L 2531-66 EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/ETC/EWG(m)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) IJP(c) JD/WW/HM/JG/AT/WH

ACCESSION NR: AP5022178 UR/0032/65/031/009/1147/1148
620.179.4-11

76
73
B

AUTHOR: Semenov, A. P.; Pozdnyakov, V. V. 44 11,44

TITLE: Device for the investigation of friction and the adhesive interaction of refractory materials

SOURCE: Zavodskaya laboratoriya, v. 31, no. 9, 1965, 1147-1148

TOPIC TAGS: refractory material, refractory metal, material friction, material adhesion

ABSTRACT: A unit has been built for investigating the friction and adhesion behavior of refractory materials in vacuum (up to about 10^{-5} mm Hg), air, and in various inert and active gaseous media at low and high temperatures. The device can be used for high-temperature mechanical tests of materials in various states of stress, and for the study of chemical reactions between contacting solid substances at high temperatures, such as reactions taking place in diffusion bonding, sintering, and hot compacting. The unit has been used for studying the friction of numerous refractory materials such as graphites, oxides, carbides, and

Card 1/2

L 2531-66
ACCESSION NR: AP5022178

3

borides at high temperatures in vacuum or in various gaseous media. Orig. art. has: 1 figure.
[MS]

ASSOCIATION: Gosudarstvennyy nauchno-issledovatel'skiy institut mashinovedeniya (State Scientific Research Institute of Machine Building)

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4108

Card 2/2

SEMENOV, Andrey Petrovich; SEMENOV, Stepan Andreyevich; APOLIN, V.D., nauchn. red.; RYCHEK, T.I., red.

[Vocational training of carpenters] Proizvodstvennoe obuchenie stoliarov. Moskva, Vysshaia shkola, 1965. 84 p. (MIRA 18:8)

SEMENOV, Andrey Petrovich; YARMOLINSKIY, A.S., nauchnyy red.; GOLOVANIVSKAYA, E.N., red.; BARANOVA, N.N., tekhn.red.

[Mechanization and automation of woodworking] Mekhanizatsiia i avtomatizatsiia derevoobrabotki; metodicheskoe posobie. Moskva, Proftekhizdat, 1963. 54 p. (MIRA 16:5)
(Woodworking machinery) (Automatic control)

L 24450-66 EWP(e)/EWT(m)/EWP(j)/T/ETC(m)-6 IJP(c) WW/DJ/GS/RM/WH

ACC NR: AT6008946 (A) SOURCE CODE: UR/0000/65/000/000/0065/0074

77

AUTHORS: Matveyevskiy, R. M.; Pozdnyakov, V. V.; Semenov, A. P. 13+1

ORG: none

TITLE: Effects of fillers on the wear resistance of teflon during friction on steel without lubrication

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'zheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research, experiment in application). Moscow, Izd-vo Nauka, 1965, 65-74

TOPIC TAGS: wear resistance, filler, friction, graphite, borium nitride, teflon, silver, lead, bronze/4D teflon, S-1 graphite, OF 10-1 bronze, SuS 6-12 bronze

ABSTRACT: The friction and wear characteristics of teflon (4D) with various fillers were investigated at the Wear Laboratory of the Machinery Science Institute (Laboratoriya iznosostoykosti Instituta mashinovedeniya) on the apparatus shown in Fig. 1. Graphite (S-1), borium nitride (powder), silver (powder), lead (granules), and bronze (OF 10-1 and SuS 6-12, shavings) were used as fillers (30% by volume). The specimens were pressed at 2000 kg/cm^2 and machined to 20-mm outside diameter, 10-mm inside diameter, and an 8-mm height. Curves of the coefficient of both friction and wear as a function of time were obtained for the different fillers (at 0.21 m/sec, 75 kg/cm^2) and are presented. The results are also summarized in a table and are

Card 1/2

L 24450-66
ACC NR: AT6008946

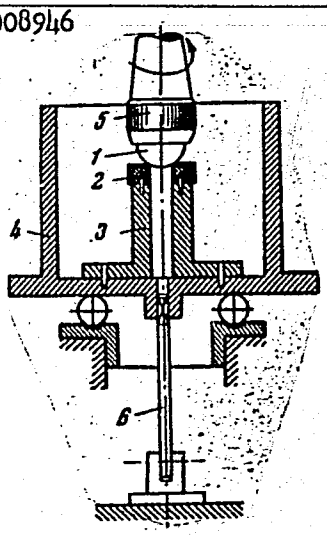


Fig. 1. Friction apparatus:
1 - ball; 2 - test specimen;
3 - support; 4 - cup; 5 - ball
holder; 6 - torque transducer.

compared with tables of friction properties obtained by other investigators (F. M. Chapman, Properties and applications of reinforced teflon. Machine Design, 1958, 30, 48). It was found that all additives decrease wear and that bronze is particularly effective. The reasons for the improvements are discussed qualitatively. Orig. art. has: 3 tables and 6 figures.

