S/182/62/000/012/001/005
D040/D112

Press forging in sectional dies

is made to non-Soviet special presses for sectional-die forging, such as the U.S. Baldwin press, the German "Siempelkamp", or the British Wilkins & Mitchell. There are 8 figures and 1 table.

Card 2/2

NIKOL'SKIY, L.N.; GAVRILOV, M.Ye.; KUZNETSOV, A.V.; PANICHEV, F.P.

Experience in and ways of introducing rotary swaging for further forging. Kuz.-shtam.proizv. 5 no.8:15-18 Ag '63. (MIRA 16:9)

KUZNETSOV A.V

PHASE I BOOK EXPLOITATION SOV/5715

Kazandzhan, Pogost Karapetovich, and Andrey Vasil'yevich Kuznetsov

Turbovintovyye dvigateli; rabochiy protsess i ekspluatatsionnyye kharakteristiki (Turboprop Engines; Working Process and Operational Characteristics) Moscow, Voyenizdat M-va obor.SSSR, 1961. 263 p. 10,000 copies printed.

Ed.: G. I. Kalashnik, Engineer, Lieutenant Colonel; Tech. Ed.: R. L. Solomonik.

PURPOSE: This book is intended for the engineering and technical personnel of the Air Force and the Civil Air Fleet. It may also be useful to students in aviation and technical institutes and to technical personnel operating gas-turbine power plants in transport and under stationary conditions.

COVERAGE: The book deals with the design and operating principles of turboprop engines and their components. Physical phenomena occurring in the engine are described. Operational and regulation

Card 1/6

problems are treated in detail. Factual materials are based on non-Soviet practices in aviation-engine design, and questions of future prospects reflect non-Soviet opinion. The authors thank Yu. N. Nechayev, Doctor of Technical Sciences, and N. G. Smirnov, Candidate of Technical Sciences. There are 11 references, all Soviet.

TABLE OF CONTENTS:

KUZNETSOV, A.V., starshiy tekhnik-leytenant; LASHKEVICH, A.K., tekhnik-leytenant

They did it themselves. Vest.Vozd.Fl. no.6:82 Je '61. (MIRA 14:8)

(Transport planes) (Slide rule)

KUZNETSOV, A. V., kand. tekhn. nauk

Negative thrust. Grazhd. av. 18 no.5:26-27 My '61. (MIRA 14:5)
(Airplanes--Turbine-propeller engines)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000928110019-0"

ACCESSION NR: AP4040585 S/0040/64/028/003/0567/0571

AUTHOR: Kuznetsov, A. V. (Kazan)

TITLE: The problem of jet flow over a slightly oscillating contour

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 3, 1964, 567-571

TOPIC TAGS: oscillating contour, translational oscillation, flow velocity, radius of curvature, rotational oscillation, perturbation velocity, harmonic plate, anharmonic

ABSTRACT: The problem of an oscillating contour with given translational oscillation $\alpha(t)$ at a given angle $\beta(t)$ relative to its principal position axis was discussed analytically. For small α and β the moving coordinate system can be related to the fixed system by

$$x' = x - \delta_x(x, t), \qquad y' = y - \delta_y(y, t)$$

where $\delta_x = \alpha_x - y\beta$, $\delta_y = \alpha_y + x\beta$. The solid body contour is defined by $F(x,y,t) = 0$, and for the flow velocity vector in the oscillating field given by

$$\frac{dF}{dt} = \frac{\partial F}{\partial t} + (V + \nabla\varphi)\nabla F = 0$$

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ACCESSION NR: AP4040585

one has, to first order $\nabla\varphi\nabla F = \left(\frac{\partial\delta}{\partial t} + \nabla\times(\delta\times V_0)\right)\nabla F.$

If the radius of curvature of the contour is large, $R^{-1} \sim O(\delta)$, the above expression yields for translational oscillations

$$\frac{\partial\varphi}{\partial n} = \frac{\partial a_n}{\partial t} - a_n\frac{\partial V}{\partial s} + a_\tau\frac{V}{R}$$

and for rotational oscillations

$$\frac{\partial\varphi}{\partial n} = \frac{1}{2}\frac{\partial(x^2+y^2)}{\partial s}\left(\beta\frac{\partial V}{\partial s} - \beta'\right) + \frac{V\beta}{R}\left(R + x\frac{\partial y}{\partial s} - y\frac{\partial x}{\partial s}\right).$$

In the general case of a separated jet flow Taylor's theorem is used to expand the velocity vector, thus $V(x,y) = V_0 + \Delta V_0$, and the perturbation velocity is given by the approximation

$$\frac{\partial\varphi}{\partial n} = \frac{\partial\delta_n}{\partial t} - \Delta V_n - \beta V$$

which leads to a solution for ΔV_n. This solution indicates that in harmonic plate oscillations the change in the perturbation velocity is anharmonic in time. Orig. art. has: 23 equations and 1 figure.

ASSOCIATION: none

Card 2/3

ACCESSION NR: AP4040585

SUBMITTED: 16Feb64

SUB CODE: ME

NO REF SOV: 002

ENCL: 00

OTHER: 004

Card 3/3

KUZNETSOV, A.V., aspirant

Transparent nomograms for plotting axonometric projections. Izv.vys. ucheb.zav.;mashinostr. no.5:5-12 '64. (MIRA 18:1)

1. Kommunarskiy gornometallurgicheskiy institut.

KUZNETSOV, [illegible]; [illegible], I.F.; LYUBIMOV, V.I.

Increasing the speed of drilling blastholes. Trudy [illegible] (Sverd.) no.8:85-91 '6[illegible]. (MIRA [illegible])

KUZNETSOV, A.V., aspirant

Parameters of the elastic elements of car air spring suspension.
Sbor. trud. LIIZHT no.215:99-109 '64. (MIRA 17:12)

KUZNETSOV, A.V.

Determination of the "dead time" of an X-ray counter of the URS-50I apparatus. Zav. lab. 30 no.5:629-630 '64. (MIRA 17:5)

1. Petrozavodskiy gosudarstvennyy universitet.

KUZNETSOV, A.V.

Using coordinate transparencies in plotting axonometric representations. Vest.mashinostr. 44 no.3:87-89 Mr '64.
(MIRA 17:4)

KUZNETSOV, A.V.

