USSR/Medicine - Appendix, Physiology Sep/Oct 48
Medicine - Rabbits

"Experimental Study of the Functions of the Appendix Vermiformis," Ya. I. Sinel'nikov, Chair of Physiol, Odessa State U imeni I. I. Mechnikov, 6 pp

"Fiziol Zhur SSSR" Vol XXXIV, No 5

Despite numerous investigations of appendix vermiformis in man there is still no accurate data on its function. Most surgeons consider the appendix vestigeal, and because inflammation frequently results, recommend removal by operation.

USSR/Medicine - Appendix, Physiology Sep/Oct 48
(Contd)

Sinel'nikov studied function of appendix by investigating corresponding organ in rabbits. Describes research and states conclusions. Submitted 14 Aug 46.

34/49T19

SINEL'NIKOV, Ye.I.

Experimental investigations on intestinal lymphatic formations. Fiziol.zh.SSSR 36 no.5:586-593 Sept-Oct 50. (CLML 20:4)

1. Department of Physiology, Odessa State University imeni I.M. Mechnikov.

2. Experiments conducted on rabbits.

SINEL'NIKOV, Ya.I.; PATENOVSKAYA, M.I., red.izd-va; MIKHEYEVA, A.A., tekhn. red.

[Handbook on safety engineering for workers in lime producing plants] Pamiatka po tekhnike bezopasnosti dlia rabochikh po proizvodstvu izvesti. Moskva, Gosstroiizdat, 1962. 12 p. (MIRA 16:8)

(Lime industry—Safety measures)

KOVBASA, Ye.M.,assistent. (Khar'kov); SINEL'NIKOV, Ya.R., assistent (Khar'kov)

Nerve cells lying within the maxillary and mandibular nerves.
Probl. stom. 3:261-266 '56 (MLRA 10:5)
(JAWS--INNERVATION)

SINEL'NIKOV, Ya.R. (Khar'kov, ul. Krasina, d.5, kv.16)

Nervous of the muscles of the shoulder girdle in man. Arkh.anat. gist. i embr. 35 no.4:73-75 Jl-Ag '58 (MIRA 11:10)

1. Kafedra normal'noy anatomii Khar'kovskogo meditsinkogo instituta (zav. - prof. R.D. Sinel'nikov) I kafedra normal'noy anatomii Khar'kovskogo meditsinskogo stomatologicheskogo instituta (zav. dots. K.S. Filonova).

(SHOULDER, innervation
nerves of musc. of shoulder girdle (Rus))

[redacted]

"Sravnitel'no-morfologicheskoye issledovaniye rel'yefa slizistoy obolochki yazyka cheloveka i obez'yan."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

12(2) SOV/113-59-6-5/21

AUTHOR: Sinel nikov, Ye.D., Candidate of Technical Sciences

TITLE: The Radial Rigidity of Automobile Tires

PERIODICAL: Avtomobil'naya promyshlennost', 1959, Nr 6, pp 14-16 (USSR)

ABSTRACT: It is stated that the dependence of the radial tire deformation on the vertical load is considered to be linear by the majority of investigators. However, the actual "load - deformation" curves for automobile tires differ considerably from a straight line (Ref.1). Furthermore, the loading and unloading curves do not coincide but form a hysteresis loop. The surface of this loop characterizes irreversible losses whereby the latter increase, especially with a reduction in the internal tire pressure, or when the inner tube is replaced by foam rubber, as is the case for special purposes. Figure 1 shows the experimentally established dependence of the static radial deformation λ on the load Q for foam

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The Radial Rigidity of Automobile Tires

rubber tires 5.00-16 fitted to the Moskvich automobile. Linear dependence of the load on the radial tire deformation is permissible only for relatively small sections of the curve. The linear function cannot describe the function $Q = F(\lambda)$ over the entire load range with sufficient accuracy. However, the curve under consideration may be expressed analytically as a square parabola $Q = A\lambda^2 + C\lambda$ where A and C are constant experimental factors having different values for different types of tire. The following formula is then derived for expressing the relationship between the load and the radial deformation of a pneumatic tire:

$$Q = F_1(\pi_{in})\lambda^2 + F_2(\pi_{in})\lambda,$$

where $F_1(\pi_{in}) = A$, $F_2(\pi_{in}) = C$.

(π_{in}) is the internal tire pressure.

Card 2/2 There are 4 graphs, 3 tables and 2 Soviet references.

SINEL'NIKOV, YE. M.

SINEL'NIKOV, YE. M.

Sinel'nikov, Ye. M. defended his Doctor's dissertation in the Moscow Power Engineering Institute im. Molotov, USSR, on 7 May 1943, for the academic degree of Doctor of Technical Sciences.

Dissertation: "Influence of Higher Harmonics of the Magnetic Field on the Starting of Squirrel-Cage Electric Induction Motors". Resume: Sinel'nikov made a theoretical and experimental investigation of factors causing parasitic rotating moments and magnetic noises in squirrel-cage induction motors..

Official Opponents: Profs. V. Yu. Lomonsov, T. G. Soroker, and B. P. Aparov (all Doctors of Technical Sciences).

SO: Elektrichestvo, No. 7, Moscow, August 1953, pp 87-92 (W/29344, 16 Apr 54)

USSR/Electricity - Motors, Induction Jul 50
Torque Characteristics

"Measurement of the Torque of Induction Motors When Starting," Ye. M. Sinel'nikov, Dr Tech Sci, G. S. Somikhina, Cand Tech Sci, Moscow Power Eng Inst imeni Molotov

"Elektrichestvo" No 7, pp 48-53

Analyzes and compares various methods used for measuring starting torque of induction motors. Describes operational principles of electromechanical acceleration meter. Describes circuit for measuring torque with electromagnetic acceleration meter

164T17

USSR/Electricity - Motors, Induction (Contd) Jul 50

and special galvanometer loop, and recommends criteria for selecting frequency characteristics of recording loop. Includes photograph of meter.

164T17

SINEL'NIKOV, Ye. M.

USSR/Electricity - Electrical Machines May 52

"Problem of Commutation of DC Machines," Dr Tech Sci Ye. M. Sinel'nikov, Stalingrad Gidrostroy

"Elektrichestvo" No 5, pp 24-29

Discusses theory of spark-formation during commutation which gives quantitative explanation of overvoltages. Sets up criteria for sparkless commutation. Submitted 23 Oct 51.

240T44

SOV/112-58-2-2179

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1958, Nr 2, p 62 (USSR)

AUTHOR: ~~Sinel'nikov, Ye. M.~~, and Tozoni, O. V.

TITLE: An Experimental and Analytical Method for the Design of a Magnetic Field in the Air Gap of DC Electric Machinery
(Eksperimental'no-analiticheskiy metod rascheta magnitnogo polya v vozdushnom promezhutke elektricheskikh mashin postoyannogo toka)

PERIODICAL: Tr. Novocherk. politekhn. in-ta, 1956, Vol 43/57, pp 7-28

ABSTRACT: A method is set forth for the experimental and analytical design of an air-gap magnetic field in DC machinery. The method is illustrated by an example of the design of the main-pole field of a DC machine.

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EMON, [illegible] BELYAYEV, L.D.; [illegible], V.A.; BARSUK, [illegible]
CHERNICHAIN, D.S.; TISHCHENKO, N.A.; BORISENKO, N.I.; BARSUK,
A.I.; SINEL'NIKOV, Ye.M.

Pavel Petrovich Konnikov, 25th anniversary of his death. Elektri-
chestvo no.5 [illegible] My '57. (Konnikov, Pavel Petrovich, 1867-[illegible])

SINEL'NIKOV, Ye.M.; NAZIKYAN, A.G.

New method for experimental determination of optimum parameters of auxiliary poles in d.c. machinery. Izv. vys. ucheb. zav.; elektromekh 1 no.4:13-26 '58. (MIRA 11:8)
(Electric machinery--Direct current)

AUTHORS: Sinel'nikov, [illegible], Professor, Doctor of Technical Sciences, Head of the Chair, and Mazikyan, A. G., Assistant

TITLE: Selection of the Interpole Field Shape

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Elektromekhanika, 1959, Nr 11, pp 11-19 (USSR)

ABSTRACT: This article describes the method of selecting the best shape of interpole field by direct measurement of the commutation process. The method is based on the condition that during the period of commutation the change in flux-linkage of each section of the armature winding should be zero. As the winding sections of d.c. machines are inductive, each section has its own self-inductance and the total change of flux-linkage due to self-induction is given by expression (1). The commutating section is magnetically linked with all the other winding sections. Hence the value of interpole flux-linkage needed in the section to ensure sparkless operation during commutation, can be calculated from knowledge of the various flux-linkages. The nature of the magnetic linkage between armature winding sections is discussed with reference to fig. 1. Consideration of

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Selection of the Intercycle Field Shape

[illegible] section that is just commutated [illegible] section shows that both of the adjacent sections increase and both decrease the flux linkage of that section. The distribution of coefficients of magnetic linkage between armature sections is plotted in fig. 3 and discussed. Given a method of determining the magnetic linkage of each armature winding section with the commutating section at the start and end of commutation, it is easy to determine the flux of the n-th section from expression (_). This flux linkage is then determined for the rotating part of its commutator is described mathematically in fig.3. The graph of the change in current under the brush during straight-line commutation, plotted in fig. 4, is used to determine the equation for the interval in which commutation starts and gives expression (5). Finally, expression (9) is derived for the change in flux-linkage of the n-th section during the period of commutation. The method of determining the constant factors entering into this equation is then described and formula (11) is derived. With this expression established.

