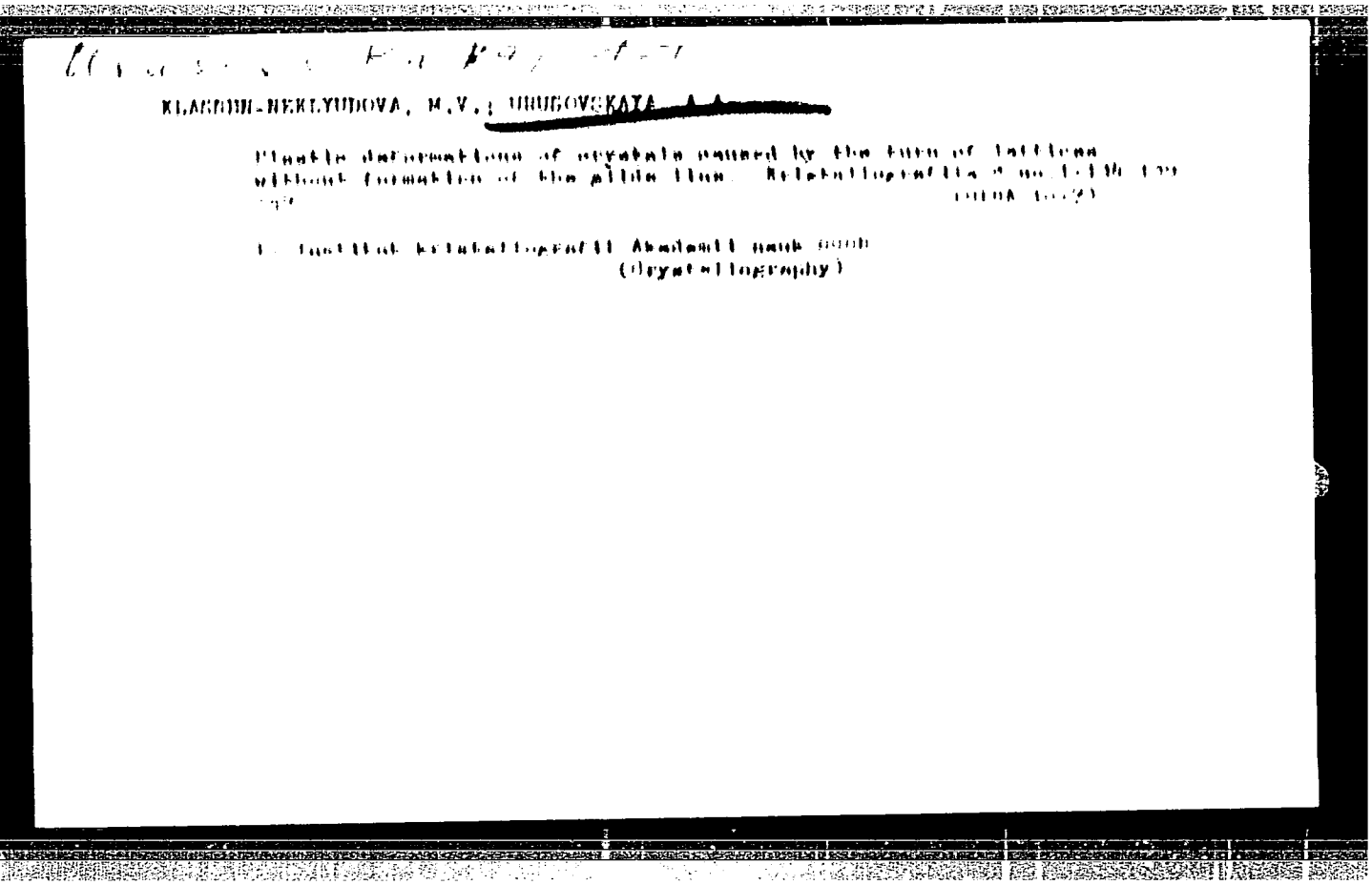
adaptation bands. The adaptation bands represent an aggregate of regions, which are slightly turned relative to each other and relative to the initial crystal (the angles of rotation are on the order of 10' -- 40'). These bands are transition zones between the twin layers and the initial crystals. They are analogous to the fault bands. According to the scheme given in the article, the position of the peaks of the hexagonal pyramidal projection is determined by the intersections of the twin layers, and the position of the faces of this pyramid depends on the rotation of the planes of the base about the directions lying in the plane of the base and perpendicular to the tracks of the twin layers. (It is known that in fault formation there occurs a rotation of the slippage planes about a direction lying in the plane of the slippage and perpendicular to the direction of the slippage. The directions of the slippage in zinc agree with the tracks of the twin layers on the surface of the base.)

Urusovskaya, A.A.

5

Figures of plastic deformation observed on crystals of [illegible]

[illegible] sphere [illegible] the surface of the TlBr-I crystals are [illegible] figures. In the percussion figures [illegible]



KLASKOVA-NEKLYUDOVA, M.V.; URUSOVSKAYA

(Crystallography)

KLASSEN-NEKLYUDOVA, M. V., INDENBOM, V. L., URUSOVSKAYA, A. A., TOMITOVSKIY, G. Ye.