SUBJECT USSR/MATHEMATICS/Functional analysis CARD 1/2 PG - 305
AUTHOR KUZNECOV A.V., TRACHTENBROT B.A.
TITLE Investigation of the partial recursive operators with the means of the theory of the Baire space.
PERIODICAL Doklady Akad. Nauk 105, 897-900 (1955)
reviewed 10/1956

The operators considered are partial recursive operators $g = T[f]$ where f is a function of one variable and g is a function of one variable or a constant. O_T denotes the domain of full definition of the operator T, i.e. the set of all those fully defined functions f for which $T[f]$ is also fully defined. The author gives examples to show how diverse the sets O_T can be. He then correlates each fully defined function f with the point $\langle f(0), f(1), \ldots \rangle$ of the Baire space J. A primitive recursive enumeration δ^n of the Baire intervals is given and a set is called effectively open if it is representable in the form $\bigcup_{n=1}^{\infty} \delta^{a(n)}$ where a(n) is general recursive. Effective G_δ, F_σ, $G_{\delta\sigma}$ etc are defined similarly. Theorem 1. Every partial recursive operator $g = T[f]$, considered over J only, has a representation in the form

Doklady Akad. Nauk 105, 897-900 (1955) CARD 2/2 PG - 305

$g(x) = b(\mu t(f \varepsilon \delta^{a(x,t)}))$ where a and b are primitive recursive. Theorem 2. A necessary and sufficient condition that there exists a partial recursive operator T such that $O_T = M$ is that M be an effective G_δ. Effective continuity, uniform continuity, compactness and boundedness are then introduced and their relations investigated, e.g. Theorem 3. Every partial recursive operator gives an effectively continuous mapping of its full definition into J. Theorem 4. A mapping which is effectively continuous on an effectively compact set is effectively uniformly continuous on it. Theorem 5. If T is a partial recursive operator then on any effectively closed $M \subseteq O_T$ it is general recursive. Finally various results are proved which bear on the problem of which functions are reducible to effectively closed points.

16(1) p. 5, 6 PHASE I BOOK EXPLOITATION SOV/1708

Akademiya nauk SSSR. Matematicheskiy institut

Sbornik statey po matematicheskoy logike i yeye prilozheniyam k nekotorym voprosam kibernetiki (Collection of Articles on Mathematical Logic and Its Applications to Certain Problems of Cybernetics) Moscow, Izd-vo AN SSSR, 1958. 362 p. (Series: Its: Trudy, t. 51) 3,500 copies printed.

Resp. Ed.: S.V. Yablonskiy, Candidate of Physical and Mathematical Sciences; Ed. of Publishing House: A.Z. Ryvkin and L.K. Nikolayeva; Tech. Ed.: T.P. Polenova.

PURPOSE: This collection of articles contains original contributions of Soviet mathematicians in mathematical logic and is intended for mathematicians working in this field.

COVERAGE: The articles deal with studies of problems connected with mathematical logic and their applications to certain problems of cybernetics. Primarily, switching circuits are studied, but many

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of the results obtained are of a more general character. The content of the collection of articles is closely connected with many branches of cybernetics which study the methods of describing the processing of discrete information, problems of the analysis and synthesis of control systems, and methods of controlling the performance of control systems. The characteristic feature of these articles is their connection with various fields of mathematics such as, mathematical logic, combination analysis, set theory, algebra, topology and theory of numbers. All articles were written in the years 1954-1955, and the concepts presented are arranged in the book in a systematic order. The first articles concern problems of mathematical logic, then problems of the theory of the synthesis of circuits are examined, and finally problems of the theory of controlling the performance of circuits are considered. The editor thanks Professor A.A. Lyapunov, Professor S.A. Yanovskiy, B.Yu. Pil'chak, A.P. Yershov, V.A. Uspenskiy, and Yu.I. Yanov for their remarks in connection with the final editing of the collection.

TABLE OF CONTENTS:

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000928110019-0"

Collection of Articles on Mathematical Logic (Cont.) SOV/1708

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Collection of Articles on Mathematical Logic (Cont.) SOV/1708

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Collection of Articles on Mathematical Logic (Cont.) SOV/1708

AVAILABLE: Library of Congress

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Card 7/7

KUZNETSOV, A. V.

"The Impossibility of Constructing an Algebraic Apparatus with a Finite Number of Functions."

report presented at All-Union Conference on Problems in the Theory of Relay Devices, Inst. for Automation and Remote Control AN USSR. 3-9 Oct 1957.
Vestnik AN SSSR, 1958, No. 1, v. 28, pp. 131-132. (author Ostianu, V. M.)

AUTHOR: ~~Kuznetsov, A.V.~~ (Moscow) SOV/42-13-3-29/41

TITLE: Algorithms as Operations in Algebraic Systems (Algoritmy kak operatsii v algebraicheskikh sistemakh)

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 3, pp 240-241 (USSR)

ABSTRACT: The author prdposes a general scheme according to which the investigation of the existence of algorithms can be performed on a purely algebraic way. The scheme bases on the general theory of algebraic systems.

Card 1/1

KUZNETSOV, A.V.

One property of functions realized by means of nonplane non-repetitive circuits. Trudy Mat.inst. 51:174-185 '58.
(Boolean functions) (MIRA 11:11)

KUZNETSOV, A.V.

Nonrepetitive contact circuits and nonrepetitive superpositions of functions belonging to the algebra of logic. Trudy Mat.inst. 51:186-225 '58. (MIRA 11:11)

(Electric circuits) (Algebra, Boolean)

KUZNETSOV, A.V.

16(1) PHASE I BOOK EXPLOITATION SOV/2660

Vsesoyuznyy matematicheskiy s"yezd. 3rd, Moscow, 1956

Trudy. t. 4: Kratkoye soderzhaniye sektsionnykh dokladov. Doklady inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematical Conference in Moscow. vol. 4: Summary of Sectional Reports. Reports of Foreign Scientists) Moscow, Izd-vo AN SSSR, 1959. 247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskiy institut.

Tech. Ed.: G.N. Shevchenko; Editorial Board: A.A. Abramov, V.G. Boltyanskiy, A.M. Vasil'yev, B.V. Medvedev, A.D. Myshkis, S.M. Nikol'skiy (Resp. Ed.), A.G. Postnikov, Yu. V. Prokhorov, K.A. Rybnikov, P. L. Ul'yanov, V.A. Uspenskiy, N.G. Chetayev, G. Ye. Shilov, and A.I. Shirshov.

PURPOSE: This book is intended for mathematicians and physicists.

COVERAGE: The book is Volume IV of the Transactions of the Third All-Union Mathematical Conference, held in June and July 1956. The book is divided into two main parts. The first part contains summaries of the papers presented by Soviet scientists at the Conference that were not included in the first two volumes. The second part contains the text of reports submitted to the editor by non-Soviet scientists. In those cases when the non-Soviet scientist did not submit a copy of his paper to the editor, the title of the paper is cited and, if the paper was printed in a previous volume, reference is made to the appropriate volume. The papers, both Soviet and non-Soviet, cover various topics in number theory, algebra, differential and integral equations, function theory, functional analysis, probability theory, topology, mathematical problems of mechanics and physics, computational mathematics, mathematical logic and the foundations of mathematics, and the history of mathematics.

Section on Computational Mathematics

Card 17/ 34

KUZNETSOV, A.V.; PADUCHEVA, Ye.V.; YERMOLAYEVA, I.M.