SUB CODE: 11 / SUBM DATE: 31Jul65/ ORIG REF: 004/ OTH REF: 002

Card 2/2 bla

L 27755-66 EWP(e)/EWT(m)/EWA(d)/EWP(j)/T/ETI/EWP(k)/EWP(t) IJP(c) JD/WB/RM

ACC NR: AP6015661 (A) SOURCE CODE: UR/0413/66/000/009/0073/0074

INVENTOR: Semenov, A. P.; Pozdnyakov, V. V.

39
B

ORG: none

TITLE: Obtaining antifriction material for bearings and other load-bearing surfaces. Class 39, No. 181281

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 73-74

TOPIC TAGS: antifriction material, antifriction bearing, corrosion resistant material

ABSTRACT: This Author Certificate introduces a method for producing antifriction material for various bearings by hot compacting of polytetrafluoethylene with a filler. To obtain corrosion-resistant material, boron nitride and fine silver powder are used as filler. [AZ]

SUB CODE: 13/ SUBM DATE: 02Jul63/ ATD PRESS: 5001

Card 1/1 UDC: 678.743.41.046.3:620.197

ACC NR: AP7003631 (N) SOURCE CODE: UR/0380/67/000/001/0116/0127

AUTHOR: Semenov, A.P.; Pozdnyakov, V.V. (Moscow) (Moscow)

ORG: none

TITLE: Adhesion interaction in vacuum of refractory metals, sintered metal-like compounds, and sintered hard alloys

SOURCE: Mashinovedeniye, no. 1, 1967, 116-127

TOPIC TAGS: ~~metal~~ adhesion, ~~vacuum metal adhesion~~, refractory metal, ~~adhesion~~, sintered metal ~~adhesion~~, ~~metal adhesion~~ temperature dependence, STRESS (MECH)

ABSTRACT: Pairs of similar and dissimilar metals were formed by bringing into contact specimens of Ti, Zr, Nb, Ta, Mo, W and Co under a load of 4--5 kg in a vacuum of 10^{-4}—10^{-5} mm Hg at temperatures up to 0.7 T_{mel} (T_{mel} is the melting temperature of the low-melting component of the pair). The paired specimens contacting each other at their end faces were held under the load for 3 min and then pulled apart to determine the adhesion interaction between them. The ratio of the applied load to the force required to break the joint, tentatively designated the "adhesion coefficient," was used as the criterion of the adhesion capacity of the tested materials. Similar tests were also made on specimens of TiC, VC, Cr_3C_2, NbC, Mo_2C, WC, and CrB sintered carbides and borides and also on specimens of VK-8B,

Card 1/2 UDC: 539.612

ACC NR: AP7003637

VK-11B, VK-15, and VK-15M sintered tungsten carbide-base hard alloys. All tested combinations of similar and dissimilar materials at definite temperatures exhibited adhesion interaction in vacuum, which appeared to be a common phenomenon for all crystalline solid bodies. Adhesion interaction of similar pure metals began in the 0.3—0.4 T_{mel} range; dissimilar pure metals began to interact in the 0.35—0.45 T_{mel} range. The adhesion interaction of similar pure metals was found to depend on their electron structure. Adhesion interaction of pure dissimilar metals is determined by their position relative to one another in the periodic table, by the ratio of their atomic radii, and by the type of their crystal lattices. The beginning of adhesion interaction of tested refractory carbides and borides occurred in the 0.43—0.67 T_{mel} range. The temperature of the beginning of the adhesion interaction of tungsten carbide-base hard alloys depends on the content of the cobalt bond, and lies between the respective values of the temperatures for pure cobalt and tungsten carbide. The described method was successfully used to determine, at various temperatures, the adhesion interaction between the cutting tool and the machined material. The experiments were carried out at the Wear Resistance Laboratory of the Institute of the Science of Machines. Orig. art. has: 8 figures, 2 tables. [MS]

SUB CODE: 13, 11/ SUBM DATE: 27Sep66/ ORIG REF: 006/ OTH REF: 001
ATD PRESS: 5115

Card 2/2

[redacted], V.G., inzh.