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Selection of the Interpole Field Shape

the simple circuit shown in Fig 5 may be used to determine the required coefficient experimentally. Audio-frequency signals are applied between the first two commutator bars and the corresponding voltages between other sections are measured. Measured values of the constant are obtained in the form of the curve plotted in Fig.2a, which, when corrected for sign, gives the curve of Fig.2b. The inductance of winding sections is determined with the circuit illustrated in Fig 6, in which an audio-frequency generator with a capacitor in parallel is applied between the bars. Having measured the constants and inductance, for dia (9) is used to determine the total change in flux-linkage of the section. As a numerical example, figures are given for the change in total flux-linkage for the winding sections of two different slots of a d c machine type PN- 68 of 110 V, 1000 rpm, 3.7 kW. Tests on other machines with wave windings showed that changes in flux-linkage for slot sections do not exceed 5 to 6%. The results indicate that for moderate currents the shape of the interpole shoe should ensure uniform distribution

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Selection of the Interpole Field Shape

of induction. Experimental results confirming this point are briefly described Sometimes it is very difficult to obtain the optimum field, and such a case is described with reference to Fig 7. The design of interpole shoe for this particular case is discussed: configurations of various optimum interpole fields for this machine are shown in Fig.8, but only the first of the three can easily be obtained in practice This method of determining the necessary interpole field in the commutation zone is sufficiently quick and accurate Calculations of change in flux linkage for a particular machine given in the article were checked experimentally using the circuit of Fig 9 and the results are given in Table 1. It will be seen that the nature of the change in flux-linkage is not quite the optimum shape, but the absolute value is about right. In conclusion the following procedure is recommended for determining the optimum shape of the interpole shoes: the d c machine is first designed in the usual way; the requisite constants and inductance are determined and the interpole

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Selection of the Interpole Field Shape

field necessary for optimum commutation is found by the method described above; then the necessary shape of interpole field shoe is determined by the method described by Sinel'nikov and Tozoni in Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1958. Nr 2. There are 9 figures, 1 table and 2 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut, Kafedra elektricheskikh mashin i apparatov (Novocherkassk Polytechnical Institute, Chair of Electrical Machines and Devices)

Card 5/5

SOV/144-59-12-3/21

AUTHORS: Tozoni, O.V., Candidate of Technical Sciences, Dotsent, Khlebnikov, S.D., Assistant, Sinel'nikov, Ye.M., Doctor of Technical Sciences, Professor, Kolesnikov, E.V., Assistant

TITLE: An Electrointegrator for Solving Dirichlet and Neuman's Problems in a Strip

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 12, pp 18-25 (USSR)

ABSTRACT: Dirichlet-Neuman boundary value problems arise in the calculation of fields in linear media. Analytical and numerical methods of solution appear to be unsatisfactory in practice and simulation is therefore considered. The conventional approach has a number of disadvantages. For example, in Fig 1 a harmonic function is modelled by the potential V of the current field in a conducting sheet. The potential and its gradient are measured with the probes and potentiometer. The sheet is usually metallic, with an insufficiently high surface resistivity. A better method is that of Fig 2 in which the harmonic function is represented by current. The current itself is measured by a special magnetic loop-probe connected to

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a ballistic galvanometer. The current gradient is measured on a galvanometer connected to a twin-probe, using the relationship between the space-derivative of current and the time-derivative of voltage. The new method has the following disadvantages: for each new problem a special model must be made by skilled effort, high accuracy demands careful setting of the boundary values and this requires precision rheostats, an estimate of the accuracy in any region is difficult. However, the use of conformal transformation enables these drawbacks to be avoided and a general-purpose simulator has been evolved. In 1956 a method of conformally representing a singly or doubly-connected region within an infinite strip was developed at the Novocherkasskiy Polytechnic Institute (Ref 1, 2, 3). The Dirichlet problem then becomes Poisson's integral (Ref 1, 2). The problem is still a difficult one but the authors' development, the Electrointegrator allows a sufficiently accurate numerical solution. The electrointegrator is intended chiefly for finding at the

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strip boundary, the normal derivative of the harmonic function defined by the boundary values. The modelling principle is that described above. The block diagram of the electrointegrator is in Fig 3. The conducting sheet is a rectangle of manganin, 0.35 mm thick, measuring 135 x 1500 mm. Along one side of the strip current is fed in at 100 points from rheostats which can vary the current between 0.25 and 2.5 A. The ends of the strip are bonded to brass edges and fed from rheostats supplying up to 20 A. The currents are monitored on a multirange plug-in ammeter. The integrator currents are derived from a six-phase bank of selenium rectifiers type CB-100/1. The transformer primary is supplied from a group of CN-250/1 voltage stabilizers. The line voltage may be 220 or 380 V. The output level can be 8, 10 or 12 V (on open circuit). The exploring probe has two needles spaced by the same amount as the feeding points at the strip edge. Experiment shows that measurement made at least two strip-widths from the ends of the strip differ negligibly from the infinite-strip values. The

An Electrointegrator for Solving Dirichlet and Neuman's Problems in a Strip

arrangement is intended for calculations of the fields in unsaturated machines. In the appendix the problem is solved of finding the radial component of induction in the armature of a MN 300 machine (Fig 4). Fig 5 shows the distributions of scalar magnetic potential along the rectangle for both rotor φ_2 and stator φ_1. Fig 6 is the distribution of induction along the edge of the armature under a main pole compared with experimental findings (shown dotted). There are 6 figures, 2 tables and 4 Soviet references.

ASSOCIATION: Novocherkasskiy politekhnicheskiy institut (Novocherkassk Polytechnic Institute)

SUBMITTED: July 26, 1959

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9,7200

AUTHORS: Sinel'nikov, Ye.M., Doctor of Technical Sciences, Professor, Departmental Head, Nazikyan, A.G., Assistant, Kleymenov, V.V., Head of Laboratory and Chernyavskiy, F.I., Candidate of Technical Sciences

TITLE: The Use of Analogue Computers to Investigate the Commutation of DC Machines

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1960, No. 10, pp. 58 - 77

TEXT: It is impossible to provide a strict analytical solution of commutation problems in DC and AC machines because of the complex nonlinear character of the differential equations involved. Assumptions that are made to simplify the equations lead to errors in these solutions. The development of computers offers new prospects of solving commutation problems. These devices can solve the problems involving the complex differential equations of the commutation process without introducing crude simplifying assumptions. The first practical attempt to use modern high-speed computers

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for calculations on commutation was reported by Alger and Bewley in Power Apparatus and Systems, August, 1957. These authors used a digital computer and because of the cumbersome algorithms it was necessary to make a number of simplifications and exclude various factors which are important in practice. In particular, it was necessary to simplify the volt-ampere characteristic of the brushes and to assume sinusoidal flux distributions of the interpoles.

In comparing the advantages of digital and analogue computers for solving commutation problems it should be remembered that existing procedures for calculating the parameters that enter into the equation do not utilise the potential accuracy of computers. Accordingly, in this case, the accuracy of digital machines is of no advantage as compared with that of analogue computers which are adequate for the purpose. With an analogue computer it is possible to obtain a number of output magnitudes

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such as the voltage between commutator bars, currents in sections and their differential coefficients, voltages as the commutator bars leave the brush and other magnitudes. With digital machines each of these magnitudes would require a fresh algorithm. Accordingly, at the present time analogue computers have considerable advantages for work of this kind. In the present work the authors show the extensive possibilities of analogue computers for calculating and explaining various factors that influence the commutation process. It would be difficult or impossible to study these factors by existing procedures. The assumptions that were made in applying the method are then stated. The more important are: the self-induction coefficients of short-circuited sections and mutual induction coefficients between simultaneously commutating sections do not depend on the value of current or the angular position of the rotor; for any given slot section the inductance is the same as that of any other corresponding

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section in other armature slots; section and loop resistances are constant; the voltage drop in the brush contact depends on the current density and not on the speed. The direct-current machine for which the differential equations of commutation were formulated was of the following characteristics: 2.6 kW, 220 V, rated current 14 A, speed 1400 r.p.m. The armature has a diametral pitch winding with three sections per slot and the commutator bar width is 7.5 mm with 1 mm of mica between. The brush is 15.5 mm wide and can short-circuit one or two sections simultaneously. Fig. 1 shows a schematic section of the winding undergoing commutation under two brushes of opposite polarity. In view of the assumptions that are made, if the brushes are similarly located relative to the neutral position, brushes of opposite polarity have identical volt-ampere characteristics, and the laws of change of current in analogous sections short-circuited by brushes of opposite polarity are the same. Accordingly, there is no need to

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write down twice the differential equations of commutation for identical sections and correspondingly to double the electronic model. Hence the circuit of Fig. 1 may be simplified to obtain that of Fig. 2, and as in the real machine the resistance of the risers is small they are omitted. In formulating the equations of commutation it is convenient to measure time from the start of commutation of a section; in particular, the start of commutation of sections 2-3 in Fig. 2 is considered. The commutation process is cyclic and is repeated after the armature has passed through a single-tooth pitch. The commutation cycle may be divided into three stages, each of which introduces new operating conditions in some section. Fig. 3 shows equivalent circuits of section commutation for all stages of a complete cycle. There are nine of them. Eq. (1) is then written for the first section of the slot in operator form for all stages of commutation. In the second stage the equation takes the form of Eq. (2)

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which is the equation of damping of current oscillations in the section 1-2. In the next four stages of section 1-2 the first section of the first slot is not commutated. However, the process of modelling commutation of this section is incomplete since no allowance has been made for the start of commutation of the section 1-2. The method of allowing for this is explained, and Eq. (3) is derived. In the next, eighth stage, Eq. (3) is again valid. The ninth stage of commutation commences when electromagnetic oscillations in section 3-1 are terminated and is described by differential equation (4). The nonlinear differential equations (1), (2) and (3) for the first section must be solved simultaneously with similar equations for other sections for the same stages of commutation. Consequently, the electronic model which is required to solve the equations should automatically on completing the solution of one system of equations reconnect in the next stage of

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commutation to solve another system of equations to give a continuous solution of the commutation process on the machine output. Thus, from the mathematical standpoint the process of commutation is determined by a system of differential equations with coefficients which are discontinuous functions of time. Differential equations (1) and (2) may be combined to give an expression of the form of Eq. (5). Similarly, expressions (3) and (4) may be united into the general equation (6). Finally, to obtain the most compact electronic model, Eqs. (5) and (6) should be united into a more general equation for the first section of the slot, which will be of the form of Eq. (7). Eqs. (1a) and (3a) are then combined to obtain a general expression (7a). Similar expressions (8) and (8a) are obtained for the second section of the slot and Eqs. (9) and (9a) for the third section of the slot.
Eqs. (7), (8) and (9) are solved relative to the differential coefficient of current for the first, second and third sections

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of the slot, and on introducing other necessary terms Eqs. (7'), (8') and (9') are obtained. The reason for writing the expressions in this form is explained. The Eqs. (7') - (9') and (7a) - (9a) were used to formulate the analogue-computer block circuit diagram shown in Fig. 4, the notation of the block-circuit components being given in Table 1. Table 2 notes certain parameters of the DC machine investigated; the scales used are stated. Table 3 gives coefficients of the block-circuit of the electronic model with the circuit of Fig. 4. Fig. 6 shows the law of change during the process of commutation of the area of contact between the brush and the corresponding commutator bar. Vales of section capacitance on the machine investigated were determined with a ballistic galvanometer, using the circuit of Fig. 7. A description is then given of the electronic model whose block-circuit diagram is given in Fig. 4. In order to

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understand all the mathematical operations carried out by the model in a complete commutation cycle it is sufficient to follow the solution of the equations of any one section. Accordingly, solution of the equations of commutation of the first section of the slot (7') and 7a) is considered. The way in which the various values shown in the block-circuit diagram of Fig. 4 are obtained is explained. It is shown that on the model it is possible to follow the solution of the necessary equations for a complete cycle of commutation of the machine. The model was designed to reproduce the process of commutation continuously, i.e. to solve the equations in a time of 255 sec, which corresponds to the time of the commutation cycle on the time scale chosen. When the calculations for one cycle are complete the computer stops and a further current setting may be made. The operation of repeated starting could have been made automatic but the complication involved was not worth while.