Informational language for geometry and the algorism for translation from the Russian to the informational language. Soob. Otd.mekh.i avtom.inform.rab. no.?:40-73 '61. (MIRA 15:2)
(Programming languages (Electronic computers)—Geometry)

KUZNETSOV, A. V.; YUDITSKIY, M. M., kand. tekhn. nauk, dotsent

Devices for plotting axonometric projections. Vest. mashinostr. 42 no.10:82-85 O '62. (MIRA 15:10)

(Geometrical drawing—Equipment and supplies)

L 45694-66 EWT(1)/EWP(m)

ACC NR: AR6017338 SOURCE CODE: UR/0044/66/000/001/B078/B078

52
B

AUTHOR: Kuznetsov, A. V.

REF SOURCE: Tr. Seminara po obratn. krayev. zadacham. Kazansk. un-t, vyp. 2, 1964, 88-121

TITLE: Jet flow of a slightly fluctuating contour

SOURCE: Ref. zh. Matematika, Abs. 1B368

TOPIC TAGS: jet flow, boundary value problem, ideal fluid, incompressible fluid, harmonic oscillation, shock wave analysis

TRANSLATION: The plane problem of small fluctuations of an arbitrary curvilinear arc flowing with separation of the jets is studied. The liquid is considered to be ideal, weightless and incompressible. The oncoming current may be unlimited and contained in a channel having parallel rectilinear walls. A solution is given for the boundary value problem and formulas are introduced for the forces acting on the fluctuating contour. Considered in detail is the case of a plane disc which makes small high-frequency harmonic fluctuations in an unlimited flow. Harmonic fluctuations and pulse motion of a disc in a channel are also considered. As a limiting case of pulse motion, the known solution of the contour shock-wave problem in the case of separated jet flow is obtained. M. Gurevich.

SUB CODE: 20,12/ ~~SUBM DATE: none~~ UDC: 517.9:530.145.6

Card 1/1 MT

KUZNETSOV, A.V.; TERMINASOV, Yu.S.

Theory of X-ray scattering by mosaic crystals. Kristallografiia 6 no.2:177-183 Mr-Ap '61. (MIRA 14:9)

1. Petrozavodskiy gosudarstvennyy universitet.
(X rays--Scattering) (Crystals)

S/057/61/031/003/018/019
B125/B209

AUTHORS: Kuznetsov, A. V., Terminasov, Yu. S.

TITLE: Consideration of secondary extinction

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 3, 1961, 383-386

TEXT: The authors derive formulas for the integral reflection of a massive specimen, taking into account secondary extinction and assuming the mosaic blocks to have equal axes and equal probability of orientation. On the same assumptions they derive the thickness of the elementary layer as a function of the block size. In this case, the secondary extinction of this layer is supposed to be negligible. A correction for secondary extinction has to be introduced if in every column of mosaic blocks in the direction of the primary beam at least two blocks are aligned in reflecting position. When the blocks are large and the probability that they are aligned in reflecting position is the same in every column, one single block may appear in the center if the effect of secondary extinction vanishes. In the case of smaller blocks, m blocks in reflecting position may appear in every column. In each case, the entire volume of the speci-

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men may be divided into m layers, and in each of these layers the effect of secondary extinction may be assumed to be of the same intensity. The authors examined the diffraction at a thick polycrystalline plate. The angle between the primary beam and the plate surface is denoted by α; β denotes the corresponding angle for the diffracted beam. The total energy scattered from the first layer into all rings of volume dV amounts to $\sum P_1 = \frac{1}{2} I_0 pQ\cos\vartheta_0 dV$. In the present paper, the same notations as in the paper of P. James, Opticheskiye printsipy difraktsii rentgenovskikh luchey, IL, M., 49, 1950, are used. Here and henceforward, the summation sign without any indices denotes summation over all Debye-Scherrer rings. In the case of a massive specimen, the number of elementary layers may be assumed to be infinite. For that case,

$$\frac{P}{I} = \frac{pQ\cos\vartheta_0}{2\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)} \frac{1-\exp\left[-\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)\frac{dz}{\sin\alpha}\right]}{1-\left[1-\frac{1}{2}(\Sigma pQ\cos\vartheta_0)\frac{dz}{\sin\alpha}\right]\exp\left[-\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)\frac{dz}{\sin\alpha}\right]}. \quad (7) \qquad (7).$$

Consideration of secondary extinction S/057/61/031/003/018/019
B125/B209

In the calculation of the energy falling upon the short region l (which is short with respect to the radius r of the ring) of the entire ring, Eq. (7) has to be multiplied by $\frac{1}{2\pi_r \sin 2\vartheta_o}$:

$$\frac{P}{l}=\frac{pQl}{8\pi\mu r\sin\vartheta_0\left(1+\frac{\sin\alpha}{\sin\beta}\right)}\frac{\exp\left[\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)\frac{dz}{\sin\alpha}\right]-1}{\frac{1}{2}(\Sigma pQ\cos\vartheta_0)\frac{dz}{\sin\alpha}+\exp\left[\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)\frac{dz}{\sin\alpha}\right]-1}. \quad (8). \tag{8}$$

When small blocks are considered, the expression

$$\frac{P}{l}=\frac{pQl}{8\pi r\sin\vartheta_0\left[\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)+\frac{1}{2}\Sigma pQ\cos\vartheta_0\right]}. \quad (14),$$

instead of Eq. (8), holds, for the dependence of the integral intensity on the block size, when secondary extinction is taken into account (when $P_1 = \frac{1}{2}\dot{I}_o\, pQ\cos\vartheta_o dV$ (1)). Eq. (14) may be regarded as a limit which,

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in the case of strong granulation of the blocks, is approached by the integral intensity. Secondary extinction lowers the integral intensity to a considerable extent, if

$\mu\left(1 + \frac{\sin\alpha}{\sin\beta}\right)$ is of the same order of magnitude as $\frac{1}{2}\sum pQ\cos\vartheta_0$. This is probably the case only with hard radiation and weakly absorbing media. But even for an Mo radiation,
$\mu\left(1 + \frac{\sin\alpha}{\sin\beta}\right) \sim 27\ \mathrm{cm}^{-1}$, $\frac{1}{2}\sum pQ\cos\vartheta \sim 0.6\ \mathrm{cm}^{-1}$ holds for an Al sample when $\alpha = \vartheta_0$. The effect of secondary extinction for any size of the mosaic blocks is only weak if the quantity $\frac{1}{2}\sum pQ\cos\vartheta_0$ may be neglected as compared to $\mu\left(1 + \frac{\sin\alpha}{\sin\beta}\right)$. For Mo radiation and an Al sample, the condition

$$\mu\left(1+\frac{\sin\alpha}{\sin\beta}\right)\frac{dz}{\sin\alpha} < 0.1, \qquad (13)$$

(13)

holds up to a size of the mosaic blocks of about 10^4 Å. Thus, extinction does not change the ray intensity when the size of the blocks is about 10^{-4} A or less. The size of the elementary layer, in the case of an Al sample and Mo radiation is

$$\frac{dz}{\sin\alpha} = \frac{L^2}{\eta\, 40}(A).$$

This formula holds the more, the more mosaic blocks are present in an elementary column. Allformulas of the present paper were derived with regard to the secondary extinction in the primary cell. More accurate formulas for the case examined here will be given in a later paper. There are 1 figure and 1 Soviet-bloc reference.