Stapling of thick weldments in layers. Svar. proizv. no.7:18-19 Jl '65. (MIRA 18:8)

[redacted], Yu.N., podpolkovnik meditsinskoy sluzhby; KOGAN, B.F., podpolkovnik meditsinskoy sluzhby; ABRAMSON, Z.Ye., podpolkovnik meditsinskoy sluzhby; SEMENOV, A.P., kapitan meditsinskoy sluzhby

Experience in the prevention of chronic diseases of the stomach. Voen. med. zhur. no.2:75-77 '63. (MIRA 17:9)

SEMENOV, A.S., kandidat tekhnicheskikh nauk, dotsent.

On calculating area of warehouses (warehouse geometry). Trudy GIIVT 10:49-58 '51. (MLRA 10:3)
(Warehouses)

S/114/62/000/002/003/004
E194/E955

AUTHORS: Belov, A.V., Engineer, Semenov, A.S., Turner

TITLE: Features of machining fir-tree surfaces on lathes

PERIODICAL: Energomashinostroyeniye, no.2, 1962, 37-38

TEXT: The Nevskiy mashinestroitel'nyy zavod im.V.I. Lenina (Neva Works im. V.I.Lenin) makes forged drums for gas-turbine rotors and axial compressors 4-5 metres long, weighing about six tons and also various blanks in the form of rings for blades and the like. Most of these parts are made of high-alloy stainless and heat-resisting steels grade 34XH3M (34KhN3M), 2X13 (2Kh13), ЭИ 405 (EI405) and ЭИ415 (EI415). High accuracy and good surface finish is required. The profiles are cut with toothed high-speed tools of high accuracy and good surface finish. Two tools are normally used, one for roughing, the other for finishing. For the shafts of axial compressors, the finishing tool has teeth on both sides and for rings it has teeth on one. Rotors of axial compressors which are relatively long and thin may vibrate during machining and to avoid this the lathe speed should be reduced as

Card 1/2

low as possible. If vibration persists, the active length of the tool edge must be reduced, by using a form with only two cutting teeth. In both roughing and finishing cuts the toothed cutter is fed axially, that is the inner sides of the cutting tool operate first and on withdrawal the other side operates. Other details of machining practice are given. There are 3 figures, 1 table, no references.

AUTHOR: Semenov, A.S., Engineer SOV-118-58-9-4/19

TITLE: Mechanization of the Exchange of Mine Cars Above Ground (Mekhanizatsiya obmena vagonetok na poverkhnosti shakht)

PERIODICAL: Mekhanizatsiya trudoyemkikh i tyazhelykh rabot, 1958, Nr 9, pp 13-14 (USSR)

ABSTRACT: In 1957/58, the Lugansk sovnarkhoz introduced remote control for the haulage of mine cars in above ground buildings. The haulage and exchange of mine cars is carried out automatically and thereby reduces the number of workers by taking into account the reconstruction of the lower receiving platform in the mine yards, the total figure of freed workers equals 72 per mine. In 1958, mechanization and automation of mine car haulage in 28 more mines is planned and by 1960, in 81 mines of the sovnarkhoz. There are 2 schematic drawings, and 2 tables.

1. Coal industry--USSR 2. Mines--Equipment 3. Control systems --Applications

Card 1/1

SEMENOV, A.S., inzhener.

Methods of utilizing resources of the quarrying industry. Mekh. trud.rab. 11 no.5:6-11 My '57. (MLRA 10:7)
(Crushing machinery) (Quarries and quarrying)

SEMENOV, A.S.

KULIKOVSKIY, Pavel Pavlovich, kand.tekhn.nauk; SHVETSOV, Petr Dmitriyevich, prof.; SEMENOV, Aleksandr Sergeyevich, dots.; MOZER, V.F., prof., retsenzent; SAYKOVSKIY, M.I., kand.tekhn.nauk, retsenzent; KIRAKOVSKIY, N.F., dots., red.; TSITKIN, S.I., kand.tekhn.nauk, red.; ROMANOVSKIY, I.A., inzh., red.; SERDYUK, V.K., inzh., red. izd-va; RUDENSKIY, Ya.V., tekhn.red.

[Steam engines; control, adjustment, and testing; a manual] Parovye dvigateli; kontrol', naladka, isputanie. Spravochnoe rukovodstvo. Kiev, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1955. 377 p. (MIRA 11:6)

(Steam engines--Handbooks, manuals, etc)

SEMENOV, A.S.; MORDUKHAYEV, G.A.