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Some results are then given of the solution of the commutation equations. Oscillograms of current in commutating sections obtained with the model are shown in Fig. 8 and the shape of the curves is discussed. Corresponding curves with higher values of e.m.f. are plotted in Fig. 9, and again the shape is discussed. These curves show that with the machine investigated satisfactory commutation cannot be obtained with a uniform field in the commutation zone. The optimum field can very easily be selected on the model and changes in section current with optimum field in the commutation zone are plotted in Fig. 10. Fig. 11 gives oscillograms of currents in the section assuming that there is no voltage drop in the brush contact. It will be seen that because of the intensive magnetic linkage between sections the values of section current are much closer together in this case. Consequently, the greater the voltage drop in the contact the greater the counteraction to the effect of equalising current in the section and

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the more uniform the process of current change in the section. Fig. 13 shows curves of changes of current in two section short-circuited by two brushes of opposite polarity. The curves were taken oscillographically on an actual DC machine; the method is briefly explained. It will be seen that there is satisfactory agreement between the curves obtained on the machine and with the computer and this confirms the method of formulating the differential equations for modelling. The general principles of formulating equations of commutation and block-circuit diagrams of an electronic model are then considered. This section for the most part repeats the explanations given in preceding parts of the article. It is shown, however, that in writing the expressions for the transient process in analytical form the requisite number of commutation equations need not exceed the maximum number of commutator bars covered by both brushes.
It is concluded that the principles described in the article

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may easily be used to construct a model of a DC machine with any practical number of sections in the slot and with any width of brushes. By making very simple changes in the coefficients and other parameters of the model it may be used to study commutation processes in DC machines with different winding pitches and with any number of sections in the slot or widths of brush.
The following data may be obtained for each of the variants: the nature of current changes in the sections and their differential coefficients; the nature of current changes in the risers; the law of change of voltage drop in the brush contacts; the law of change of current density in the brush contact and the voltage of the commutator bar relative to the brush at the moment of exit of the section from commutation. The influence on the above characteristics of the following factors may be considered: the field shape in the commutation

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zone of the machine; the grade of brushes and the effect of too early interruption of contact between brush and commutator bar. Further work with electronic modelling methods and the development of special analogue computers will make it possible to discard most of the ill-founded assumptions that are usually made, including some tolerated in this article. Then a more complete study can be made of the commutation process. There are 13 figures, 3 tables and 3 references: 2 Soviet and 1 non-Soviet.

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The Use of Analogue Computers to Investigate the Commutation of DC Machines

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ASSOCIATION: Kafedra elektricheskikh mashin i apparatov Novocherkasskogo politekhnicheskogo instituta (Department of Electrical Machines and Apparatus, Novocherkassk Polytechnical Institute)

SUBMITTED: August 17, 1960

Card 14/14

AVILOV-KARNAUKHOV, B.N.; BOGUSH, A.G.; BOLYAYEV, I.P.; GIRIS, A.F.; DROZDOV, [illegible]; KAYALOV, G.M.; MIRONOV, Ye.P.; MIKHAYLOV, D.I.; SEKRETEV, D.I.; SHPL'NIKOV, Ye.M.; CHERNYAVSKIY, F.I.

An outstanding scientist; on professor A.G.Beliavskii's 80th birthday. Izv.vys.ucheb.zav.; elektromekh. 7 no.11:1399-1400 '64. (MIRA 18:3)

L 23216-66 EWT(d)/EWP(k)/EWP(1)
ACC NR: AP6013582 SOURCE CODE: UR/0144/65/000/010/1181/1182

AUTHOR: Avilov-Karnaukhov, B. N.; Bogush, A. G.; Gikis, A. F.; Drozdov, A. D.; Malov, D. I.; Sinel'nikov, Ye. M.; Brusentsov, L. V.; Denisov, A. A.; Pal'shau, M. V.; Polyakov, B. A.; Chernyavskiy, F. I.; Burok, V. S.; Gordeyev, V. I.; Kazhdan, A. E.; Kovalev, V. Ye.; Kurennyy, E. G.; Potapenko, V. Ya.

ORG: none

TITLE: Professor G. M. Kayalov on the occasion of his 60th birthday and 37 years of pedagogical activities

SOURCE: Izvestiya vysshikh uchebnykh zavedeniy. Elektromekhanika, no. 10, 1965, 1181-1182

TOPIC TAGS: electric engineering personnel, academic personnel

ABSTRACT: Doctor of Engineering Sciences, Professor of RIIZhT /Rostovskiy institut inzhenerov zheleznodorozhnogo transporta; Rostov Institute of Railroad Engineers/, Georgiy Mikhaylovich KAYALOV was born on 26 September 60 years ago. He began his working career as a standby electrical construction worker at the Novorossiysk cement factory. In 1929 he graduated from the Novocherkassk Polytechnical Institute, and between 1928 and 1947 worked in the designing section of the "Elektroprom" trust. Sub-

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L 23216-66
ACC NR: AP6013582

sequently, he joined the Rostov department of the GPI [Gosudarstvennyy proyektnyy institut; State Designing Institute] "Tyazhpromelektroproyekt" where he advanced from a technician of the designing department to its chief engineer. From 1933 to 1962 he was docent of the department of electrification of industrial enterprises of the NPI [Novocherkasskiy politekhnicheskiy institut imeni Sergo Ordzhonikidze; Novocherkassk Politechnic Institute im. Sergo Ordzhonikidze]; he taught as professor until 1965 and presently is a professor of the RIIZhT. He published more than 70 scientific works, including studies of flywheel-containing electric motors, investigations of electrical loads of industrial enterprises, analyses of basic features of real load graphs, (including their probabilistic modeling), proposals for peak load calculation methods (based on the theory of mass servicing) and developments of methods for the calculation of extremal loads of heavy consumers, for the study of random graphs of reactive loads, for the evaluation of electric load fluctuations, and the like. G. M. KAYALOV was also active in the Party, professional, and scientific organizations. He is a holder of the "For Outstanding Work During the Great Patriotic War of 1941-1945 gg." medal and the "Badge of Honor" decoration. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09, 05 / SUBM DATE: none

Card 2/2 RB

L 33115-66

ACC NR: AP6024083 SOURCE CODE: UR/0144/66/000/002/0235/0236

AUTHOR: Zav'yalov, A. S.; Got'man, A. A.; Molchanov, V. D.; Krasyuk, N. P.; Agranovskiy, K. Yu.; Borgor, A. Ya.; Greyor, L. K.; Yesakov, V. P.; Miller, Ye. V.; Fyatman, K. I.; Abryutin, V. N.; Gubanov, V. V.; Oranskiy, M. I.; Yevseyev, N. Ye.; Morkin, G. B.; Sinol'nikov, Ya. M.; Avilov-Karnaukhov, B. N.; Bogush, A. G.; Bolyayev, I. P.; Tokkor, I. I.; Chernyavskiy, F. I.

ORG: none

TITLE: O. B. Bron (on his 70th birthday)

SOURCE: IVUZ. Elektromekhanika, no. 2, 1966, 235-236

TOPIC TAGS: electric engineering personnel, circuit breaker

ABSTRACT: Osip Borisovich Bron was born in 1896 in Klintsi. In 1920, he graduated from the physics-math faculty of Khar'kov Technological Institute. He became a professor in 1930. He defended his doctor's thesis in 1940. During the second world war, he was in the navy. After demobilization in 1950, Engineer Colonel Bron went to work teaching at the Leningrad Industrial Correspondence School. He became the head of the Chair of Theoretical Bases of Electrical Technology in 1958. He is closely associated with scientific and development work, and has cooperated closely in this area with the Leningrad "Elektrosila" plant since 1946. His work has been in the areas of spark-damping and high-power circuit breakers. He has published over 140 scientific works and 19 inventions. [JPRS]

SUB CODE: 05, 09 / SUBM DATE: none

Card 1/1

ZHUCHE[illegible], P.N., kand. tekhn. nauk; SINELINIKOV, Yu.I., [illegible]
[illegible], G.S., kand. tekhn. nauk

Experimental investigation of an elastic cylinder of variable cross section. Izv. vys. ucheb. zav.; mashinostr. no.1:66-70 '65. (MIRA 18:11)

[redacted], Candidate of technical sciences)

ORG: "Elektrostal'" Plant (Zavod "Elektrostal'"); [redacted]

TITLE: Work and deformation resistance in hot rolling nine nickel alloys

SOURCE: Stal', no. 8, 1966, 722-724

TOPIC TAGS: metal deformation, hot rolling, nickel alloy, differentiation

ABSTRACT: The authors study five alloys: 1. [redacted] nickel, 2. [redacted] precision soft-magnetic alloy, 3. [redacted] precision soft-magnetic alloy, 4. [redacted] refractory alloy, 5. [redacted] refractory alloy. The chemical composition of these alloys is given. Experimentally determined specific energy values of hot rolling for the five alloys are used to set up curves of their dependence on the degree of deformation. Specific energy values in the region of deformation were determined during rolling on a production sheet rolling mill 650/450/650-800 at speeds of 1.36 m/sec and at various relative degrees of reduction at 1000 and 1150°C. A method of differentiating compression deformation energy curves with respect to hot rolling is used to establish relationships between actual deformation resistance and the degree of deformation for

UDC: 621.770

Card 1/2

ACC NR: AT0027291

the five alloys. These relationships show strengthening in the deformation zone determined by temperature and degree of deformation for each alloy. Orig. art. has: 4 figures, 2 tables, 8 formulas.