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavodsk State University)

SUBMITTED: April 4, 1960

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000928110019-0"

23735
S/057/61/031/006/019/019
B116/B201

24,7200(1144,1160)

AUTHORS: Kuznetsov, A. V. and Terminasov, Yu. S.

TITLE: Consideration of secondary extinction. II.

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 6, 1961, 757-759

TEXT: The formulas derived in the present paper take account of the effect of secondary extinction in a polycrystal with mosaic blocks uniformly distributed with respect to the angles of rotation taking multiple reflections into account. It is shown that existing formulas taking account of secondary extinction are not applicable in the case of small crystallite dimensions. The formulas derived in a previous paper by the authors (Ref. 1: ZhTF, 30, no. 10, 1960) take account of the effect of secondary extinction in the primary ray only (for a polycrystal with mosaic blocks uniformly distributed with respect to the angles of rotation). With small mosaic blocks, the integral reflection from a small, thick polycrystalline plate (Ref. 1) is given by

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B116/B201

$$\frac{P}{I} = \frac{plQ}{8\pi r \sin\vartheta_0 \left[\mu \left(1 + \frac{\sin\alpha}{\sin\beta}\right) + \frac{1}{2}\sum pQ \cos\vartheta_0\right]} \quad (1)$$

To take multiple reflections into account, it is sufficient to take account of the attenuation of intensity due to extinction in the rays reflected from the various elementary layers as they emerge from the specimen. Further reflections will not play any role. According to the author's estimates, their contribution is considerably below the accuracy of existing methods of measuring the intensities. On the basis of similar considerations, the following formula is obtained for a polycrystal with mosaic blocks uniformly distributed with respect to the angles of rotation:

$$\frac{P}{I} = \frac{plQ}{8\pi r \sin\vartheta_0 \left(1 + \frac{\sin\alpha}{\sin\beta}\right)\left(\mu + \frac{1}{2}\sum pQ \cos\vartheta_0\right)} \quad (2)$$

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With an aluminum specimen exposed to Mo radiation, the presence of a secondary extinction reduces the integral reflection of any interference by 4%. It is pointed out that many papers (not specified here) make use of formula

$$\frac{P}{I} = \frac{pQA(\vartheta)}{\mu + gQ} \qquad (3)$$

for taking secondary extinction in polycrystals into account. A (ϑ) is a factor depending on the geometrical conditions of the recording. In the authors' opinion, the application of formula (3) to a polycrystal, regardless of whether the latter is compact or powdery, is in no way justified with any crystallite dimensions. In fact, this formula is valid only if in each column the mosaic blocks of a single crystallite reflect X-rays. In other words, every ray is reflected only in the mosaic blocks of a crystallite, with the mosaic blocks being so weakly disoriented that none of them is reflected into any other ring (hkl). Under real conditions, however, everything will be more complicated. The authors have examined this problem more closely, namely, as applied to an aluminum specimen exposed to Mo irradiation. They made the following assumptions for the

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polycrystal: It consists of crystallites of random orientation; each crystallite consists of mosaic blocks which are not randomly oriented; all normals to the reflecting planes of the mosaic blocks are concentrated witin a small solid angle, and all mosaic blocks of the crystallite can be reflected into a Debye ring only. It was shown in a previous paper of the authors (Ref. 1) that in each column of a length $dz/\sin\alpha = L^2/740 \cdot Å$ (4), an aluminum specimen exposed to Mo radiation has, on the average, only a single crystallite (as in the present case) in the reflection position. The crystallite size is assumed to be $L = 10^3$ Å. The length of the elementary column will then be $1.3 \cdot 10^3$ Å. If the crystallites in the column are assumed to disperse, in which case the column size is equal to the half-absorption thickness of the layer every ray will be reflected from $3.5 \cdot 10^3$ crystallites. Formula (3) cannot be used in this case; in fact, if the crystallite is placed at some depth of the specimen, and not on its surface, the X-rays reaching the crystallite and those emerging from it will be weakened due to crystallites reflected into entirely different

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rings (hkl). In this case, formula (2) must be used in the crystallite consists of one mosaic block only. If, however, it consists of some weakly oriented mosaic blocks, the second term in the denominator of (2) has to be written as $g\frac{1}{2}\sum pQ\cos\vartheta_0$, where the coefficient $g > 1$ takes account of secondary extinction in the crystallites itself. Even if $L = 10^4$ Å, the ray will be reflected in 30 crystallites, and formula (3) will therefore be inapplicable here, too. Only if $L = 5\cdot10^4$ Å, each ray will be reflected in the specimen only once on the average. Formula (3) is applicable only with such and larger crystallite dimensions. If, however, the mosaic blocks of a crystallite are disoriented to a sufficient extent so as to be reflected into different rings, it is very doubtful even with large crystallites whether formula (3) may be applied. When using another radiation, the crystallite size beginning from which (3) may be used, varies. The lesser the penetration depth of X-rays, the smaller is the crystallite size for which (3) may be used. A more accurate analysis must be performed by using (4). The interpretation of effects of secondary extinction is most difficult in cases where each ray is reflected in some

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crystallites. Future calculations will show how things really are.
[Abstracter's note: Essentially complete translation.] There is 1 Soviet-bloc reference.

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavodsk State University)

SUBMITTED: July 8, 1960

Card 6/6

S/070/62/007/001/013/022
E032/E314

AUTHOR: Kuznetsov, A.V.

TITLE: The effect of secondary extinction in monocrystals

PERIODICAL: Kristallografiya, v. 7, no. 1, 1962, 121 - 123

TEXT: The author makes use of a discussion given in an earlier paper (Ref. 1 - Zh. tekhn. fiz., 31, 3, 1961) to derive formulae which take into account the effect of secondary extinction in the reflection of X-rays from the face of a mosaic monocrystal. The monocrystal is divided into elementary layers, in each of which the secondary extinction effect is zero. On the first approximation the thickness of such a layer can be assumed to be equal to the average size of a mosaic block. To begin with, an expression is derived for the energy scattered by the first such layer when all the mosaic blocks within it are parallel to the face of the crystal but are slightly displaced relative to each other. Each of them then scatters independently of its neighbours and the energy scattered by the entire layer is n times the energy scattered by a single

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E032/E314

The effect of ....

mosaic block. Multiple reflections are neglected. The final expression gives the total reflected intensity.
There are 2 Soviet-bloc references.

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavod State University)

SUBMITTED: July 8, 1960

Card 2/2

KUZNETSOV, A.V.