XXI Instiute of Crystallography of Acad. Sci. USSR, Moscow.

"Comparison of Deformed Crystals with Etch-Pattern Distributions."
Paper submitted at
Program of the Conference on the Non-Metallic Solids of Mechanical Properties, Leningrad,
May 19 - 26, 1958.

SOV/70-3-6-12/25

AUTHOR: Urusovskaya, A.A.

TITLE: The Investigation of Crystals of LiF by the Method of Etching (Issledovaniye kristallov LiF metodom travleniya)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 6, pp 726-732 (USSR)

ABSTRACT: The influence of annealing and deformation on the distribution of dislocations in crystals of LiF was studied. The dislocations were made visible by the use of a selective etch (3% H_2O_2). The production and displacement of dislocations on compression and bending was observed. Screw dislocations were found to be more mobile than edge dislocations. Indications of the piling up of dislocations at slip planes in rows running perpendicular to the slip planes were obtained.
The aim of the study was to verify Gilman and Johnston's technique of selective etching (J. App.Phys., 1956, Vol 27, pp 1018-1022), whereby only strained regions are attacked by the etch. Their experiments were first verified. (100) planes were studied. Recognition of the edge, screw and ring dislocations was established. The higher mobility of screw dislocations has not been observed before. The piling up of dislocations shows that near a locally loaded

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The Investigation of Crystals of LiF by the Method of Etching

spot there is only a comparatively weak interaction between dislocations. With the motion deep inside the crystal, the interaction of the dislocations begins to predominate over the external influences; the same sort of dislocations in planes parallel to the slip cannot pass each other and move in concurrence, distributed in so-called "vertical rows" as in this formation the dislocations possess the minimum energy of interaction. The numerical values of the strains necessary in LiF for the generation of dislocations is discussed. Gilman and Johnson formed dislocations with a compression of 200 - 300 g/mm^2 and state that the crystals were earlier dislocation-free. The theory, however, indicates a stress of 100 - 1 000 kg/mm^2 as necessary to generate dislocations in a perfect crystal, but if there is a Frank-Reid source dislocations can appear at 1 000 - 200 g/mm^2. The present authors believe that the dislocations arise from such sources.

Acknowledgments to Professor Klassen-Neklyudova and V.L. Indenbom, G.F. Dobrzhanskiy.

SOV/70-3-6-12/25

The Investigation of Crystals of LiF by the Method of Etching

There are 7 figures and 5 references, 2 of which are Soviet and 3 English.

ASSOCIATION: Institut kristallografii AN SSSR
(Institute of Crystallography of the Ac.Sc.USSR)

SUBMITTED: January 30, 1958

Card 3/3

URUSOVSKAYA, A. A., G. Ye. TOMILOVSKIY, KLASSEN-NEKLYUDOVA, M. V. & LIDENBOM, V. A.

"The Results of Optical Crystal Research."

report presented at the Conference on Investigation of Mechanical Properties of Non-Metals, by the Intl. Society of Pure and Applied Physics and the AS USSR, at Leningrad, 19-24 May 1958.
(Vest, Ak Nauk SSSR, 1958, no. 9, pp. 109-111)

SOV/70-4-1-16/26

AUTHORS: Indenbom, V.L. and Urusovskaya, A.A.

TITLE: What are "Irrational Twins"? (Chto takoye "irratsional'nyye dvoyniki"?)

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 1, pp 90 - 98 (USSR)

ABSTRACT: Theoretical and experimental investigations are presented of the type of plastic deformation of NaCl crystals discovered by Brilliantov and Obreimov (Ref 4) and connected with the formation of "irrational twins". The representations of the translation mechanism of the re-orientation of the lattice as "twins" are confirmed by results of selective etching and also by optical, X-ray and interferometric studies on crystals of NaCl and LiF. It is demonstrated that in the deformation of crystals of the NaCl type any difference in the selection of favoured elements of gliding in different parts of the specimen must lead to the formation of differently oriented regions possessing all the basic properties of "irrational twins". Taking a cubic crystal bounded by the cube faces {100} - suppose that slip can occur on the {110} planes in (rec 110) the [1$\bar{1}$0] direction. If the crystal is considered in two parts, divided by the 110 plane, then if

What are "Irrational Twins"?

one part slips on the 011, 01$\bar{1}$ planes it will become longer in the [0$\bar{1}$0] direction. If the other part slips on the 101 and 10$\bar{1}$ planes it will be elongated in the [100] direction. The two parts suffering extensions in different directions and still having a plane in common will, therefore, be rotated about [001] through a small angle with respect to each other. The two parts will then be in an irrational twin relationship to each other. The production of such twins depends on external conditions which favour gliding in different directions in different parts of the crystal block. Crystals of LiF which had undergone such treatment showed, after selective etching in 3% H_2O_2 to show surface dislocations, the expected sort of patterns. Because of the anisotropic mechanical strain near the twin boundary birefringence may arise there. The strain is calculated in terms of the elastic constants and agrees in order of magnitude with that observed. It is suggested that it would be more accurate to replace the term "irrational twins" by the term "Brilliantov-Obreimov bands".