SUB CODE: 11/ SUBM DATE: None/ ORIG REF: 002
13/

Card 2/2

(A) SOURCE CODE: UR/0145/66/000/009/0148/0152

AUTHOR: Zhuchin, V. N. (Candidate of technical sciences); Nikitin, G. S. (Candidate of technical sciences); Sinel'nikov, Yu. I. (Candidate of technical sciences); Lutkovskiy, S. I. (Engineer)

ORG: None

TITLE: Drawing alloys with low deformability at moderate temperatures

SOURCE: IVUZ. Mashinostroyeniye, no. 9, 1966, 148-152

TOPIC TAGS: metal drawing, wire, alloy steel, metal recrystallization

ABSTRACT: Experiments are conducted on drawing R-18 and EI-474 alloys with preheating. An industrial single-draft unit of the drum type was used for producing wire from 8 mm to 3 mm in diameter at drawing rates of 44.2, 57.7 and 87.5 m/min. The wire was heated in a lead bath and passed through draw plates made from VK-6 alloy. The drawing stress $K=P/S_k$ was taken as the basic characteristic of the process where P is the drawing force in kg, and S_k is the cross sectional area of the wire after drawing in mm^2. This criterion was studied as a function of such factors as partial and overall degree of deformation, temperature of the metal, rate of drawing, the working angle of the draw plate, the initial diameter of the wire and lubrication. The experimental results

UDC: 621.771.3

S/145/61/000/008/004/005
D262/D304

AUTHORS: Nikitin, G. S., and Sinel'nikov, Yu.I., Assistents

TITLE: Determining the mean specific pressure at the rolling of high-alloy steels and heat-resisting alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniy, no. 8, 1961, 121-134

TEXT: In this study the results of the experimental method to determine the mean unit pressure at the rolling of high-alloy steels and special alloys in the form of the isothermal relation $P_m = f(\frac{l}{h_m})$ is submitted. (P_m - mean unit pressure, l - length of the zone of deformation, $h_m = \frac{h_o + h_i}{2}$ - mean thickness of strip in the zone of deformation). Experimental data for a number of steels and alloys was obtained by using heavy merchant mill "600", a three-high rolling mill "Lauta" 750/350/750 and also a laboratory mill

Card 1/3

Determining the mean specific ...

"160", and the graphs showing the values of P_m for ratios $\frac{l}{h_m}$ ranging from 0.2 to 2.5 at different temperatures were analyzed. The authors state that the results show that the relation $P_m = f(\frac{l}{h_m})$ obtained for one mill can be utilized to find, with certain approximation, the mean unit pressure for any mill provided that the temperature of rolling and the speed of deformation are the same for the given ratio $\frac{l}{h_m}$. To obtain more accurate values for P_m, when $l \approx h_m$, $\approx 10 \pm 15\%$, $B \gg h_m$, and coefficient of friction small, the method of "basic unit pressure" was applied. The formula $P_m =$ $f(n_\sigma, \sigma_T)$ elaborated by A. I. Tselikov (Ref. 10: Prokatnyye stany (Rolling Mills), Metallurgizdat, 1946) is transformed into $P_m =$ $f(n_\sigma, n_y, ?, P_c)$ where P_c is the basic unit pressure obtained from

Card 2/[illegible]

Determining the mean specific ...

the experimental data by G. Valkvist (Ref. 15: Issledovaniye energosilovykh parametrov pri goryachey prokatke metalla (Investigation of Energy Parameters during Hot Rolling of Metals), Metallurgizdat, 1957). The results by this method compared with those obtained experimentally show that the differences do not exceed 10%. The authors conclude that for approximate calculations the relation $P_m = f(\frac{1}{h_m})$ may be used, and that more accurate results can be obtained by applying the "basic unit pressure" method. There are 6 tables, 5 figures and 17 Soviet-bloc references.

ASSOCIATION: MVTU im. N. E. Baumana (MVTU im. N. E. Bauman)

SUBMITTED: April 20, 1961

Card 3/3

S/145/61/000/010/006/008
D221/D304

AUTHORS: Zaroshchinskiy, M. L., Doctor of Technical Sciences, Nikitin, G. S., Professor, Assistent, and Sinel'nikov, Yu. I., Assistent

TITLE: Determination of energy-force parameters in rolling special alloy sheets

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyenie, no. 10, 1961, 168-179

TEXT: The following parameters were determined experimentally: Vertical and horizontal components of metal pressure on rollers; the torque of the main shaft; rolling temperature and the conditions of forming. Load cells were used which were calibrated by hydraulic jacks. The pusles of transducers were amplified by an ЭТ-4-53 (ET-4-53) amplifier and recorded by МПО-2 (MPO-2) oscillograph. The temperature was measured by the photo-electric pyrometer ФЭП (FEP) and recorded. The "spring" of the mill was plotted

Card 1/5

Determination of energy-force ...

in order to find the precise forming of the strip. A list is given of alloys which were rolled. The experimental isothermic relationships $P_{av} = f(\frac{1}{H_{av}})$ are illustrated. The minima of these curves for the majority of alloys are identical and correspond to $\frac{1}{H_{av}} = 0.7 - 0.8$. The curves are plotted for 1000 - 1200°C, and the value for P_{av} varies for lower temperatures. The tabulated results indicate that maxima torque values exceed the permitted magnitude of moment for the safety pins of the gear clutch which actually caused stoppages. Analysis of oscillograms revealed the cyclic character of load of the main shaft which is asymmetrical and has a decay at the end of the pass. It was noticed that peak torque varies with the plasticity of the rolled material. The effect of the ratio of rollers on the static and dynamic processes of rolling was also investigated. Analysis of results revealed that lower ratio results in reduced steady torques and also in peak values of the

Card 2/5

latter. The conditions of strip pinching were improved, and the bending of the strip was reduced. The forces of friction in the bearings are neglected, and it is assumed that a simple process of rolling takes place. After a mathematical manipulation, the author deduces the equation for the torque of rolling as a function of angles of pinch. The rolling in a three-high Lauth mill produces a displacement of the central roll, Δ_1, and an opposite shift of the upper roll, Δ_2 which are due to clearances. The geometrical sizes of the deformation center in this case remain the same as during rolling without displacement. The mathematical analysis results in another equation for the general torque of rolling. This can be simplified by making some assumptions, when

$$M_{gen} = P\left[\sqrt{R_{av}\Delta h}\ 0{,}5\left(\frac{D}{d}+1\right)+\Delta\left(\frac{D}{d}+1\right)\right] \qquad (23)$$

is deduced, where R_{av} is the oscillating radius in the case of rolling with different diameter rollers, $R_{av} = \frac{Dd}{D+d}$. The above equation is modified if friction in journals is taken into account. The experimental results are in good agreement with this equation. Consequently, the static moments on the main shaft of the mill can be explained by clearances, large losses due to friction, and the arrangement of the three-high rolling. The horizontal force is given by

$$M_{gen} = P\left[\sqrt{R_{av}\Delta h}\ 0{,}5\left(\frac{D}{d}+1\right)+\Delta\left(\frac{D}{d}+1\right)+\mu' d'\right]\frac{1}{\eta^i} \qquad (24)$$

The theoretical analysis revealed the low efficiency of the Lauth mill. The reduction of the ratio of diameters results in lower static and dynamic torques, better biting and reduced bending of the strip. There are 4 figures, 3 tables and 4 Soviet-bloc references.

S/145/61/000/010/006/008
Determination of energy-force ... D221/D306

ASSOCIATION: MVTU im. N. E. Baumana (MVTU im. N. E. Bauman)

Card 5/5

SINEL'NIKOV, Yu.I., inzh.

Method for setting-up of approximate differential equations of work in rolling and drawing cylindrical and flat bodies. Izv. vys. ucheb. zav.; mashinostr. no.9:217-226 '63. (MIRA 17:3)

1. Moskovskoye vysshoye tekhnicheskoye uchilishche imeni Baumana.

SIN'KL'NIKOV, Yu. I.

"Methods of Treating the Grass Cover on the Thick Chernozem of the Odesskaya Oblast." Cand Agr Sci, Leningrad Agricultural Inst, Leningrad, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

So: Sum. No. 681, 5 May 55

SIMEL'NIKOV, Yu.I., kand.sel'skokhozyaystvennykh nauk

Comparative rating of basic tillage methods. Zemledelie 6 no.9:70-73 S '58. (MIRA 11:9)
(Gissar Valley--Tillage)

SINEL'NIKOV, Yu.I., kand.sel'skokhozyaystvennykh nauk

Crop rotations on specialized state farms of Leningrad Province. Zemledelie 8 no.9:23-26 S '60. (MIRA 13:8)

1. Severo-Zapadnyy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.
(Leningrad Province--Rotation of crops)

SINEL'NIKOV, Yu.I., assistant

Utilizing energy conditions of plasticity in the theory of metalworking by pressure. Izv.vys.ucheb.zav.; mashinostr. no.8: 226-235 '63. (MIRA 16:11)

1. Moskovskoye vysshaye tekhnicheskoye uchilishche imeni Baumana.

FURMANOV, S. I., Docent; SIMEL'NIKOV, Z. I.

Cssocalcinal--Therapeutic Use.

Therapeutic role of cssocalcinol in dermatology, Vest. ven. i derm., No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, October 1952, UNCLASSIFIED.

L 10807-63 EWT(1)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/SSD Pab-4 IJP(C)

ACCESSION NR: AP3002733 S/0120/63/000/003/0113/0117

AUTHOR: Pedanov, V. V.; Sinel'nikov-Mury*lev, G. A.

TITLE: Device for measuring the energy of a high-power electrical discharge

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1963, 113-117

TOPIC TAGS: electrical-discharge energy, analog computer measuring device, multiplication and integration, ac current amplifiers, linear computing circuit

ABSTRACT: The system is a high-speed analog computer, capable of performing multiplication and integration of electrical signals proportional to the voltage and current of a discharge. The computer, the block diagram of which is shown in Fig. 1 of the Enclosure, consists basically of a multiplying circuit MC and an integrator I. The multiplier performs multiplication and summing in accordance with the equation

$$U_1 U_2 = \frac{1}{4}\left(|U_1 + U_2|^2 - |U_1 - U_2|^2\right).$$

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L 10807-63

ACCESSION NR: AP3002733

Summation is accomplished with summer 2; squaring of sums and differences of input quantities is performed by squaring circuits I and II. These circuits are diode-type nonlinear functional converters operating on the principle of piecewise linear approximation of a given function. Ac current amplifiers with a gain of approximately 60 to 70 db at a bandwidth of 200 kc were used in all linear computing circuits of the device. The maximum duration of an arbitrary investigated process, which depends basically on the integrator, is of the order of 100 to 200 microsec; duration of oscillatory process could be as high as 500 to 1000 microsec. The maximum error of the device is approximately 5.5%. An oscilloscope with a camera attachment is used for recording. The energy of a discharge with a current of 300 kamp and a voltage of 1.5 kv has been measured with this device. A voltage proportional to the discharge current was applied to one input of the device, while the other input was fed with a voltage taken from a low-resistance voltage divider connected in parallel to the discharge gap. The results obtained from the experiment indicate that the liberated energy was equal to 3 kilojoules. "In conclusion, the authors express their gratitude to I. L. Zol'manov for suggesting the problem and for

Card 2/3

L 10807-63

ACCESSION NR: AP3002733

his valuable advice and constant interest in the work." Orig. art. has: 7 figures and 4 formulas.