Remote-controlled meter of coal consumption for steam boilers.
Gidroliz. i lesokhim.prom. 9 no.6:24-25 '56. (MLRA 9:10)

1.Ferganskiy gidroliznyy zavod.
(Boilers) (Coal) (Electric meters)

8(0) SOV/112-59-1-601

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 1, pp 79-80 (USSR)

AUTHOR: Semenov, A. S.

TITLE: Some Questions of Subharmonic Resonance in Electric Networks

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Energetika, 1958, Nr 2, pp 22-30

ABSTRACT: Subharmonic oscillations usually appear in transmission lines having longitudinal and cross compensation. Such a system can be approximately represented by a linear active twopole with a frequency-dependent input impedance, an equivalent EMF, and a nonlinear element connected to the two-pole. A frequency-response analysis of a scheme in which subharmonic oscillations appear leads to one- and two-frequency approximate equivalent networks. An analysis of the existence and stability of the solutions (?) of subharmonic order 1/3 is conducted, for a single-frequency circuit, by the method of slowly varying amplitudes (Van Der Pol). The onset of subharmonic

Card 1/2 Moscow O-L Power Eng. Inst.

Some Questions of Subharmonic Resonance in Electric Networks

oscillations in a given circuit, when the conditions for its existence are fulfilled, is determined by the initial conditions, i.e., the capacitor charge, the nonlinear inductance flux linkage, and the closing angle. Subharmonic oscillations occurring in two-frequency equivalent networks are characterized by a great variety of frequencies and oscillation forms. Similarity of oscillatory phenomena in such systems is determined by three basic criteria: the input-impedance frequency characteristic, the reactive network-component nonlinearity, and the relative value of the equivalent EMF.

S.S.Sh.

SEMENOV, A.S.; TROITSKIY, V.A.

Vibrations of rod systems with circular junctions. Trudy LPI no.226:123-144 '63. (MIRA 16:9)
(Elastic rods and wires—Vibration)

SEMENOV, A. S. Cand Tech Sci

Dissertation: "Methodics of Calculating the Electronic Power Amplifiers Used in Electric Automatic Devices."

11/12/50

Moscow Order of Lenin Aviation Inst imeni Sergo Ordzhonikidze

SO Vecheryaya Moskva
Sum 71

40838

S/535/62/000/147/004/010
I011/1211

AUTHOR: Semenov, A. S., Candidate of Technical Sciences

TITLE: To the theory of combined navigational systems

SOURCE: Moscow. Aviatsionnyy institut. Trudy, no. 147, 1962. Navigatsionnyye i giroskopicheskiye ustroystva, 35–44

TEXT: Combined navigational systems very frequently have two information sources one of which is of a low accuracy but operates continuously while the other is of a higher accuracy but operates intermittently. These systems are constructed so that the errors being built up by the continuous operation of the "coarse" signal are compensated by the "exact" signal not only during its operation but for a considerable time after it stops operating. A "self-correcting" system is investigated as an example. It is based on the principle of integrating the travelling velocity with an automatic wind correction. Location signals received from earth-bound radio or radar stations are used for this correction. The travelling velocity and angle signals are transformed into rectangular coordinates and integrated. The aeroplane coordinates in relation to the radio-station are evaluated from the results of the integration and compared (after transformation to polar coordinates) with the location signals as received from the station. The differences are integrated and then added as correction to the velocity and angle signals. It is shown that the errors oscillate around their zero values.

Card 1/2

Stabilising networks are added to suppress these oscillations and thus the error signals decay to zero. It is shown that in this case the stationary values of the corrections take into account the wind velocity and direction as well as the errors of the flight velocity and angle transducers. The system investigated compensates its errors only for the case of constant flight speed and angle and constant wind in the intervals between the receiving of the location signals from the radio station. There are 3 figures and 4 appendices. The English-language references read as follows: Cawood, W., Some design problems in inertia navigation, J. of the Roy. Aeronaut. Soc., 1958, Oct., p. 704–722; Klass, P., New Auto-Navigator corrects itself. Aviation Week, 1956, June, no. 11, p. 71–79.