What are "Irrational Twins"?

Acknowledgments are made to Academician I. V. Obreimov, Professors B. A. Dem'yanenko and Professor M. V. Klassen-Neklyudova for their advice.
Presented at the International Conference on Mechanical Properties of Non-metallic Substances, May, 1958.
There are 6 figures and 10 references, 7 of which are Soviet and 3 English.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Ac.Sc., USSR)

SUBMITTED: August 14, 1958

Card 3/3

SOV/70-4-1-17/26

AUTHORS: Indenbom, V.L. and Urusovskaya, A.A.

TITLE: Strains and Rotations of the Lattice During the Surface Distribution of Dislocations, Arising in the Process of Plastic Deformation (Appendix) (Napryazheniya i povoroty reshetki pri poverkhnostnom raspredelenii dislokatsiy, vozniksheм v protsesse plasticheskoy deformatsii) (Prilozheniye)

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 1, pp 98 - 100 (USSR)

ABSTRACT: A mathematical analysis of the question "What are "Irrational Twins"?" (pp 90-98 of this journal) is given.
There are 4 references, 1 of which is Soviet, 1 English, 1 German and 1 International.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Ac. Sc., USSR)

SUBMITTED: August 14, 1958

Card 1/1

STEPANOVA, V.M.; URUSOVSKAYA, A.A.

Revealing dislocations in zinc crystals by etching. Kristallografiia 4 no.6:913-917 N-D '59. (MIRA 14:5)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova i Institut kristallografii AN SSSR.
(Zinc crystals)
(Dislocations in crystals)

electrolytic etching with 0.9-1.0 v current for 20 to 40 sec [Ref 225]; for sylvine (KCl); butvar [Ref 227]; for LiF, 3% hydrogen peroxide [Ref 226]; for calcite ($CaCO_3$), hydrochloric acid in various concentrations [Ref 168]. The first Soviet studies [illegible] by means of etching and [illegible] dislocations in LiF crystals subjected to plastic deformation and under the action of high temperature were studied, and it was shown that the mobility of the screw dislocations was higher than that of the edge dislocations [Ref 226]. Deformed NaCl crystals were investigated optically and interferometrically by means of selective etching [Ref 261]. Symmetrical and spiral Frank-Read

sources were revealed on etching cadmium crystals containing 0.01% zinc, and cinematographic pictures of the etching of these sources were taken, showing their distribution in the crystal [Ref. 249]. Frank-Read sources were also revealed in cadmium crystals by means of ionic bombardment, in much higher number than by the etching method [Ref 249]. Studies on etching zinc crystals [Ref 251, 257] helped to explain the discrepancy in the results obtained by J. J. Gilman [J. Metalls, 1956, Vol 8, Nr 8, pp 998-1004] and A. H. Meleka [Philos. Mag., 1956, Vol 1, Nr 9, pp 803-811]. By acting on the crystal surface with an alcohol solution of iodine, the latter obtained not etch pits but growth patterns, arranged not so much on the dislocations as on the uneven spots of the surface. The effect of bismuth admixtures on the density of the dislocations in germanium crystals was investigated [Ref 237]. Selective etching was used in the studies

of the translational origin of irrational twins in NaCl and LiF [Ref 242] and birefringent bends in zinc [Ref 260]. Other Soviet and related references are listed in the attached card. There is 1 table; and 264 references, 108 U.S., 75 U.K., 10 French, 6 Dutch, 1 Italian, 22 Japanese, 11 German, 2 Polish, 2 Czechoslovakian, 2 Hungarian, and 25 Soviet. The most recent U.S. and U.K. references are: L. R. Low, R. W. Guard, Acta Metallurgica, 7, 3, 171-179, 1959; T. H. Schofield, A. E. Bacon, ibid., 7, 6, 403-406, 1959; L. C. Lovell, J. H. Wernick. J. Appl. Phys., 30, 5, 1959; A. S. Parasnis, J. W. Mitchell, Philos. Mag., 4, 38, 171-179, 1959; J. Silcox, P. H. Hirsch, ibid., 4, 37, 72-89, 1959. Soviet and Related References: 118. I. Auleytner, K. Godwood, I. Krilov, Bull. de l'Acad. Polon., 5, 6, 639-642, 1957; 150. V. L. Indenbom, G. E. Tomilovskiy, Dokl. AN SSSR, 115, 4, 723-726, 1957; 151. B. Jeszenszky, Acta Phys. Acad. Scient. Hungar., 8, 147-160, 1957; 168. G. B. Rays, Dokl. AN SSSR, 117, 3, 419-422, 1957; 174. S. Yu., Atomnaya energiya, 3, 7, 70-72, 1957; 180. M. P. Shaskol'skaya, Yu. Kh.