ASSOCIATION: Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics, AN SSSR)

SUBMITTED: 16Jul62	DATE ACQ: 12Jul63	ENCL: 01
SUB CODE: 00	NO REF SOV: 002	OTHER: 000

Card 3/3

SINEL'NIKOVA, A.A.

Material on the zooplankton of the Kayrak-Kum Reservoir during the first year filling (1957). Trudy AN Tadzh.SSR 112:67-75 '59.
(MIRA13:11)

1. Institut zoologii i parazitologii imeni akademika Ye.N.Pavlovskogo AN Tadzhikskoy SSR.
(Kayrak-Kum Reservoir--Zooplankton)

[redacted], L. ...

Raw weight of lower crustaceans in Kayrakum Reservoir.
Izv. Otd. biol. nauk AN Tadzh. SSR no.1:99-103 '63.
(MIRA 17:10)

1. Institut zoologii i parazitologii im. akademika Ye.N. Pavlovskogo AN Tadzhikskoy SSR.

34710
C/137/62/000/002/034/1
A006/A101

18.1245

AUTHORS: Drits, M. Ye., Gvilderskaya, Z. A., Kadaner, E. S., Sinel'nikova, A. A.

TITLE: Recrystallization and softening of magnesium alloys with manganese, aluminum and calcium at higher temperatures

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 30, 21120 ("Izv AN UzSSR, Ser. tekhn. n.", 1961, no. 4, 103 - 110)

TEXT: The authors investigated the effect of Mn (0.1 - 2%), Al (0.1 - 10%) and Ca (0.05 - 1.5%) on recrystallization of Mg. Ingots 10 mm thick, cast into metal molds were rolled in hot state at 430°C until 75% deformation. Sheet blanks were then rolled with 50% reduction until about 1 mm sheet thickness. Such deformation conditions were selected that recrystallization could not occur during the processing; this was checked by X-rays. Recrystallization was studied by measuring hardness, and by microscopical and X-ray analyses. A higher Mn content raises the temperature of beginning and completed recrystallization; the most intensive rise takes place at up to 0.8% Mn concentration. Addition of Al reduces sharply the temperature of beginning and terminated recrystallization, and

Card 1/2

Recrystallization and softening of...

7 - 10% Al predetermines completed recrystallization during the very deformation process. In Mg-Ca alloys hundredths of per cent of Ca do not change the temperature of recrystallization commencement, but raise the temperature of the end of recrystallization Addition of Ca in amounts of 0.1 - 0.5% causes a sharp increase of recrystallization temperature (by 100 - 150°C). A further increase of the Ca content up to 1.5% maintains high recrystallization temperatures of all the alloys. The effect of Ca, is apparently determined by changes in the surface energy of Mg when introducing surface-active elements (up to 0.1%). At higher concentrations the effect of Ca manifests itself in the enrichment of boundaries and sub-grains with alloying component atoms. For Mg-Mn alloys the effect of Mn is connected with the inhibited development of diffusion processes. The authors note a certain analogy in representation of curves of recrystallization and endurance hardness, characteristic of the heat resistance. There are 25 references.

M. Matveyeva

[Abstracter's note: Complete translation]

Card 2/2

OZHEGOVA, V.Ye.; SINEL'NIKOVA, A.A.; ANDRIYEVSKAYA, S.A.

Materials on the fauna of the bodies of water in the inundated area of Kayrakum Reservoir. Trudy Inst. zool. i paraz. AN Tadzh. SSR no.26:5-17 '63 (MIRA 17:3)

1. Institut zoologii i parazitologii imeni akademika Ye.N. Pavlovskogo AN Tadzhikskoy SSR.

OZHEGOVA, V.Ye.; SINKL'NIKOVA, A.A.

Zooplankton of Kayrakum Reservoir based on materials of 1957-1960. Trudy Inst. zool. i paraz. AN Tadzh. SSR no.26: 34-65 '63 (MIRA 17:3)

1. Institut zoologii i parazitologii imeni akademika Ye.N. Pavlovskogo AN Tadzhikskoy SSR.

SINEL'NIKOVA, A.A.

Diurnal vertical migrations of zooplankton i Kayrakum Reservoir. Trudy Inst. zool. i paraz. AN Tadzh. SSR no.26:66-86 '63 (MIRA 17:3)

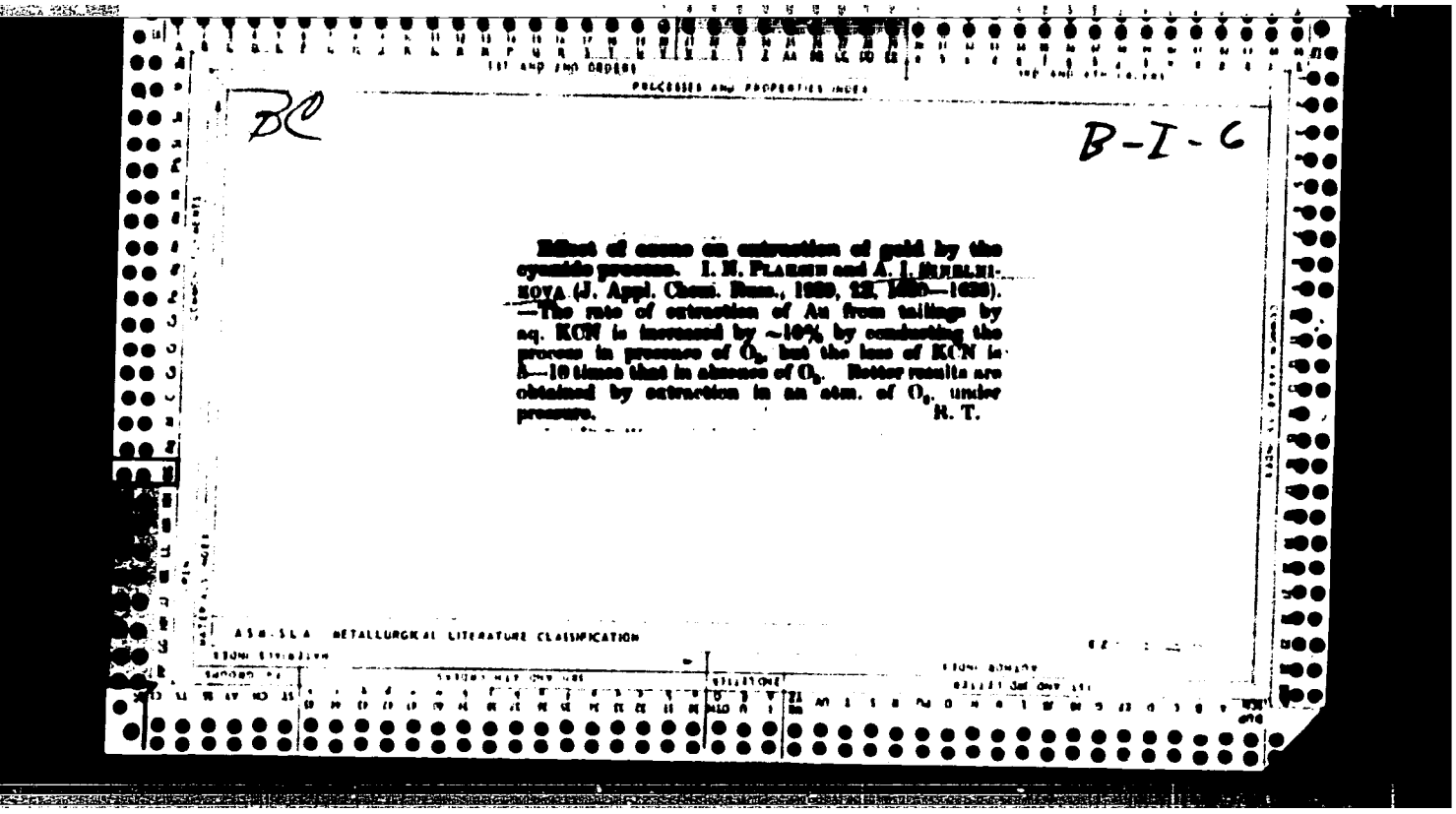
Outflow of zooplankton through the structures of the Kayrakum Hydroelectric Power Station. Ibid.:87-94