Line displacement as dependent on the final dimensions of mosaic blocks. Trudy LIEI no.29:125-129 [i.e. 39] '62. (MIRA 16:6)
(X-ray crystallography)

KUZNETSOV, A.V.

Theory of X-ray scattering by mosaic crystals. Trudy LIEI no.29:137-145 [i.e. 39] '62. (MIRA 16:6)
(X-ray crystallography)

KUZNETSOV, A.V.; SHIVRIN, O.N.

Mutual interference on X rays reflected by different mosaic blocks in a crystallite. Kristallografiia 7 no.1:134-136 Ja-F '62. (MIRA 15:2)

1. Petrozavodskiy gosudarstvennyy universitet.
(X-ray crystallography)

KUZNETSOV, A.V.

Applicability of correction formula for the calculation of secondary extinction. Fiz. met. i metalloved. 13 no.2: 306-308 F '62. (MIRA 15:3)

1. Petrozavodskiy gosudarstvennyy universitet.
(X-ray crystallography)

S/070/63/008/001/015/024
E132/E460

AUTHOR: Kuznetsov, A.V.

TITLE: The broadening of X-ray lines due to secondary extinction

PERIODICAL: Kristallografiya, v.8, no.1, 1963, 102-104

TEXT: When the distribution of blocks in a mosaic crystal is given by

$$\Phi(\varphi) = (2\pi\overline{\varphi^2})^{-\frac{1}{2}} \left(1 + \pi^2 \frac{\xi^2}{2\pi\overline{\varphi^2}}\right)^{-1}$$

then the relationship between the line widths β_e and β_t with and without secondary extinction are given by

$$\beta_e^2 = \beta_t^2 \left[1 + (2\pi\overline{\varphi^2})^{-\frac{1}{2}} (Q/\mu)\right]$$

where μ is the coefficient of linear absorption, Q - the integrated intensity of the reflection from unit volume, φ is an angle and ξ is the deviation from the Bragg angle.
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The broadening of X-ray ... S/070/63/008/001/015/024
E132/E460

There are 2 figures.

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavodsk State University)

SUBMITTED: June 27, 1962

Card 2/2

KUZNETSOV, A.V.

Measuring secondary extinction in polycrystals. Fiz. met. i metalloved. 15 no.2:302-305 F '63. (MIRA 16:4)

1. Petrozavodskiy gosudarstvennyy universitet.
(Metal crystals--Optical properties)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000928110019-0"

KUZNETSOV, A.V.; FILATOV, M.S.

Application of summary corrections of counting errors. Zav.lab. 30 no.3:300-301 '64. (MIRA 17:4)

1. Petrozavodskiy gosudarstvennyy universitet.

KUZNETSOV, A. V.

"Some Problems of Interrupted Flow." Cand Phys-Math Sci, Kazan' State U, Kazan' 1954. (RZhMekh, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

SOV/124-57-7-7621

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 7, p 22 (USSR)

AUTHOR: Kuznetsov, A. V.

TITLE: Concerning the Pressure Exerted by a Flowing Gas on Several Obstacles With Flow Separation (O davlenii gazovogo potoka na nekotoryye prepyatstviya pri obtekanii s otryvom struy)

PERIODICAL: Uch. zap. Kazanskogo un-ta, 1956, Vol 116, Nr 1, pp 45-49

ABSTRACT: The author examines the plane problem of the steady separated flow of an ideal compressible fluid (as defined by Kirchhoff) past a plurality of obstacles consisting of straight-line segments. The paper is based on Chaplygin's approximate equations. The problem is solved by representing on the upper semiplane the regions of variation of the complex potential and of the function $\omega = \sigma + i\theta$ (σ being the Chaplygin variable and θ the angle of inclination of the velocity vector with respect to the axis of symmetry of the contour).

B. S. Kirnasov

Card 1/1

KUZNETSOV, A.V.

Flow around a curvilinear arc with separation of flow. Uch. zap. Kaz. un. 117 no.9:95-99 '57. (MIRA 13:1)

1.Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina. Kafedra gidromekhaniki.

(Gas flow)

14

16(1),16(2),10(4)

AUTHOR: Kuznetsov, A.V. SOV/140-59-3-15/22

TITLE: Flow Around With Separation of Rays of an Impediment Enclosed in a Channel With Parallel Walls

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 3, pp 159-167 (USSR)

ABSTRACT: The author considers the symmetrically plane flow around of a curvilinear arc by an incompressible fluid. The arc lies between two parallel walls and is symmetrical to the axis of the channel. The curvature of the arc is a continuous function; the arc is star-shaped with respect to a point of the axis. The existence and uniqueness of the solution are already proved by Serrin [Ref 4]. The author uses the method of Ya.Berman [Ref 1] (mapping of the lower part of the flow into the first quadrant) and determines the form of the rays as well as the corresponding potential flow. The author mentions M.A.Lavrent'yev. There are 2 figures and 4 references, 3 of which are Soviet, and 1 English.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet imeni V.I.Ul'yanova-Lenina (Kazan' State University imeni V.I.Ul'yanov-Lenin)

SUBMITTED: April 19, 1958

Card 1/1

S/140/61/000/004/004/013
C111/C222

AUTHOR: Kuznetsov, A. V.

TITLE: Cavitation flow around a plate in the neighborhood of the free surface of a fluid of no weight

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, no. 4, 1961, 39-50

TEXT: Under the assumption that the cavitation number $\varkappa$ is small the author considers the cavitation flow around an infinite plate with the width 1 by a fluid of no weight in the neighborhood of the free surface according to the scheme due to D. A. Efros (Ref. 1: Gidrodinamicheskaya teoriya plosko-parallel'nogo kavitatsionnogo techeniya [Hydrodynamic theory of a plane parallel cavitation flow] DAN SSSR, v. 1, no. 4, 1946). The scheme is shown by figure 1

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Fig. 1

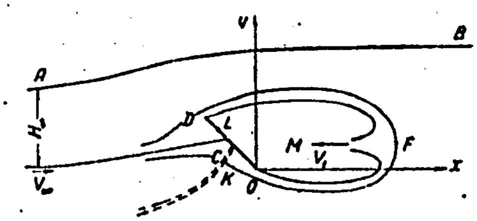
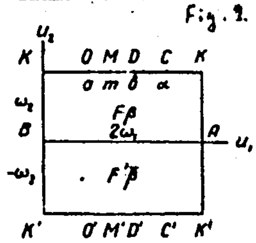


Fig. 2



A B is the free surface, F--critical point, C--ramification point on the plate, $Ox \parallel V_{\infty}$. The jet flowing into the cavern is directed exactly contrary to V_{∞}. δ is the angle of inclination of the plate with respect to V_{∞}.