Revealing Dislocation Patterns on Crystal Surfaces by Means of Etching. A Review

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Vekilov, Kristallografiya, 2, 4, 548-551, 1957; 182. G. Zimonyi, Acad. Scient. Hungar., 8, 119-127, 1957; 187. J. Auleutner, B. Kotakowsky, Acta Phys. Polon., 17, 2-3, 93-96, 1958; 209. F. Kroupa, Chekh. fiz. zh., 8, 2, 186-195, 1958; 216. D. A. Petrov, Yu. M. Shashkov, V. I. Rozhdestvenskaya, Etching of Silicium Monocrystals. Proceedings of the Conference on the Metallurgy of Semiconductors (Travlenlye kristallov kremniya. Sb. tr. Soveshchaniya po metallurgii poluprovodnikov) 1958; 218. V. G. Rakin, N. N. [illegible], Fiz. metallov i metallovedeniye, [illegible]; 225. N. A. Tyapunina, A. A. Predvoditelev, Nauchn. dokl. vyssh. shkoly, 2, 1, 184, 1955; 22[illegible]. A. A. Urusovskaya, Kristallografiya, 3, 1, 1958; 23[illegible]. V. Ye. Yurasova, Zh. tekhn. fiz., 1958; 23[illegible]. V. Ye. Yurasova, G. M. Protopopova, Kristallografiya, 3, 1958; 237. V. T. Alekseyeva, P. G. Yeliseyev, Fiz. tverdogo tela, 1, 8, 1304-1307, 1959; 242. V. L. Indenbom, A. A. Urusovskaya, Kristallografiya, 4, 1, 85-92, 1959;

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Revealing Dislocation Patterns on Crystal Surfaces by Means of Etching. A Review

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247. A. A. Predvoditelev, N. A. Tyapunina, Fiz. metallov i metallovedeniye, 7, 6, 855-861, 1959; 248. A. S. Bystrikov, Diplomnaya rabota. Kafedra molekulyarnoy fiziki, Fizfak, MGU, Moscow, 1959; 249. V. Ye. Yurasova, E. A. Pavlovskaya, N. A. Tyapunina, A. A. Predvoditelev, Fiz. metallov i metallovedeniye (in print); 250. V. G. Rakin, N. N. Buynov, Fiz. metallov i metallovedeniye, 7, 6, 939-943, 1959; 251. V. R. Regel', V. M. Stepanova, Kristallografiya, 4, 2, 226-234, 1959; 252. V. M. Stepanova, V. V. Prokrovskiy, V. R. Regel', Kristallografiya, 5, 1, 1960; 254. B. Sestak, On the Mechanism of Rendering Visible Dislocations on the Surface ofIron Crystals by Anodic Dissolving, Czechosl. J. Phys., 9, 3, 339-347, 1959; 256. G. V. Spivak, V. Ye. Yurasova, A. I. Klenova, T. A. Vlasova, Fiz. metallov i metallovedeniye, 7, 6, 893-898, 1959; 257. V. M. Stepanova, A. A. Urusovskaya, Kristallografiya,

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Revealing Dislocation Patterns on Crystal Surfaces by Means of Etching. A Review

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4, 6, 1959; 258. Sun' Zhuy-fan, M. P. Shaskol'skaya, Kristallografiya, 4, 4, 590-593, 1959; 259. A. D. Trakhtenberg, S. M. Faynshteyn, Fiz. tverdogo tela, 1, 3, 371-377, 1959; 260. A. A. Urosovskaya, V. M. Stepanova, Concerning Plastic Deformation in Zinc Monocrystals Under Conditions Precluding Basal Glide. II. Dislocation Distribution in Samples the Compression Direction of Which Lies in the Basal Plane (O plasticheskoy deformatsii monokristallov tsinka v usloviyakh, zapreshchayushchikh bazisnoye skol'zheniye. II. Raspredeleniye dislokatsiy v obraztsakh, napravleniye szhatiya kotorykh lezhit v ploskosti bazisa) (in print); 261. M. P. Shaskol'skaya, Sun'Zhuy-fan, Kristallografiya, 4, 1, 81-84, 1959; 262. M. P. Shaskol'skaya, Go Shochzhao, Van Yan'-ven' (in print).

ASSOCIATION: Institut of Crystal ography, Academy of Sciences USSR (Institut kristallografii AN SSSR)

SUBMITTED: June 1, 1959

Card 7/7

KLASSEN-NEKLYUDOVA, Marina Viktorovna. Prinimali uchastiye: INDENBOM, V.L.; URUSOVSKAYA, A.A.; TOMILOVSKIY, G.Ye.; PONYATOVSKIY, Ye.G. OBREIMOV, I.V., akademik, otv.red.; STAROKADOMSKAYA, Ye.L., red.izd-va; SHEVCHENKO, G.N., tekhn.red.; BRUZGUL', V.V., tekhn.red.

[Mechanical twinning of crystals] Mekhanicheskoe dvoinikovanie kristallov. Moskva, Izd-vo Akad.nauk SSSR, 1960. 261 p. (MIRA 14:1)

1. Laboratoriya mekhanicheskikh svoyst kristallov Instituta kristallografii (for Indenbom, Urusovskaya, Tomilovskiy). 2. Laboratoriya vysokikh davleniy Instituta kristallografii (for Ponyatovskiy).