40841

S/535/62/000/147/007/010
I011/I211

AUTHOR: Semenov, A. S., Candidate of Technical Sciences

TITLE: Accelerometers with feedback

SOURCE: Moscow. Aviatsionnyy institut. Trudy, no. 147, 1962. Navigatsionnyye i giroskopicheskiye ustroystva, 62–71

TEXT: A short investigation of the static and astatic types of accelerometers is given. Static accelerometers: the displacement of the moving mass is transformed to voltage by the displacement transducer, amplified, and transformed to a compensating force on the same moving mass by the force transducer. A second order differential equation for the displacement is derived. The influence of small changes in each of its paramaters on the output signal is investigated for the steady state in the case of a constant acceleration. It is shown that the current in the force transducer is less dependent on parameter changes than the voltage at the amplifier output. Accelerometers with a mechanical compensating spring: here the force transducer is a spring drawn by a motor. The amplifier output is connected to this motor. Two simultaneous differential equations of the second order are derived. Investigation of the steady state response to a constant acceleration shows that the influence of the dry friction in the motor can be decreased by one of the following:increasing the amplifier amplification; the displacement transducer sensitivity; the stiffness of the feedbach spring; decreasing the

Card 1/2

mechanical stiffness of the supports of the sensitive elemnt. The influence of changes in the parameters is found by neglecting the dry friction and assuming that the amplifier amplification factor is big enough. The main cause of error is the variation in the stiffness of the feedback spring. The stability of the system is tested by the Hurwitz criterion after bringing the two differential equations into one of the fourth order. It is seen that increasing the amplification factor too much can cause instability. Astatic accelerometers with an electric spring: the mechanical spring in the previous type is replaced by an electromechanical system consisting of a second displacement transducer, a second amplifier and a force transducer. Again, two simultaneous differential equations of the second order are derived. Investigation of the steady state response to constant acceleration shows that the conclusions will be the same as for the previous type when the specifications on the stiffness of the spring are carried over to the sensitivity of the force transducer. Again, the stability is tested. It is seen that the product of the two amplification factors must not be too high, but that in this case the error caused by the dry friction depends on the amplification factor of the first amplifier only. There are 3 figures.

SEMENOV, A.S., kand.tekhn.nauk

Theory of combined navigational systems. Trudy MAI no.147:35-44 '62. (MIRA 16:2)
(Inertial navigation (Aeronautics))

SEMENOV, A.S., kand.tekhn.nauk

Accelerometers with feedback. Trudy MAI no.147:62-71 '62. (MIRA 16:2)
(Accelerometers)

SEMENOV, A. A.

Measurements of the resistivity of natural waters in the solution of some geological problems. Vest. LGU 20 no.6:56-63 '65.
(MIRA 18:4)

SEMENOV, A.S.

Z.Kruszewski's "potential sounding." Vop.razved.geofiz. no.4:54-56 '64. (MIRA 19:1)

SEMENOV, A.S.; POLIKARPOV, V.K.; NOVOZHILOVA, M.Ye.

Effect of the nonuniformity of rocks in studying the zones of jointing and tectonic disturbances by the method of circular sounding. Vest. LGU 20 no.24:78-88 '65. (MIRA 19:1)

1. Submitted July 18, 1965.

L 38118-66 EEC(k)-2/EWP(k)/EWT(1)/EWT(m)/FBD/T/EWP(t)/ETI LJP(c) WB/JD

ACC NR: AP6024470 SOURCE CODE: UR/0181/66/008/007/2087/2091

69
B

AUTHOR: Zakharov, Yu. P.; Nikitin, V. V.; Semenov, A. S.; Uspenskiy, A. V.; Shcheglov, V. A.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR (Fizicheskiy institut AN SSSR)

TITLE: The theory of optically coupled p-n GaAs lasers

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2087-2091

TOPIC TAGS: semiconductor laser, gallium arsenide, laser coupling, SOLID STATE LASER, PN JUNCTION

ABSTRACT: Using a slotted p-n GaAs diode as a model of a semiconductor laser, optical laser coupling was studied theoretically and experimentally. Eight different diodes, prepared by methods described by G. J. Lasher and F. Stern (Phys. Rev., 133, A553, 1964), with $0.2 \leq \gamma \leq 0.5$ were used ($\gamma = \frac{L_2}{L_1} \leq 1$, where L_1 and L_2 lengths of the p-n junction on each side of the slot). Spectral characteristics of each diode were observed for different values of the threshold injection currents (J_1 and J_2) through the slotted parts of a junction. Experimental results indicate that the function $k = \frac{J_1^{thresh}}{J_2^{thresh}}$ increases with an increase in γ ($k = \frac{\gamma}{1-\gamma}$). This result agrees essentially with the theory. Orig. art. has: 3 figures and 10 formulas. [YK]

SUB CODE: 20/ SUBM DATE: 10Dec65/ ORIG REF: 002/ OTH REF: 004/ ATD PRESS: 5042

Card 1/1

L 41702-66 EWT(m)/EWP(w) LJP(c) EM

ACC NR: AP6019583 (A) SOURCE CODE: UR/0115/66/000/004/0085/0086

AUTHOR: Semenov, A. S.