For a given l, δ, H_{∞}, $\varkappa$ and V_{∞} the author seeks the form of the

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free surface and the cavern, the velocity field, the buoyancy and resistance. The plane cut along k_∞ is mapped onto the right angle of figure 2 of the u-plane, and the complex potential $w = \varphi + i\Psi$ and the function $\chi = \ln \frac{1}{V_\infty} \frac{dw}{dz}$ are investigated. The solution of the problem leads to the determination of $\frac{dw}{du} = f_1(u)$ and $\chi(u) = f_2(u)$. With the aid of the elliptic functions $\sigma(u)$, $\zeta(u)$ and $\eta_3 = 2\zeta(\omega_2)$, $\frac{dw}{du}$ is represented by

$$\frac{dw}{du} = Ae^{-\eta_3(\alpha - m)} \frac{\sigma(u-\alpha-\omega_2)\,\sigma(u-\beta)\,\sigma(u-\bar{\beta})}{\sigma(u-m-\omega_2)\,\sigma^2(u-2\omega_1)}, \qquad (1)$$

where A--real constant. For $\chi(u)$ the author obtains the representation

$$\chi(u)=\frac{1}{\pi i}\Big[\int_{a+\omega_3}^{b+\omega_3}\ln\frac{V_1}{V_\infty}g(u,t)\,dt-i\int_{\omega_3}^{a+\omega_3}[\delta-\pi-if(t)]g(u,t)\,dt-$$
$$-i\int_{b+\omega_3}^{a+\omega_3}[\delta-if(t)]g(u,t)\,dt-i\int_{a+\omega_3}^{2\omega_1+\omega_3}[\delta-\pi-if(t)]g(u,t)\,dt\Big]+$$
$$+\ln\frac{\vartheta_1\left(\frac{u-\beta}{2\omega_1}\right)}{\vartheta_1\left(\frac{u-\bar\beta}{2\omega_1}\right)}-\frac{i\beta_2}{\omega_3}\ln e^{\frac{2\pi i}{2\omega_1}u}. \qquad (7)$$

where f(u) is defined by

$$f(u)=\ln\frac{\vartheta_1\left(\frac{u-\beta}{2\omega_1}\right)}{\vartheta_1\left(\frac{u-\bar\beta}{2\omega_1}\right)}-\frac{i\beta_2}{\omega_3}\ln e^{\frac{2\pi i}{2\omega_1}u}. \qquad (4)$$

and $g(u,t)$ is defined by

$$g(u,t) = \frac{e^{\eta_1(u-t)}\,\sigma(t-u+c)}{\sigma(c)\,\sigma(t-u)} \sqrt{\frac{\sigma_3(t-b)\,\sigma_3(u-a)}{\sigma_3(t-a)\,\sigma_3(u-b)}} \qquad (5)$$

$\eta_1 = 2\zeta(\omega_1)$, $c = \omega_1 + \frac{b-a}{2}$.

The author establishes additional equations for the determination of the constants A, $\frac{\omega_2}{\omega_1}$, α, a, b, m, β_1, β_2, 2 of which can be prescribed if the situation of K on the plate is not fixed:

0) General condition

$$\alpha + 2\beta_1 = m + 4\omega_1 , \qquad (2)$$

1) Direction of the velocity in the jet flowing into the cavern

$$\operatorname{Im} \chi\,(m+\omega_2) = -\sigma\tau . \qquad (8')$$

2) Direction of the velocity in ∞:

$$\mathrm{Im}\, \chi(0) = 0 . \qquad (10')$$

3) Boundedness of $\chi(u)$ in $u = b+\omega_2$.

4) Width of the plate

$$\frac{1}{V_\infty} \mathrm{Im} \left[\int_{2\omega_1+\omega_2}^{b+\omega_2} e^{-\chi(u)}\, dw + \int_{a+\omega_2}^{\omega_2} e^{-\chi(u)}\, dw \right] = l \sin \delta \qquad (14)$$

5) Width H_∞:

$$\frac{1}{V_\infty} \mathrm{Im} \left[w(2\omega_1) - w(\alpha + \omega_2) \right] = H_\infty . \qquad (15)$$

S/140/61/000/004/004/013
Cavitation flow around a plate in . . . C111/C222

Then the author determines the pressure R with which the flow acts on the plate.

There are 3 figures and 4 Soviet-bloc references.

ASSOCIATION: Kazanskiy gosudarstvennyy universitet im. V. J. Ul'yanova-Lenina (Kazan' State University im. V. J. Ul'yanov-Lenin)

SUBMITTED: December 8, 1959

10.1200

S/179/62/000/001/026/027
E191/E435

AUTHOR: Kuznetsov, A.V. (Kazan')

TITLE: Flow of a jet of finite width around a plate in the presence of cavitation

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Mekhanika i mashinostroyeniye. no.1, 1962, 174-177

TEXT: Cavitation flow of a jet of incompressible fluid of finite width is considered wherein the plate is placed symmetrically and at right angles in relation to the jet. The Cavitation Number (defined as the square of the ratio of the velocity at the boundary of the cavity to the velocity at infinity, less unity) is assumed small. A stationary pattern of cavitation is assumed. The complex potential in the plane of the flow is introduced and a special function defined which is the natural logarithm of the derivative of the complex potential with respect to the complex position divided by the velocity at infinity. When this function is found, the shape of the jet boundaries and of the cavity can be plotted and the pressure of the flow on the plate can be computed. √B

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Flow of a jet of finite width ... S/179/62/000/001/026/027
E191/E435

The kinematic part of the problem is solved by conformal mapping. In the physical plane, a semi-infinite cut is taken along the streamline passing through the stagnation point (in the centre of the plate). This streamline is taken as the zero streamline. The singly connected region so obtained in the physical plane is conformally mapped on the inside of a rectangle in an auxiliary plane. In the analysis, reference is made to the pattern of cavitation flow examined by D.A.Efros (Ref.1: DAN SSSR, v.51, no.4, 1946) and the mathematical derivations of L.Woods (Ref.2: Symposium of translations "Mekhanika", no.2, 1956) and thus the present author's derivations are purely mathematical. Instructions are given for determining the jet boundaries and the shape of the cavity. The pressure on the plate is derived and it is stated that the formula so obtained is valid also for curved profiles.

B

ASSOCIATION: Kazanskiy gosudarstvennyy universitet
(Kazan' State University)

SUBMITTED: June 26, 1961

Card 2/2

KUZNETSOV, A.V. (Kazan')

Flow of a weightless fluid with a free boundary. PMTF no. 6:94-99 N-D '63. (MIRA 17:7)

KUZNETSOV, A.V.

Oil reserves in carbonate reservoir rocks. Trudy VNII no.38:
179-187 '63. (MIRA 17:9)

KUZNETSOV, A.V. (Kazan')

Problem involving flow past a system performing minor vibrations. Prikl. mat. i mekh. 28 no.3:567-571 My-Je'64
(MIRA 17:7)

~~KUZNETSOV~~

KUZNETSOV, A.V.