(Crystals)

URUSOVSKAYA, A.A.

p. 3 PHASE I BOOK EXPLOITATION SOV/4609

Akademiya nauk SSSR. Institut nauchnoy informatsii

Nekotoryye voprosy fiziki plastichnosti kristallov (Some Problems in the Physics of the Plasticity of Crystals) Moscow, 1960. 209 p. (Series: Itogi nauki: Fiziko-matematicheskiye nauki, 3) 2,700 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Vsesoyuznyy institut nauchno-tekhnicheskoy informatsii.

Resp. Ed.: M. V. Klassen-Neklyudova; Ed. of Publishing House: Ye. B. Kuznetsova; Tech. Ed.: S. G. Tikhomirova.

PURPOSE: This book is intended for physicists, metallurgists, and persons interested in crystallography and solid state physics.

COVERAGE: These 6 articles were compiled by personnel of the Laboratoriya mekhanicheskikh svoystv kristallov Instituta kristallografii AN SSSR (Laboratory of Mechanical Properties of Crystals of the Institute for

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Crystallography AS USSR) to give a systematic account of the present state of studies in the strength and plasticity of crystals. The introductory article reviews the history of Soviet progress in developing theories of the mechanical properties of crystals, mainly single crystals. Names of leading Soviet and non-Soviet specialists in this field are mentioned. The articles discuss plastic properties of a single-crystal grain (crystallite). Fundamental data on the incomplete (block) structure of single crystals and polycrystalline grains, and on the structure and properties of interfaces between the grains of crystal groups [i.e., grain boundaries] are also reviewed. References accompany the articles.

TABLE OF CONTENTS:

Klassen-Neklyudova, M. V. Physical Principles of the Plasticity and Strength of Crystals. Moscow, 1958 5

Regel', V. R. Temperature and Time Dependence of the Plasticity Characteristic of Single Crystals 12

Urusovskaya, A. A. Plastic Deformation Not Accompanied by Asterism in the Laue Diffraction Pattern 67

Urusovskaya, A. A. Formation of Sections With Re-oriented Crystal Lattice During Deformation of Single and Polycrystals 75

Indenbom, V. L. A Dislocational Description of Simple Plastic Deformation Phenomena 117

Miuskov, V. F. Modern Theories on the Structure and Properties of Intercrystal [Grain] Boundaries 159

AVAILABLE: Library of Congress

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URUSOVSKAYA, A.A.

Plastic bending unattended by the asterism of Laue diffraction patterns. Itogi nauki: Fiz.-mat. nauki 3:67-74 '60. (MIRA 13:7)
(Deformations (Mechanics)) (Crystals) (X-ray crystallography)

URUSOVSKAYA, A.A.

Formation of bands with a reoriented lattice in the deformation of single crystals and polycrystals. Itogi nauki: Fiz.-mat. nauki 3:75-116 '60. (MIRA 13:7)
(Crystal lattices) (Deformations (Mechanics))

KLASSEN-NEKLYUDOVA, M.V.; URUSOVSKAYA, A.A.

Deformation of rock salt crystals at elevated temperatures.
Kristallografia 5 no.5:744-748 S-O'60. (MIRA 13:10)

1. Institut kristallografii AN SSSR.
(Rock salt crystals) (Deformations (Mechanics))

URUSOVSKAYA, A.A.; STEPANOVA, V.M.

Plastic deformation of zinc monocrystals under conditions forbidding basal slip. Part 2: Distribution of dislocations in samples in which the direction of compression lies in the basal plane. Kristallografiia 5 no. 6:924-931 N-D '60. (MIRA 13:12)

1. Institut kristallografii AN SSSR.
(Zinc crystals)

TSINZERLING, Ye.V.; URUSOVSKAYA, A.A.; GOVORKOV, V.G.

Is it possible to obtain artificial Japinese twins of quartz?
Zap.Vsesoj.min.ob-va 90 no.5:567-571 '61. (MIRA 14:10)

1. Institut kristallografii AN SSSR, Moskva.
(Quartz)

ACCESSION NR: AT4016312 a/0000/63/000/000/0319/0324

AUTHOR: Grusovskaya, A. A.; Optiya, M. Sh.

TITLE: Investigation of annealing and some optical and mechanical characteristics of neutron-irradiated LiF crystals

SOURCE: Vses. soveshch. po fiz. shchelochnogaloidn. kristallov. 2d;. Riga, 1961. Trudy*. Fiz. shchelochnogaloidn. kristallov (Physics of alkali halide crystals). Riga, 1962, 319-324

TOPIC TAGS: crystallography, crystal physical property, alkali halide crystal, crystal optical property, crystal annealing, neutron, neutron irradiation, radiation defect

ABSTRACT: Selective etching, roentgenographic, and optical examinations were employed in a further study of the nature of radiation defects and their behavior under different conditions. Moscow tap water was found to be usable for etching and to produce, in irradiated LiF, an effect identical to that produced in non-irradiated LiF by 3% H_2O_2. Annealing at 250, 500 and 700C prompted defect coagulation in samples irradiated with a dose of $4 \cdot 10^{16}$ neutron/cm^2, but revealed only larger radiation defects. Smaller defects were revealed by curves of optical