38
B

ORG: none

TITLE: Accuracy of force measurement by an electric method

SOURCE: Izmeritel'naya tekhnika, no. 4, 1966, 85-86

TOPIC TAGS: electromechanic converter, strain gage, magnetic induction, resistance bridge, elastic stress

ABSTRACT: After pointing out first that only electric methods of force measurement make it possible to record the transients produced when the force is applied, the author describes the two most widely used force-to-electric-signal converters, with inductive and strain-gage pickups respectively. The construction, circuit diagram, and operating principle of each type of converter are given. Tables are presented of the possible factors capable of affecting the accuracy of the equipment and of the percentage errors caused by these factors, and also of the main parameters of the differential bridges used in conjunction with both types of pickup. The elimination of several types of error is discussed. Orig. art. has: 2 figures and 2 tables.

SUB CODE: 14/ SUBM DATE: 00

Card 1/1

UDC: 531.781.088

SEMENOV, A. (S.)

"Geothermal Measurements in Monche-Tundra," Dokl. AN SSSR, 23, No.4, 1939

SEMENOV, A. S.

PA 27T39

USSR/Geological Prospecting Jul/Aug 1947
Ore Deposits

"The Charged Body Method," A. S. Semenov, 8 pp

"Razvedka Nedr" No 4

A new method of electrical prospecting which is becoming increasingly popular. It can be used to determine the form, dimensions and elements in known deposits, clear up questions regarding the relation between the various elements in known deposits and determine the location of possible new deposits which may lie close to known deposits.

LC 27T39

SEMENOV, A. S.

PA 57T48

USSR/Geol Prospecting
Lead

Nov/Dec 1947

"Combination Profiling in Application to Lead Veins," A. S. Semenov, 5 pp

"Razvedka Nedr" No 6

Curves for profiling with symmetrical setup can be obtained automatically from curves of combination profiling. Former are constructed according to average values of the ordinate of curves of combination profiling. It is easily seen that the magnitude of the anomaly for such curves will be considerably less than for curves of combination or asymmetrical profiling.

57T48

LC

SEMENOV, A. S.

PA 240T83

USSR/Geophysics - Electric Field of Earth 21 Dec 52

"New Type of Electric Field in the Earth," A. V. Veshev, A. S. Semenov and M. Ye. Novozhilova, All-Union Sci-Res Inst of Survey Geophysics

"DAN SSSR" Vol 87, No 6, pp 939-941

Certain anomalies in terrestrial elec field were found in 1939 by V. P. Bogdanov and in 1945 by V. A. Vedernikov. Author confirmed these facts in 1951 and established their connection with an unknown natural elec field. Presented by Acad O. Yu. Shmidt 30 Oct 52.

240T83

SEMENOV, Aleksandr Sergeyevich, professor; NESTEROV, L.Ya., professor, redaktor; KELAREV, L.A., redaktor; IVANOV, V.V., tekhnicheskiy redaktor.

[Electric prospecting using the natural electric field method]. Elektrorazvedka metodom estestvennogo elektricheskogo polia. [Leningrad] Izd-vo Leningradskogo universiteta, 1955. p.209
(Prospecting--Geophysical methods) (MLRA 8:12)

USSR/Physics of the Earth - Geophysical Prospecting, O-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36468

Author: Veshev, A. V., Fokin, A. F., Ivanov, V. K., Semenov, A. S.

Institution: None

Title: Experimental Work on Dipole Profile Tracing

Original Periodical: Geofizicheskiye metody razvedki, Moscow, Gosgeoltekhizdat, 1955, 3-18

Abstract: Experimental work was performed in a water tank measuring 2 x 2 x 1.5 m. The observations were made on the following models: (1) conducting sphere (aluminum sphere with a radius of 3 cm); (2) conducting plate (duraluminum plate measuring 20 x 20 x 0.4 cm); (3) 2 conducting plates of the same material and size; (4) 2 non-conducting plates (glass plates of the same size); (5) 2 plates, one conducting the other not; (6) step-like contact of 2 medium (dihedral right angle made of plywood); (7) conducting plate in the presence of a step-like contact (vein of ore near a fault).