1. Institut zoologii i parazitologii imeni akademika Ye.N. Pavlovskogo AN Tadzhikskoy SSR.

SINEL'NIKOVA, A.A.
25662

Krasheniye Sukonnykh Tkaney Tekstil.
Prom-St', 1948, No 6, 32

SO: LETOPIS NO. 30, 1948

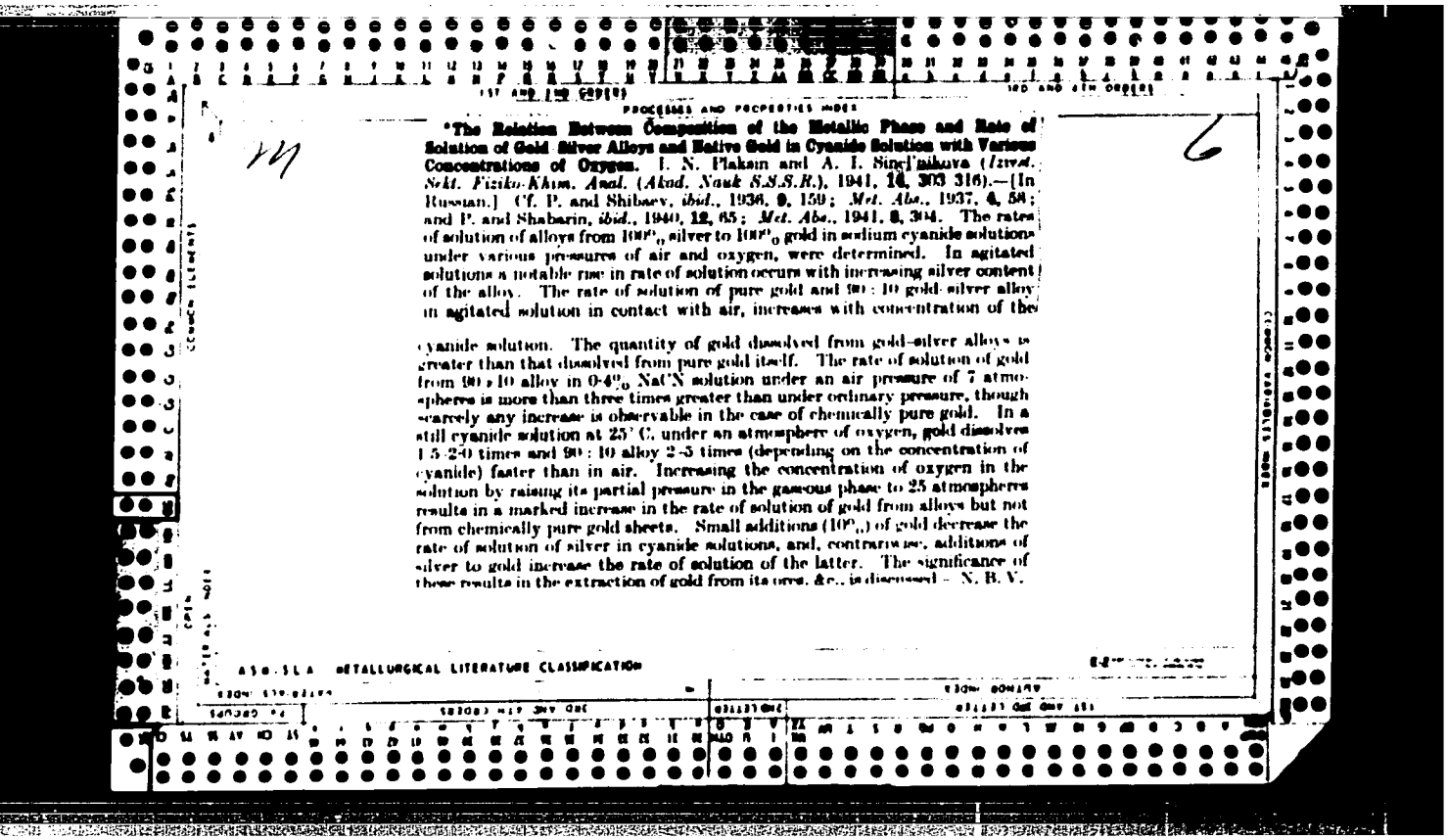


BC

B-I-C

Effect of ozone on extraction of gold by the cyanide process. I. N. PLAKSIN and A. I. SHERSHNEVA (J. Appl. Chem. Russ., 1939, 12, 1355—1368). —The rate of extraction of Au from tailings by aq. KCN is increased by ~10% by conducting the process in presence of O_3, but the loss of KCN is 5—10 times that in absence of O_3. Better results are obtained by extraction in an atm. of O_3 under pressure. R. T.

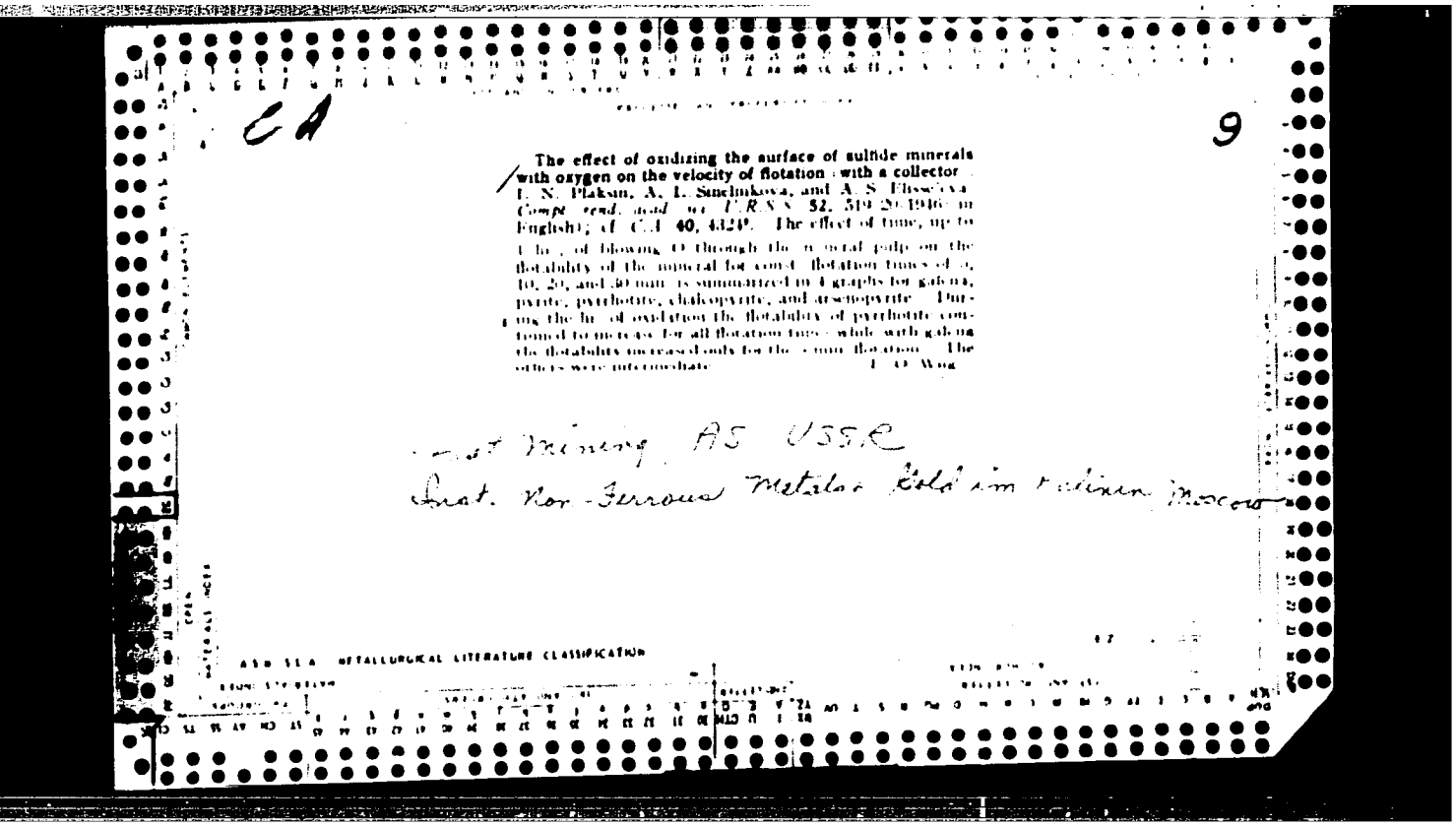
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



PROCESSES AND PROPERTIES INDEX

"The Relation Between Composition of the Metallic Phase and Rate of Solution of Gold Silver Alloys and Native Gold in Cyanide Solution with Various Concentrations of Oxygen. I. N. Plaksin and A. I. Sinel'nikova (*Izvest. Sekt. Fiziko-Khim. Anal. (Akad. Nauk S.S.S.R.)*, 1941, **14**, 303 316).—[In Russian.] Cf. P. and Shibaev, *ibid.*, 1936, **9**, 159; *Met. Abs.*, 1937, **4**, 58; and P. and Shabarin, *ibid.*, 1940, **12**, 65; *Met. Abs.*, 1941, **8**, 304. The rates of solution of alloys from 100% silver to 100% gold in sodium cyanide solutions under various pressures of air and oxygen, were determined. In agitated solutions a notable rise in rate of solution occurs with increasing silver content of the alloy. The rate of solution of pure gold and 90 : 10 gold-silver alloy in agitated solution in contact with air, increases with concentration of the cyanide solution. The quantity of gold dissolved from gold-silver alloys is greater than that dissolved from pure gold itself. The rate of solution of gold from 90 : 10 alloy in 0·4% NaCN solution under an air pressure of 7 atmospheres is more than three times greater than under ordinary pressure, though scarcely any increase is observable in the case of chemically pure gold. In a still cyanide solution at 25° C. under an atmosphere of oxygen, gold dissolves 1·5–2·0 times and 90 : 10 alloy 2–5 times (depending on the concentration of cyanide) faster than in air. Increasing the concentration of oxygen in the solution by raising its partial pressure in the gaseous phase to 25 atmospheres results in a marked increase in the rate of solution of gold from alloys but not from chemically pure gold sheets. Small additions (10%) of gold decrease the rate of solution of silver in cyanide solutions, and, contrariwise, additions of silver to gold increase the rate of solution of the latter. The significance of these results in the extraction of gold from its ores, &c., is discussed.—N. B. V.

A5a.5La METALLURGICAL LITERATURE CLASSIFICATION



CA

9

The effect of oxidizing the surface of sulfide minerals with oxygen on the velocity of flotation with a collector. I. N. Plaksin, A. L. Smelnikova, and A. S. Plaksina. *Compt. rend. acad. sci. URSS* 52, 319-20 (1946) (in English); cf. *C.A.* 40, 4329. The effect of time, up to 1 hr., of blowing O through the mineral pulp on the floatability of the mineral for usual flotation times of 5, 10, 20, and 30 min. is summarized in 4 graphs for galena, pyrite, pyrrhotite, chalcopyrite, and arsenopyrite. During the hr. of oxidation the floatability of pyrrhotite continued to increase for all flotation times while with galena the floatability increased only for the 5-min. flotation. The effects were intermediate. I. G. Wag

Ind Mining AS USSR
Stat. Non-Ferrous Metals Gold in Indian Mines

A S & T A METALLURGICAL LITERATURE CLASSIFICATION

[illegible], A. I.

May/Jun 1947

USSR/Flotation
Sulfides

" Oxidation in Alkalis by Selective Flotation of Sulphide Ore," I. N. Plaksin, A. I. Sinel'nikova , Z . N. Abazhimakyan, Mining Institute, Academy of Sciences, USSR, 5 pp

"Tsvetnyye Metally" No 3

Discusses the processes with following conclusions: (1) Preliminary aeration or oxidation of pulp prior to flotation results in increase of selectivity during flotation of copper pyrite ore. (2) Use of aeration or blowing through of acids makes it possible to determine the quality of Zn or Cu concentrate during the purifying flotation.

PA 167104

SHELIKHOVA, A. I.

USSR/Flotation
Minerals

Apr 1947

"The Effect of Oxidation on Floatability and Segregation of Sulfide Minerals," I..N. Plksin, A. I. Shelnikova, G. N. Khazhinskaya, 11½ pp

"Izv Ak Nauk Tekh Nauk" No 4 pp. [illegible]

The influence of weakly-acid and neutral mediums (pH<7). Chemical changes of compositon in the surface of the minerals, proceeding from the action of oxidation. Influence of hydrogen on the medium and structure of crystalline lattices of sulfide minerals. Tables and graphs showing relationships of the various factors.