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ACCESSION NR: AT4016312

absorption. Under radiation, crystals assumed an orange color which turned dark-brown as the dose approached 10^{17} neutron/cm^2, and absorption curves showed F-, M- and R-absorption bands. X-ray diffraction studies were conducted to evaluate the damage caused by a $4 \cdot 10^{16}$ neutron/cm^2 dose. Lauegrams of irradiated and blank samples showed no difference; however, the curves of integral intensity for irradiated samples were more pronounced. Radiation markedly affected the mechanical properties of LiF. The interval of plastic deformation reduced sharply and the yield stress increased as the radiation dose increased. Crystals irradiated in excess of $4 \cdot 10^{16}$ neutron/cm^2 showed brittle destruction before reaching ultimate resilience. Irradiation with doses of 10^{15} to 10^{17} neutron/cm^2 produced an entire spectrum of point defects and accumulations. "The author wishes to thank V. A. Il'ina, a staff member of the Institut fiziki metallov (Institute of Physics of Metals), who aided in x-ray studies. Orig. art. has: 8 figures.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography AN SSSR); Institut fiziki AN Gruzinskoy SSR (Institute of Physics, Academy of Sciences of the Georgian SSR)

SUBMITTED: 00
SUB CODE: PH
DATE ACQ: 06Mar64
NO REF SOV: 005
ENCL: 00
OTHER: 004

Card 2/2

TYAADARADZHAN, R.; URUSOVSKAYA, A. A.; KLASSEN-NEKLUDOVA, M. V.

"Investigation of dislocation structure of crystals of PbS."

report submitted for 6th Gen Assembly, Intl Union of Crystallography, Rome, 9 Sep 63.

Inst of Crystallography, AS USSR, Moscow.

[illegible]OVSKAYA, A. A.; KLASSEN-NEKLYUDOVA, M. V.

"Investigation of dislocation structure of crystals of PbS."

Report presented at the 6th International Congress and Symposia, International Union of Crystallography, Rome, Italy, 9-18 Sept. 1963.

URUSOVSKAYA, A.A.; TYAAGARADZHAN, R.; KLASSEN-NEKLYUDOVA, M.V.

Dislocation structure of PbS crystals in the region of concentrated loading. Kristallografiia 8 no.4:625-631 Jl-Ag '63. (MIRA 16:9)

1. Institut kristallografii AN SSSR.
(Dislocations in crystals) (Lead sulfide)

URUSOVSKAYA, A.A.; TYAAGARADZHAN, R.; KLASSEN-NEKLYUDOVA, M.V.

Formation of punching figures in galenite. Kristallografiia 8 no.6:929-932 N-D'63. (MIRA 17:2)

1. Institut kristallografii AN SSSR.

URUSOVSKAYA, A.A.

Selective etching of cesium iodide crystals. Kristallografiia, 8 no.1:75-78 Ja-F'63 (MIRA 17:7)

1. Institut kristallografii AN SSSR.

ACCESSION NR: AP4039409 S/0070/64/009/003/0432/0435

AUTHOR: Guseva, I. N.; Urusovskaya, A. A.

TITLE: Investigation of certain properties of samarium-doped synthetic fluorite

SOURCE: Kristallografiya, v. 9, no. 3, 1964, 432-435

TOPIC TAGS: synthetic fluorite, samarium doped fluorite, fluorite crystal, single crystal growth, samarium plus 2 ion crystal property

ABSTRACT: The lattice constant, density, density of dislocations, and quantity and dimensions of light-dispersing inclusions have been determined in different sections along a samarium-doped fluorite crystal grown by the Stockbarger method. These properties, supposed to be characteristic of the defectiveness of a crystal, were correlated with the distribution along the crystal of Sm^{+2} as determined by the change in the absorption coefficient at maximum absorption. The unequal distribution of Sm^{+2} explains the

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ACCESSION NR: AP4039409

nonuniformity of color in certain specimens. It was shown that all the characteristics studied, except the lattice constant, increased as the absorption coefficient increased, i.e., with the Sm^{+2} concentration, which corresponds to increasing color intensity. The changes in characteristics along a single fluorite crystal are explained by the presence of extraneous phases. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography, AN SSSR)

SUBMITTED: 05Nov63 / DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: SS NO REF SOV: 002 OTHER: 004

Card 2/2

URUSOVSKAYA, A.A.; TYAGARADZHAN, K.

Dislocation rosettes in CsI. Kristallografiia 9 no.4:531-536 Jl-Ag '64. (MIRA 17:11)

1. Institut kristallografii AN SSSR.

URUSOVSKAYA, A.A.; ORLOV, Yu.L.

Nature of the plastic deformation of diamond crystals. Dokl. AN SSSR 154 no.5:1099-1102 F'64. (MIRA 17:2)

1. Mineralogicheskiy muzey im. A.Ye. Fersmana AN SSSR.
Predstavleno akademikom D.I. Shcherbakovym.

L 25109-65 EWT(m)/EWP(t)/EWP(b) IJP(c) JD

ACCESSION NR: AP5003417 S/0181/65/007/001/0088/0093

AUTHORS: Tyaagaradzhan, R.; Urusovskaya, A. A.