Card 1/3

USSR/Physics of the Earth - Geophysical Prospecting, 0-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36468

Abstract: profile tracing of the same object. The results obtained make it possible to recommend extensive testing of the dipole profile tracing under field conditions. One must bear in mind in this case that in addition to ore objects, there will be disclosed also sharp anomalies and irregularities of the containing rocks, which can also be used for detailed mapping. What makes the method of dipole profile tracing difficult to employ is the need for good grounding devices, particularly in the supply circuit, for otherwise the difference of potentials that is to be measured will be too small. Dipole profile tracing offers promising prospects because of the possibility of employing alternating current in this case.

Card 3/3

Semenov, A.S.

USSR/Physics of the Earth - Geophysical Prospecting, O-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36465

Author: Semenov, A. S., Novozhilova, M. Ye.

Institution: None

Title: Effect of Concentration and Temperature of Solution on the Polarization of Copper Nonpolarizing Electrodes

Original Periodical: Collection: Geofizicheskiye metody razvedki, Moscow, Gosgeoltekhizdat, 1955, 46-53

Abstract: The diffusion of ions of copper sulfate in the soil, changes in the temperature or in the evaporation, and also the addition of solution to the electrodes, all may produce various concentrations of the solution in the electrodes of a given pair. This difference in concentration will produce between the electrodes an additional difference of potential ΔU_c, consisting of a difference of electrode potentials ΔU_{ep} and a difference of potential caused by diffusion of the ions between electrodes, ΔU_d. By expressing ΔU_{ep} and ΔU_d

Card 1/4

USSR/Physics of the Earth - Geophysical Prospecting, 0-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36465

Abstract: with unsaturated solutions are no less reliable than those with saturated solutions, one can recommend their extensive use. The principal factor causing a change in the polarization of electrodes upon change in the difference of T of the electrodes themselves is the change in the quantity ΔU_{ep}, which equals the difference

$U_{ep_2} - U_{ep_1} = E_0'' - E_0' + \frac{RT_2}{nF}\ln\gamma_2 m_2 - \frac{RT_1}{nF}\ln\gamma_1 m_1$, where E' and E" are the standard electrode potentials of the 2 electrodes. Taking $T_0 = 298^\circ$, $E_0' = +340$ mv, and putting $\gamma_1 m_1 = \gamma_2 m_2 = \gamma_0 m_0$, we find that the increment of the difference of potential for one degree is

$$\eta = \frac{\Delta U_{ep}}{\Delta T} = \frac{1}{T_0}\left[E_0 + \frac{RT_0}{nF}\ln\gamma_0 m_0\right]. \quad (2)$$

Calculations show that when m_0 changes from 1.43 to 0.002 and when γ_0 changes from 0.039 to 0.62, η changes from 1.02 to 0.8 mv/deg. Equation (2) is approximate, since the values of γ and U for various values of T are not known accurately. The experimental value of η is 20-30° smaller than the theoretical one, which may be explained by the influence of the supplementary factors, not

Card 3/4

stantially the polarization of the electrodes, one must take measures to insure a minimum difference of electrode tempera-

USSR/Physics of the Earth - Geophysical Prospecting, 0-5

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 36423

Abstract: water; (4) investigation of areas filled with Karst holes; (5) study of glacier remnants; (6) determination of the depth of the clay bed in landslide regions. Seismic prospecting is now used to a limited extent only, owing to the absence of the fully developed procedures for work at low depth. The accuracy of determining the relief of native rocks from data of gravimetric prospecting is low, and therefore gravimetric prospecting also is rarely used in the study of quaternary deposits. With the aid of magnetic prospecting one can trace the magnetite content of deposits when searching for placer ore deposits. Metallometry is used for the study of contact zones of metals in deposits formed when ore containing rocks become eroded, so as to search for rare and nonferrous metals. Gas mapping is used in the prospecting for gas, petroleum, and carbon deposits.

Card 2/2

SEMENOV, A.S.; NOVOZHILOVA, M.Ye.; VESHEV, A.V.

"Varying natural electric field" in the earth. Vop.rud.geofiz. no.1:83-113 '57. (MIRA 10:10)
(Terrestrial electricity)

SEMENOV, A.S.

Department of Geophysical Prospecting Methods during the last 10 years [with summary in English]. Vest. LGU 12 no.24:25-33 '57.
(Prospecting--Geophysical methods) (MIRA 11:5)

SEMENOV, A. S., FOKIN, A. F., VESHEV, A. V., NOVOZHILOVA, M. Ye.