PA 9T102

SINEL'NIKOVA, A. I.

USSR/Minerals
Flotation
Pyrites

Mar 1948

"Selective Protective Action of Thiocyanates during Flotation of Pyrite and Arsenopyrite," I. N. Plaksin, A. I. Sinel'nikova, K. A. Efremova, Mining Inst, Acad Sci USSR, 2½ pp

"Dok Akad Nauk SSSR Nova Ser" Vol LIX, No 8

Describes experiments showing that diluted rodanide produces protective action on pyrite, but that copper ions must be added to arsenopyrite to obtain same result.

PA47T52

Card 1/5

Card 2/5

Card 3/5

Card 4/5

C.5000

AUTHOR: Shel'gikova, A. I.

TITLE: Scientific Chronicle. Conference on Use of Ion-Exchanging Resins in Hydrometallurgy and Mineral Dressing

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Tsvetnaya metallurgiya, 1960, No 1, pp 165-166 (USSR)

ABSTRACT: A conference was held in Moscow in July 1959, through the initiative of the Mining Institute of the Academy of Sciences, USSR (Institut Gornogo Dela AN USSR), the Institute of Nonferrous Metals of Moscow (Institut tsvetnykh metallov), the State Chemical Committee of the Council of Ministers of USSR (Gosudarstvennyy komitet Soveta ministrov SSSR po Khimii), and Commission on Chromatography of the Academy of Sciences, USSR (Komissiya po khromatografii AN SSSR). Nearly 150 members [illegible] in the conference, representing [illegible] organizations: the Institutes of the Academy of Sciences, Colleges, Professional and Sales [illegible] Institutes, planning organizations and plants of Moscow, Leningrad,

Scientific Conference. [illegible] of Use of Ion-Exchange Resins in Hydrometallurgy [illegible] and Machine Building

Gorkiy, Novosibirsk, Krasnoyarsk, Norilsk, Severo-Menkuetsk, Tavda, Krasnodarmetiz, and representatives of the Ministries of Finance, Public Health Service, the State Committee of Science and Technology of the Russian Soviet Federation Soviet Republic (GNTK of RSFSR), of the Mint, and of Moscow and Krasnoyarsk Councils of National Economy (Sovnarkhoz), etc. The conference heard the following reports: K. M. Saldadze, laboratory head of the Scientific Research Institute of Plastics (NIIplastmass), "The perspectives of synthesis and of industrial production of resins"; I. N. Plaxin, A. I. Shelikhova, and A. Ya. Berlin, corresponding members of the Academy of Sciences of USSR (AN USSR), "Application of ionexchange resins in hydrometallurgy of noble metals."; I. N. Plaxin and A. A. Kolovskiy, "Application of ionexchange resins in hydrometallurgy of rare metals"; I. N. Plaxin and I. N. Filina, "Extraction from solutions by ionexchange resins of cations from the solution [illegible]":

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Scientific Chronicle. Conference on Use of Ion-Exchanging Resins in Hydrometallurgy and Machine Building

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SCI/[illegible]

"Extraction from solution by ion-exchanging method from the solution niobium and zirconium"; Ye. V. Gans, candidate of Technical Sciences, laboratory head of Scientific-Research Institute of Tractors and Agricultural Machinery Construction (NIItraktorosel'khozmashinostroyeniye), "Perspectives of Industrial Application of Ionexchanging Resins in Machine Building for Purification of Sewage of the Galvanizing Mills and for Regeneration of Electrolytes." In the discussions of reports read, the following participated: A. I. Subbotina, Gor'kiy University (Gor'kovskiy universitet); M. M. Senyavin, Geochemical Institute of the Academy of Sciences USSR (Geokhimicheskiy institut AN SSSR); M. B. Ferberg, Norilsk Mining and Metallurgical Combine; A. B. Davankov, Moscow Chemical-Technological Institute (Moskovskiy khimikotekhnologicheskiy institut); S. M. Chernobrov, Scientific Research Institute for Mechanical Concentration of Minerals (Mekhanobr); S. I. Kagalov, Sverdlovsk Mining

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[illegible]

In Kramatorsk (State Institute of [illegible]): E. P. Eoromil'skaya, All-Union Scientific Research Institute of Hard Alloys (Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov); N. M. Subbotin, State Committee of Science and Technology of the USSR (GKTK SSSR); A. G. Yermonina, Gor'kiy Automobile Factory (Gor'kovskiy avtozavod); M. S. Glebanov, Central Scientific-Research Institute of Geology (TSNIGRI); and others. It was noted at the conference that the production and quality of casting was unsatisfactory, and it was observed that there is a shortage of spares for [illegible] equipment. It was also resolved [illegible] to improve both the quality and quantity of machine castings.

Card 4/4

SINEL'NIKOVA, A.I.; PLAKSIN, I.N.

Use of the autoclave process for the treatment of gold-bearing concentrates. Izv. vys. ucheb. zav.; tsvet. met. 3 no.4:76-80 '60.
(MIRA 13:9)

1. Krasnoyarskiy institut tsvetnykh metallov. Kafedra metallurgii blagorodnykh metallov.
(Gold) (Ore dressing) (Autoclaves)

SINEL'NIKOVA, A.I.; PLAKSIN, I.N.

Autoclave leaching of gold and silver from products of complex composition. Izv. vyss. ucheb. zav.; tsvet. met. 3 no.5:95-98 '60. (MIRA 13:11)

1. Krasnoyarskiy institut tsvetnykh metallov. Kafedra metallurgii blagorodnykh metallov.
(Gold--Metallurgy) (Silver--Metallurgy) (Hydrometallurgy)

S/137/62/000/005/044/150
A006/A101

AUTHORS: Sinel'nikova, A. I., Beylin, A. Yu.

TITLE: Gold and silver deposition from cyanide pulps with anionites

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 5, 1962, 28, abstract 50180 ("Sb. nauchn. tr. In-t tsevtn. met. im. M. I. Kalinina", 1960, v. 33, 98 - 106)

TEXT: The authors studied the process of sorption lixiviation applied to resistant ore containing (in %): SiO_2 82.61, Al_2O_3 8.38, Fe_2O_3 2.4, As 0.17, Zn 0.08, Sb 0.01, Sn 0.02, Cu 0.07 and S 0.087. Anionite AH-18 (AN-18) served as an adsorbent (-0.9+0.4 mm size). The experiments were made with 200 g ore batches at L : S = 2 : 1; concentration of the solution was 0.085% NaCN and 0.01% CaO. It was established that the rate of Au and Ag dissolving during sorption lixiviation increased by more than 3 times; Au extraction within 8 hours lixiviation was 96.8%. An amount of 0.8 g/ton Au remained in the tails (against 1.1 g/ton in conventional lixiviation). The capacity of anionite AN-18 in respect to Au can be raised from 3 - 3.5 to 7% by the method of selective desorption

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A006/A101

Gold and silver deposition from...

of cyanide complexes of heavy metals with weak acid solutions. Au and Ag desorption with a thiocarbamide solution in a mixture with HCl was studied and the optimum composition was established: $CS(NH_2)_2$ 8.5 - 9% and HCl 2%. A method was developed of carburizing Au and Ag from hydrochloric acid solutions of thiocarbamide with Pb metal. The process depends mainly upon the magnitude of the Pb surface. Pb consumption, at a dust size 80% of fraction - 0.043 mm, is 6.2 g per 1 g Au and 12.5 g per 1 g Ag.

O. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

PLAKSIN, I.N.; SINEL'NIKOVA, A.I.; BEYLIN, A.Yu.

Use of anion exchangers for the regeneration of cyanide from complex salts. Dokl.AN SSSR 138 no.6:1399-1401 Je '61. (MIRA 14:6)

1. Chlen-korrespondent AN SSSR (for Plaksin).
(Cyanide process) (Ion exchange resins)

[illegible], . .

[illegible]ainova, . . ., and [illegible]Shel'nikova, . . .
"[illegible]oliomyelitis and [illegible]ercdosis", Sbornik nauch. trudov ([illegible]-vo zdravookhraneniya [illegible]SSR. Resp. na ch.-issled. in-t vosstanovleniya trudosposobnosti i fiz. defektivnykh detey im. prof. Kurnera), Leningrad, 19[illegible], p. [illegible] - [illegible], - Bibliog: [illegible] items.

So: [illegible] - 3048, 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. [illegible], 1949).

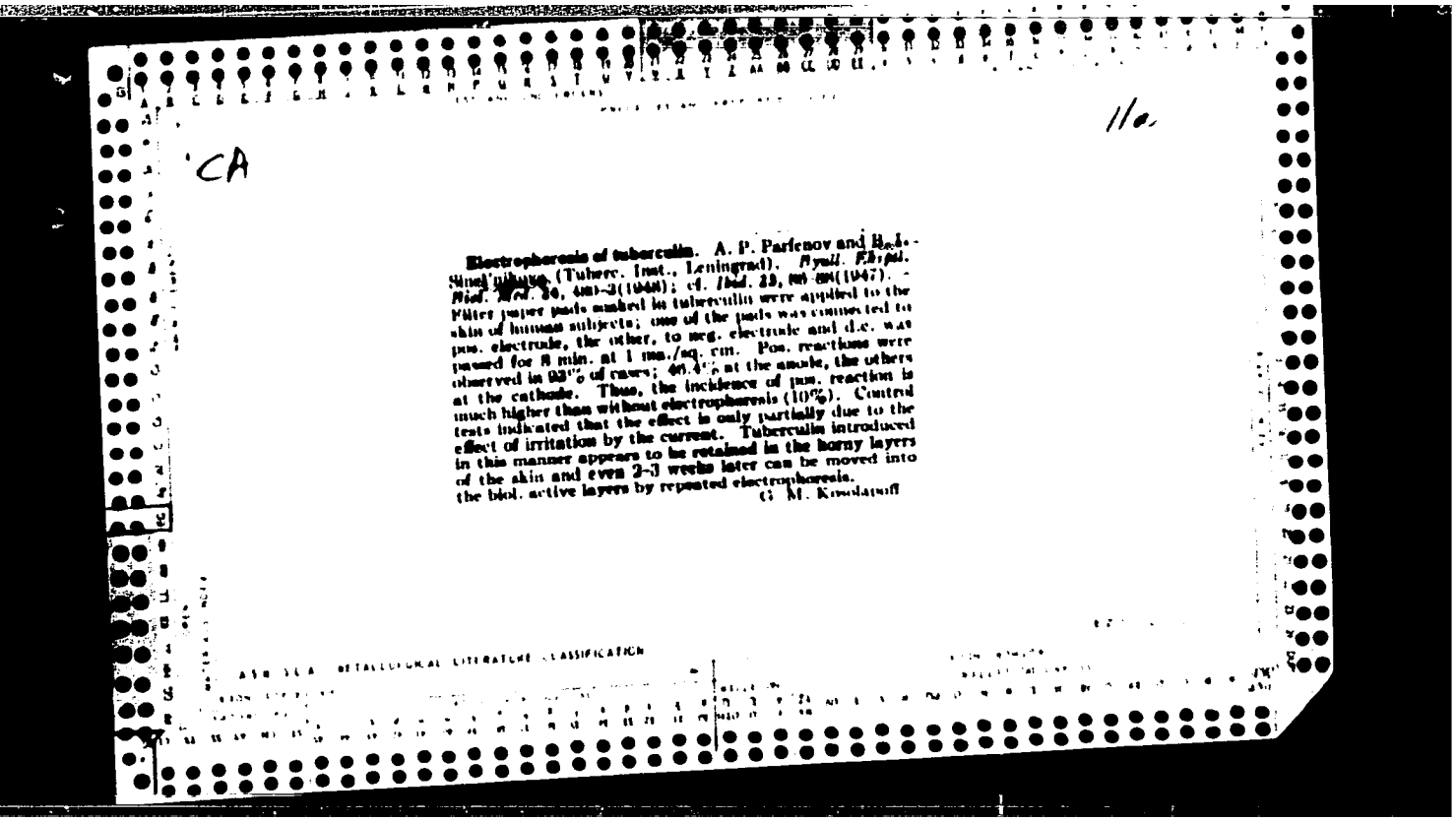
USSR/Medicine - Tuberculin May/Jun 48
Medicine - Tuberculin Therapy