TITLE: Motion and multiplication of dislocations in crystals of cesium iodide

SOURCE: Fizika tverdogo tela, v. 7, no. 1, 1965, 88-93

TOPIC TAGS: dislocation motion, dislocation multiplication, cesium iodide crystal

ABSTRACT: Continuing an earlier investigation (Kristallografiya, v. 9, 511, 1964) the authors report that the use of selective etching has made possible a study of the character and the laws governing the motion and multiplication of the dislocations in CsI. The shape and orientation of the samples are shown in Fig. 1 of the enclosure. The average initial dislocation density in the samples (after annealing) did not exceed 10^3--10^4 cm^{-2}. The dislocation be-

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ACCESSION NR: AP5003417

gan to move when a cleaving stress of 1 g/mm^2 was applied, and to multiply at a stress of 3 g/mm^2. In the earlier investigation, the application of a point load did not make it possible to disclose the motion and multiplication of the dislocations. As in sodium chloride and lithium fluoride, the dislocations in cesium iodide move in jumplike fashion, stopping whenever they encounter an inhomogeneity. Uniform motion of dislocations was also observed, in which the speed increased exponentially with applied cleavage stress. The dislocations multiplied during motion and it is proposed that when the stress exceeds 20 g/mm^2 the multiplication is effected with the aid of double transverse slip. Orig. art. has: 8 figures and 3 formulas.

ASSOCIATION: Institut kristallografii AN SSSR, Moscow (Institute of Crystallography AN SSSR)

SUBMITTED: 24Jun64 ENCL: 01 SUB CODE: SS

NR REF SOV: 006 OTHER: 006

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L 25109-65
ACCESSION NR: AP5003417

ENCLOSURE: 01

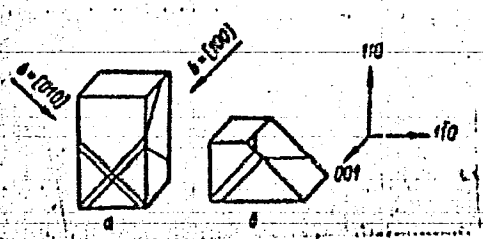

Fig. 1. Shape and orientation of samples of cesium iodide for observation of the motion of dislocations following compression.

The movement of the edge dislocations was observed on the front and rear faces of the cube (a), while that of the screw dislocations was observed on the inclined face of the cube in trapezoidal samples (b).

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L 64538-65 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD

ACCESSION NR: AP5018721 UR/0070/65/010/004/0525/0530

AUTHORS: Urusovskaya, A.A.; Govorkov, V.G.

TITLE: Effect of impurities on the plastic deformation of single crystals of calcium fluoride

SOURCE: Kristallografiya, v. 10, no. 4, 1965, 525-530, and bottom half of insert facing p. 478

TOPIC TAGS: calcium fluoride, crystal deformation, crystal impurity, plastic deformation, crystal dislocation

ABSTRACT: The plastic deformation of single crystals of CaF_2 was investigated under various conditions, using both pure crystals and crystals containing Sm and Nd impurities. Natural and synthetic crystals were studied. Dislocations were investigated by etching the (111) plane with concentrated sulphuric acid at 20C for 8--10 minutes. The dislocation rosettes of natural and synthetic CaF_2 were

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compared. The crystals were etched selectively. The compression tests were carried out on 3 x 3 x 5 mm CaF_2 samples cut in the form of parallelepipeds from single-crystal boules. The surfaces of the samples were polished mechanically, and annealed at 940--1000C for 40 minutes to remove the residual stresses. A special instrument was used to deform the samples in an argon atmosphere at a rate of 6.3×10^{-4} sec^{-1}. The plastic deformation occurs as a result of slipping along the {100} in the <110> directions. The plasticity (mobility of dislocations) of CaF_2 depends on the valence of its rare-earth impurities: the divalent Sm strengthens the crystal more than the trivalent Nd. Annealing of CaF_2 containing Sm^{2+} for an hour at 1200C reduces the dislocation density within the blocks by an order of magnitude. The appearance of a minimum and a maximum on the compression curves as a function of temperature at 600--750C is apparently due to the effect of the Sm and Nd impurities. "The authors express their gratitude to M. V. Klassen-Neklyudova[44,55] and V. L. Indenbom for a discussion of the results, and also to V. Ya. Khaimov-

[44,55]

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L 64538-65
ACCESSION NR: AP5018721

Mal'kov and Kh. S. Bagdasarov for supplying the crystals." Orig. art. has: 2 photographs and 3 figures.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography AN SSSR)

SUBMITTED: 06Nov64 ENCL: 00 SUB CODE: SS

NR REF SOV: 010 OTHER: 017

Card 3/3

L 4264-66 EWT(1)/EWP(e)/EWT(m)/EWP(1)/T IJP(c) GG/WH
ACC NR: AP5024549 UR/0070/65/010/005/0650/0657
548.57

AUTHOR: Gliki, N. V.; Urusovskaya, A. A.