Physicogeographical conditions of the Pashiya layer formations in the southeastern Tatar A.S.S.R. Trudy VNII no.11:15-25 '57.
(Tatar A.S.S.R.--Petroleum geology) (MIRA 10:11)

VNII - All-Union Scientific Research Institute of Petroleum and Natural Gas, Moscow

K[illegible]OV, A.V.

Reservoir properties of siltstones from the producing series in the Romash'kino field. Trudy VNII no.14:48-54 '58. (MIRA 12:7)
(Romash'kino region--Petroleum geology)

KUZNETSOV, A.V.

Certain forms of arenaceous formations in the horizon D_1 of the Romashkino field. Trudy VNII no.23:93-100 '60. (MIRA 13:11)
(Romashkino region--Sandstone)

KUZNETSOV, A.V.

Systematic errors in calculating the size of oil and gas pools from isopach maps. Trudy VNII no.34:75-85 '62. (MIRA 15:7)
(Petroleum geology--Maps)

GERASIMOVA, Ye.T.; KUZNETSOV, A.V.; LATYPOV, N.G.

Lithological and mineralogical characterization of argillaceous rocks of a Lower Carboniferous terrigenous layer of the eastern Russian Platform. Dokl. AN SSSR 151 no.2:419-421 Jl '63. (MIRA 16:7)

1. Geologicheskiy institut Kazanskogo filiala AN SSSR. Predstavleno akademikom N.M.Strakhovym.

(Russian Platform—Clay)

KUZNETSOV, A.V.

Electric rock drill. Gor. zhur. no.8:61-62 Ag '58. (MIRA 11:9)
(Rock drills--Patents)

Kuznetsov, N.

SOV/180-59-1-28/29

AUTHOR: Solomonov, M.S.

TITLE: Conference on the Physics of the Disruption of Rock and Tool Wear (Soveshchaniye po fizike razrusheniya gornykh porod i iznosu instrumentov)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1959, Nr 1, pp 123-124 (USSR)

ABSTRACT: On 18-20 November 1958 a conference was held at the Institut gornogo dela AN SSSR (Mining Institute AS USSR). One group on the physics of rock breakdown, heard the following reports: A.N. Zelenin, (IGD AN SSSR), on "Some Investigations in the Field of Mohr's Ring Construction"; A.I. Beron, VUGI, on "Physical Nature of Effects in the Cutting of Brittle Rocks"; R.Ye. Eygeles, VNIIBT, on "Mechanism of Rock Breakdown in Static and Dynamic Insertion of Punches"; V.P. Samoylov, NIIOSP, and Shih Chung-han (MIIT) on "Experimental Investigation with the Aid of Radioactive Isotopes of the Process of the Introduction of Symmetrical Wedges (Stamps) into Rocks"; V.M. Matrosov, Tomskiy politekhnicheskiy institut (Tomsk Polytechnical Institute), on "The Breakdown of Rock in Vibration-Rotation Drilling by the Core Method".

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SOV/180-59-1-28/29

Conference on the Physics of the Disruption of Rock and Tool Wear

The second group, dealing with tool durability, heard the following reports: A.V. Kuznetsov (IGD AN USSR) on "Abrasive Properties of Rocks and Their Influence on Drill-Edge Blunting (in Perforation Drilling)"; M.I. Smorodinov, NIIOSP, on "Investigation of Rock-Cutting Tool Wear with the Aid of Radioactive Isotopes"; V.V. Sevast'yanov, VUGI, on "Investigation of Tool Durability in the Course of Impact Chipping of Rocks"; I.A. Ter-Azar'yev, AISM, on "Main Stages in Cutting-Tool Wear in Stone Cutting"; K.S. Vartanyan, AISM, on "Local Tool-Wear in Stone Cutting and Friction Work"; G.C.Karyuk, Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnical Institute) on "Investigation of ShBM-Combine Cutting-Tool Wear"; V.F. Kiriyenko, Opytno-issledovatel'skiy tsekh Noril'skogo kombinata (Experimental-research department of the Noril'skiy combine) on "Increasing the Durability of the Drilling Tool and the Drillability of the Gabbrodiabases of the Noril'sk. Deposits"; B.N. Lyubimov on the "Work of Giprouglemash".

Afterwards communications were presented by representatives of the Dnepropetrovskiy gornyy institut (Dnepropetrovsk Mining Institute), Novocherkasskiy politekhnicheskiy

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-59-1-28/29

Conference on the Physics of the Disruption of Rock and Tool Wear

institut (Novocherkassk Polytechnical Institute), Khar'kovskiy gornyy institut (Khar'kov Mining Institute), Kazakhskiy gorno-metallurgicheskiy institut (Kazakh Mining and Metallurgical Institute) and others. The conference noted that little work had been done on some of the subjects discussed. It recommended that work on the physics of rock disruption should be carried out mainly at the IGD AN USSR, the Institut geologii i dobychi poleznykh iskopayemykh AN SSSR (Institute of Geology and Extraction of [illegible] Minerals, AS USSR) VUGI and VNIBT; and work on tool wear and breakage preferentially at NPI, AISM, Gidrouglemash, VUGI, VNIIBT and the Institut tverdykh splavov (Hard-Alloys Institute).

Card 3/3

KUZNETSOV, A.V.

Experimental study of the effect of abrasive properties of rocks on the dulling of bits in hammer drilling. Izv.Kar. i Kol'.fil. AN SSSR no.2:116-121 '59. (MIRA 12:11)

1. Institut gornogo dela AN SSSR.

(Rock drills)

KUZNETSOV, A.V.; GLATMAN, L.B.

Measuring the wear of cutters of sinking machines. Izm. tekh. no.4:12 Ap '60. (MIRA 13:8)
(Mining machinery)
(Mechanical wear--Measurement)

BARON, Lazar' Izrailevich, prof., doktor tekhn. nauk; KUZNETSOV, Aleksandr Vasil'yevich; GEYMAN, L.M., red. izd-va; ASTAF'YEV, G.A., tekhn. red.

[Abrasiveness of rocks in mining operations] Abrazivnost' gornykh porod pri dobyvanii. Moskva, Izd-vo Akad. nauk SSSR, 1961. 166 p. (MIRA 14:5)

1. Institut gornogo dela im. A.A.Skochinskogo Akademii nauk SSSR, Lyubertsy, Moskovskoy oblasti (for Baron, Kuznetsov)
(Mining engineering) (Rocks--Testing)

SIDOROV, I.N., inzh; KUZNETSOV, A.V., inzh.

Boring with a sinker drill without axial force applied on the bit.
Gor. zhur. no. 6:72 Je '61. (MIRA 14:6)

1. Gorno-geologicheskiy institut Ural'skogo filiala AN SSSR.
(Rock drills)

BARON, L.I., doktor tekhn.nauk; GLATMAN, L.B., gornyy inzh.; KUZNETSOV, A.V., gornyy inzh.