"Electrophoresis of Tuberculin," A. P. Parfenov, B. I. Sinel'nikova, Cand Med Sci, Leningrad Tuberculosis Inst, 3½ pp

"Problemy Tuberkuleza" No 3

Tuberculin contains two albumen fractions of different molecular weights (16,000 and 32,000). The high fraction is antigenic. Activity is increased by electric current (6 - 20 mA for 40 minutes). Describes administration of tuberculin by electrophoresis. Summarizes results of 86 cases.

7/49771



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11a

Electrophoresis of tuberculin. A. P. Parfenov and B. [illegible] Sinel'nikova (Tuberc. Inst., Leningrad). *Ryull. Eksptl. Biol. Med.* 26, 433–3(1948); cf. *Ibid.* 23, [illegible](1947). — Filter paper pads soaked in tuberculin were applied to the skin of human subjects; one of the pads was connected to pos. electrode, the other, to neg. electrode and d.c. was passed for 5 min. at 1 ma./sq. cm. Pos. reactions were observed in 93% of cases; [illegible]% at the anode, the others at the cathode. Thus, the incidence of pos. reaction is much higher than without electrophoresis (10%). Control tests indicated that the effect is only partially due to the effect of irritation by the current. Tuberculin introduced in this manner appears to be retained in the horny layers of the skin and even 2–3 weeks later can be moved into the biol. active layers by repeated electrophoresis.
G. M. Kosolapoff

ASTIA METALLURGICAL LITERATURE CLASSIFICATION

Dept. Physical - Therapeutic Agents.

Effect of adrenaline and codeine on the character of Pirquet's reaction. B. I. Sinel'nikova (Leningrad Tuberc. Inst.). *Voprosy Pediat. i Okhrany Materinstva i Detstva* 16, No. 6, 20-1(1951). Previous administration of 1:1000 adrenaline soln. through the skin by iontophoresis at 4–20 ma. current (4.5 × 2.5 cm. area) for 15 min., attenuates Pirquet's reaction at the edematous site. This is a result of the spasm of surface blood vessels and decreased capillary permeability. Codeine, however, by its vasodilator action also causes attenuation of the reaction. Hence, the alteration of the state of the circulatory system at the site does not cause different results. Apparently the effect on the nervous system plays the major role in the reaction.

G. M. Fried[illegible]

[illegible] I. [illegible], [illegible] I.

Feb 1947

USSR/Medicine
Tuberculin activity

"The Influence of a Steady Electric Current upon the Activity of Tuberculin," A. I. Tarfyenov and E. I. Sinelnikova, 2 pp

"Byul Eksper Med I Biol" Vol XXIII, No 2

Results of electrolytic investigations

PA 1T77

TROYAN, Aleksandr Vasil'yevich; SENKEL'NIKOVA, I.B., red.; KEL'KINA, E.M., tekhn.red.

[Study of vegetable raw materials] Tovarovedenie rastitel'nogo syr'ia. Moskva, Gos.izd-vo torg.lit-ry, 1961. 137 p. (MIRA 14:4)

(Plants, Edible)

SINEL'NIKOVA, I.D., uchitel'nitsa

All schools should train students to love nature. Biol.v shkole no.6:58-60 N-D '62. (MIRA 16:2)

1. Shkola No.167 Leningrada.
(Forestry schools and education)

SINEL'NIKOVA, K.K.

AID P - 2496

Subject : USSR/Meteorology

Card 1/1 Pub. 71-a - 6/26

Authors : Gandin, L. S., and Sinel'nikova, K. K., Kand. Phys. and Math. Sci.

Title : On forecasting the speed of displacement of pressure units

Periodical : Met. i Gidro., 3, 27-30, My-Je 1955

Abstract : Four different ways of computing a 500 km prognostics chart for cyclones and anticyclones are presented by applying mathematical analysis. A table giving results of verification of these methods of forecasting displacement is presented. Three Russian references, 1939-1953.

Institution: None

Submitted : No date

SINEL'NIKOVA, L., tovaroved

Useful suggestion. Sov.torg. no.6:45 Je '58. (MIRA 13:2)

1. Denauskiy raypotrebsoyuz Uzbekskoy SSR.
(Wholesale trade)

AUTHORS: Sinel'nikova, L.A. and Sorokin, M.I. 68-58-3-16/22

TITLE: Automatic Weighing of Coal Blend Charged into Ovens (Avtomaticheskoye vzveshivaniye ugol'noy shikhty)

PERIODICAL: Koks i Khimiya, 1958, Nr 3, pp 55 - 56 (USSR).

ABSTRACT: An installation for the automatic weighing of the coal blend charged to ovens developed by KIP on the Kuznetsk Metallurgical Combine is described. There is 1 figure.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat (Kuznetsk Metallurgical Combine)

Card 1/1

L 28504-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT/JD

ACC NR: AR6004649 SOURCE CODE: UR/0275/65/000/010/A025/A025

AUTHOR: Sinel'nikova, L. G.; Eyg, L. S.

TITLE: Impulse breakdown of some diatomic and inert gases under wide range of pressures

SOURCE: Ref. zh. Elektronika i yeye primeneniye, Abs. 10A178

REF SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 63-69

TOPIC TAGS: electric discharge, electric breakdown, dielectric breakdown, diatomic gas, inert gas, gas ionization, dielectric constant

ABSTRACT: The effects of type of gas and its pressure, of presence of a dielectric in the discharge gap, and of an artificial gas ionization by a radioactive substance upon the static and impulse breakdown voltages were studied. Six gases were tested: helium, argon, neon, hydrogen, nitrogen, and oxygen. Mica, ceramics, and glass were used as dielectrics. The following conclusions have been reached: (1) While, under static conditions, a 1.5--3-mm natural-ionization gap is broken down by 200--500 v in any of the above gases, the same gap, under pulse voltage conditions, breaks down at 3--5 kv depending on the gas with an impulse front of 1.5 kv/microsec or at 10--15 kv with an impulse front of 93 kv/microsec. (2) Introduction of a dielectric into the discharge gap results in lowering both impulse and static breakdown voltages and in a smaller spread. For the inert gases, the average values and stabilization increase with the dielectric constant of the shim. (3) Under static conditions,

UDC: 537.525

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strong additional ionization of the discharge gap does not influence the average breakdown voltage and its spread. (4) Under impulse conditions, an additional ionization lowers the average impulse voltage to 1/4--1/6 and lowers its spread to 1/10--1/20, depending on the type of gas and pressure (with a front of 10 kv/microsec or less). (5) For the fronts over 10 kv/microsec, the effect of additional ionization is much lower. (6) The impulse breakdown voltage is lower only by 30--50%, and its spread remains practically the same and is independent of the additional ionization when pd > 20 torr. The impulse ratio becomes lower by 30--50%, and the time lag does not change when an artificial ionization is introduced with such an impulse front. Bibliography of 14 titles. N. O. [Translation of abstract]

SUB CODE: 09

Card 2/2 dc

L 22062-66 EWT(1)
ACC NR: AR6005188 SOURCE CODE: UR/0058/65/000/009/G017/G018

AUTHORS: Sinel'nikova, L. G.; Eyg, L. S.

TITLE: Pulsed breakdown of certain diatomic and inert gases in a wide range of pressure variation

SOURCE: Ref. zh. Fizika, Abs. 9G145

REF. SOURCE: Sb. Proboy dielektrikov i poluprovodnikov. M.-L., Energiya, 1964, 63-69

TOPIC TAGS: dielectric breakdown, diatomic molecule, inert gas, gas discharge, pressure effect, gas ionization

TRANSLATION: The authors investigated the dependence of the static and pulsed breakdown voltage U_{br} on the type and pressure of gas (H_2, He, N_2, O_2, Ne, Ar) of a dielectric (mica, ceramic, glass) in a discharge gap, and the artificial ionization of gas by radioactive material. On the basis of the results the following conclusions are drawn. 1. Whereas under static conditions a discharge gap of length

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ACC NR: AR6005188

1 -- 3 mm breaks down in any investigated gas at voltages 200 -- 500 v, in the pulsed mode U_{br} is increased to 3 -- 5 kev for a pulse rise 1.5 kev/μsec, depending on the gas, and to 10 -- 15 kev at a rise of 93 kev/μsec. 2. Introduction of a dielectric into the discharge gap leads to a certain lowering of the pulsed and static voltage of the breakdown and to a decrease in their scatter. 3. Additional ionization of the discharge gap does not influence the breakdown in the static mode, but in the pulsed mode U_{br} drops by 4 -- 6 times, and its scatter by a factor 10 -- 20, depending on the type of gas and pressure. N. Olendzkaya

SUB CODE: 20

Card 2/2