TITLE: Mosaic structure of ruby crystals grown by the Verneuil method

SOURCE: Kristallografiya, v. 10, no. 5, 1965, 650-657, and insert facing p. 654

TOPIC TAGS: ruby, crystal defect, crystal dislocation, lattice defect, synthetic material

ABSTRACT: Ruby crystals grown from the melt by the Verneuil method are known to contain mosaic blocks, slip lines, and other defects which are sources of internal strains. The object of the work is (1) to study the spatial arrangement of the block boundaries relative to the crystallographic axes, (2) to measure the angles of disorientation of the blocks in relation to one another, and (3) to determine the axes of rotation of neighboring blocks and the type of dislocations forming the block boundaries. Optical, x-ray diffraction, and selective etching methods were employed. Two types of blocks are observed: coarse ones along the axis of the samples, with boundaries approximately parallel to the $\{10\bar{1}0\}$ plane of the prism, and finer ones with boundaries in a fan-shaped arrangement along $\{11\bar{2}0\}$ planes. Conclusions are drawn concerning the nature and origin of the mosaic structure of synthetic ruby crystals. "N. A. Velikhova participated in the work. The authors thank A. A. Chernov, V. L. Indenbom, and V. N. Rozhansky for reviewing the results and for valuable comments." Orig. art. has: 4 figures and 1 table.

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L 4264-66

ACC NR: AP5024549

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography, AN SSSR)

SUBMITTED: 15Jan65 ENCL: 00 SUB CODE: SS, MT

NO REF SOV: 006 OTHER: 008

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L 4266-66 EWT(1)/EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD

ACC NR: AP5024553 UR/0070/65/010/005/0688/0692

548.4:538.65

AUTHOR: Chebotkevich, L. A.; Urusovskaya, A. A.; Veter, V. V.

TITLE: Motion of dislocations under the influence of a magnetic field

SOURCE: Kristallografiya, v. 10, no. 5, 1965, 688-692

TOPIC TAGS: crystal dislocation, iron, magnetization, magnetostriction

ABSTRACT: The motion of dislocations in a ferromagnetic (filamentary iron crystals grown by reducing $FeCl_2$ in hydrogen) was caused by placing the sample in a magnetic field. The dislocations were revealed by etching in a mixture of picric and nitric acid. Fresh dislocations were obtained by deforming with the tip of a diamond pyramid. The domain structure was observed by the standard powder method. Magnetization causes the motion of dislocations in their slip plane; this motion may be due both to a direct interaction of the domain bondary and dislocation (magnetoelastic interaction) and to the influence of magnetostriction, i.e., elastic stresses arising in the sample as a result of repeated magnetization. The effects of these two factors could not be separated. "We express our deep appreciation to V. L. Indenbom for valuable comments and to I. P. Kushnir for providing the samples of iron whiskers." Orig. art. has: 3 figures.

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L 4266-66

ACC NR: AP5024553

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ASSOCIATION: Dal'nevostochnyy gosudarsvennyy universitet (Far East State University); Institut kristallografii AN SSSR (Institute of Crystallography, AN SSSR) 44, 55

SUBMITTED: 17May65 ENCL: 00 SUB CODE: SS, EM

NO REF SOV: 004 OTHER: 019

Card 2/2 JP

KLASSEN-NEKLYUDOVA, M.V.; GOVORKOV, V.G.; PAPKOV, V.S.; URUSOVSKAYA, A.A.; TIMOFEYEVA, V.A.

Plastic deformation of a nickel single crystal. Part 2: The effect of temperature and rate of deformation on the compression curves and microstructure of nickel. Fiz. met. i metalloved. 18 no.2:263-269 Ag '64. (MIRA 18:8)

1. Institut kristallografii AN SSSR.

URUSOVSKAYA, L. G.

USSR/Engineering
Machinery - Construction
Gas Analyzers

Jan 1948

"A Catalytic Gas Analyzer for Ammonium-Air Mixtures," L. G. Urusovskaya, D. A. Frank-Kamenetskiy, Chernorechensk Chem Works imeni M. I. Kalinin, 4 pp

"Zavod Labor" Vol XIV, No 1

Describes tests conducted to determine data necessary for construction of an apparatus permitting uninterrupted control of ammonium-air mixture in process of oxidizing ammonia. Catalytic gas-analyzer used as basis of apparatus.

61T33

FDB

58/49T25

URUSOVSKAYA, L. G.

USSR/Chemistry - Chlorides May 49
Chemistry - Silver Nitrate

"Replacement of Silver Nitrate During Determination of Chlorides in Production Control," L. G. Urusovskaya, P. I. Zhiline, Chernorechensk Chem Plant, 2 pp

"Zavod Lab" Vol XV, No 5

Recommends use of mercurimetric method which is based on formation of a lightly dissociated form of mercury chloride. Formula representing the reaction has following form: $Na_2Fe(CN)_5NO + Hg(NO_3)_2 = HgFe(CN)_5NO + 2NaNO_3$.

58/49T25

FDD

USSR/Chemistry - Chlorides (Contd) May 49

Method was tested under factory conditions and was found to give satisfactory results.

FDD

58/49T25