Determining the abrasive properties of rocks mined with cutters. Ugol' Ukr. 5 no.4:22-23 Ap '61. (MIRA 14:4)

1. Institut gornogo dela AN SSSR.
(Abrasion) (Coal mining machinery--Testing)

DEMOCHKO, Ivan Ivanovich; KUZNETSOV, Aleksandr Vasil'yevich; D'YAKOVA, G.B., red. izd-va; BOLDYREVA, Z.A., tekhn. red.; LOMILINA, L.N., tekhn. red.

[BS-4 scraper hoists for filling materials] Butovye skrepernye lebedki BS-4. Moskva, Gosgortekhizdat, 1962. 55 p. (MIRA 15:5)

(Hoisting machinery) (Mine filling)

RODIONOV, N.S., kand.tekhn.nauk; KUZNETSOV, A.V., inzh.

New design of a punch for estimating the hardness of rocks and minerals. Nauch. soob. IGD 17:129-130 '62. (MIRA 16:7)
(Rocks--Testing) (Minerals--Testing)

SIDOROV, I.N.; KUZNETSOV, A.V.

Raising the efficiency of boring and blasting during mining in hard rock. Trudy Inst.gor.dela UFAN SSSR no.7:125-129 '63.
(MIRA 17:3)

KUZNETSOV, A.V., inzh.

Comparative evaluation of the abrasive properties of some petrographic rock groups. Nauch. soob. IGD 21:125-132 '63. (MIRA 17:2)

KUZNETSOV, A.V. (Kommunarsk, Luganskaya oblast'); KUZNETSOVA, D.S. (Kommunarsk, Luganskaya oblast')

Nomographing two problems in mining engineering. Nom. sbor. no.2:54-59 '64. (MIRA 18:3)

KUZNETSOV, A.V. (Kommunarsk, Luganskaya oblast')

Nomographing the construction of central axonometric projections. Nom. sbor. no.2:60-70 '64.

Nomographing the construction of parallel standardized axonometric projections. Ibid.:71-77 (MIRA 18:3)

ITINSKAYA, N.I., kand.tekhn.nauk, dotsent; DEGTEREV, M.D., kand.tekhn.nauk, assistent; KUZNETSOV, A.V., aspirant; TRET'YAKOV, B.S., assistent

Effect of the prolonged use of crankcase oil on the performance of DT-54 tractors. Trudy MIMESKH 6:351-364 '59. (MIRA 14:5)
(Tractors--Lubrication)

ITINSKAYA, N.I., kand.tekhn.nauk, dotsent; KUZNETSOV, A.V., starshiy prepodavatel'

Properties of diesel oils in the operation of tractor engines. Izv. TSKHA no.2:115-130 '62. (MIRA 15:9)
(Tractors—Lubrication)

L 08463-67 EWP(m)/EWT(1) WW

ACC NR: AR6016466 (N) SOURCE CODE: UR/0124/65/000/012/B085/B086

44
B

AUTHOR: Kuznetsov, A. V.; Spiridonova, T. G.

TITLE: Flow of a weightless fluid with a free boundary around a plate

SOURCE: Ref. zh. Mekhanika, Abs. 12B612

REF SOURCE: Tr. Seminara po obratn. krayev. zadacham. Kazansk. un-t, vyp. 2, 1964, 84-87

TOPIC TAGS: fluid flow, flat plate, streamline flow

ABSTRACT: A previously derived general solution (Kuznetsov, A. V., Zh. Prikl. mekhan. i tekhn. fiz., 1963, No. 6, 94-99-RZhMekh, 1964, 4B378) is used as a basis for numerical solutions on the "Ural-1" computer on determining the lift factor C_y of a plate of length l moving under the free surface of a weightless fluid with velocity V_∞. In expressions for

$$\ln \frac{1}{V_\infty}\frac{dw}{dz},\ \frac{dz}{dv},\ \Gamma,\ H,\ Y,$$

where Γ is circulation, H is depth of immersion, Y is lift $v = v_1 + iv_2$ $(0 < v_1 < 2K,\ 0 < v_2 < K'),$

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L 08463-67

ACC NR: AR6016466

it is assumed that

$$\gamma(v) = -\frac{\zeta(K)}{K} + \lambda^2 \operatorname{cosec}^2 \lambda v$$

$$\zeta(v) = \frac{\zeta(K)}{K} + \lambda \operatorname{ctg} \lambda v$$

$\gamma(v)$, $\zeta(v)$ are elliptic functions. In the equations for determining the constants which appear in these expressions, quantities of an order higher that the first with respect to δ (angle of attack) are dropped. The numerical calculations are used as the basis for constructing a family of curves giving C_y as a function of δ and the quantity $\bar{l}=l/H$. The equation of the family for the range of values $0<\delta<7°$, $0<\bar{l}<1.2$ is given in the form $C_y=\delta[2\pi-(0.3466+3.2442\delta)\bar{l}]$. G. G. Tumashev. [Translation of abstract]

SUB CODE: 20, 12

Card 2/2

L 08464-67 EWP(m)/EWT(1)

ACC NR: AR6016467 (N) SOURCE CODE: UR/0124/65/000/012/B086/B086

AUTHOR: Kuznetsov, A. V.

42
B

TITLE: Jet flow around a profile oscillating at low amplitude

SOURCE: Ref. zh. Mekhanika, Abs. 12B613

REF SOURCE: Tr. Seminara po obratn. krayev. zadacham. Kazansk. un-t, vyp. 2, 1964, 88-121

TOPIC TAGS: jet flow, boundary value problem, flat plate

ABSTRACT: The author studies the plane problem of small oscillations of an arbitrary curvilinear arc in a detached jet flow. It is assumed that the medium is an ideal weightless incompressible fluid. The oncoming flow may be infinite and enclosed in a channel with parallel rectilinear walls. A solution is given for the boundary problem and formulas are derived for the forces acting on the oscillating profile. The case of a flat plate oscillating at low amplitude and high frequency according to a harmonic law in an infinite flow is considered in detail. Harmonic oscillations and pulsed motion of a plate in a channel are also considered. The known solution of the problem on impact of a profile in a detached jet flow is derived as a limiting case of pulsed motion. Bibliography of 12 titles. M. I. Gurevich. [Translation of abstract]

SUB CODE: 20

Card 1/1

KUZNETSOV, A.V., aspirant

Nomographic board for plotting axonometric drawings in mechanical engineering. Izv. vys. ucheb. zav.;mashinostr. no. 10:9-14 '65 (MIRA 19:1)

1. Submitted December 29, 1964.

KUZNETSOV, A.V.

Local bench suction pipe. Vod.i san.tekh. no.12:32 D '65.
(MIRA 19:1)

KUZNETSOV, A.V., inzh.

Nomographic calculation of the parameters of coal cutter-loader operating conditions. Izv.vys.ucheb.zav.; gor.zhur. 8 no.11:115-118 '65.

(MIRA 19:1)

1. Kommunarskiy gornometallurgicheskiy institut. Rekomendovana kafedroy gornykh mashin. Submitted July 27, 1964.