"The Field of a Point Current Source in Case of an Anisotropic Medium for an Open Flat Surface"

(New Developments in the Methods and Techniques of Geological Exploration) Leningrad, Gostoptekhizdat, 1958. 423 p. (Series: Its: Sbornik trudov I)

SOV/169-59-7-6722

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 7, p 30 (USSR)

AUTHORS: Semenov, A.S., Fokin, A.F., Veshev, A.V., Novozhilova, M.Ye.

TITLE: The Field of a Point Source of Current on a Plane Day Surface in the Case of an Anisotropic Medium

PERIODICAL: Tr. Vses. n.-i. in-ta metodiki i tekhn. razvedki, 1958, Nr 1, pp 210 - 135

ABSTRACT: The results of computing the field of a point source of current placed in a homogeneous anisotropic medium are reported, taking into account the anisotropy coefficient equal to 2. The medium is considered to be homogeneous for simplifying the computations. The formulae for computing the potential and the potential gradient and also for determining the coordinates of the extremal values of the curves of potential and its gradient are cited. The computations are performed for the following cases: an isotropic medium, a medium having horizontal cleavage, that with vertical cleavage, and a medium having cleavage with dip angles of the layers of 30 and 60°. The first part concerns: the

Card 1/2

SOV/169-59-7-6722

The Field of a Point Source of Current on a Plane Day Surface in the Case of an Anisotropic Medium

analysis of the varying form of the curves of potential and its gradient, depending on the dip angle, the anisotropy coefficient, and on the depth of submergence of the current source for profiles oriented in the direction of the strike and dip of the layers. The second part concerns the case of an arbitrary orientation of the investigated profiles relatively to the strike of the cleavage. For the latter case, the formulae for computing the dependence of the potential and its gradient on the medium parameters and on the angle between the direction of the investigated profile and the strike of the layers are quoted. The author assumes that the study of the field of the point-shaped current source in anisotropic media permits the singling out of the field distortions caused by the anisotropy of the rocks from the distortions caused by other factors, and that this fact guarantees a more reliable interpretation of electroprospecting carried out by the method of the charged body.

V.P. Dobrobol'skiy

Card 2/2

SEMENOV, A.S.; VESHEV, A.V.; FOKIN, A.F.

Field of a point source in an anisotropic semicpace. Uch. zap. LGU no.249:90-113 '58. (MIRA 11:5)
(Prospecting--Geophysical methods) (Electric fields)

SEMENOV, A.S.

Ore geophysics in the U.S.S.R. Uch. zap. LGU no.278:3-55 '59.
(MIRA 13:2)
(Prospecting--Geophysical methods)

S/262/62/000/005/003/013
I007/I207

Authors Semenov, A. S.
Gogotsi, G. A.

Title. METHODS FOR COMPUTATION OF DISKS OF ARBITRARY PROFILE, TAKING INTO ACCOUNT THE THERMAL STRESSES

Periodical: *Referativnyy zhurnal, otdel'nyy vypusk.* 42. *Silovye ustanovki*, no. 5, 1962, 24, abstract 42.5.122 (*Izv. Kievsk. politekhn. in-ta*, no. 30, 1960, 101–113)

Text: The computation method suggested is illustrated by a calculation example for a cone-shaped disk, provided with a hub. There are 2 figures, 1 computation table and 7 references.

[Abstractor's note: Complete translation.]

Card 1/1

SEMENOV, A.S.

Dipole equatorial profiling. Uch. zap. LGU no.286:35-44 '60.
(MIRA 14:3)
(Electric prospecting)

FAYNBERG, F.S.; SEMENOV, A.S.

Changes in the mineral composition and magnetic susceptibility of iron-bearing rocks and ores due to the effect of temperature. Uch. zap. LGU no.286:99-106 '60. (MIRA 14:3)
(Thermomagnetism)
(Rocks, Magnetic properties)

VASIL'YEV, A.V.; SEMENOV, A.S.

Magnetic susceptibility of soils. Uch. zap. LGU no.286:110-113 '60. (MIRA 14:3)
(Transbaikalia--Soils--Magnetic properties)

SEMENOV, A.S.; TURCHANINOV, L.V.; BARKHATOV, D.R.

Mean gradient method in large-scale geological mapping. Vop.rud. geof. no.2:15-35 '61. (MIRA 15:4)
(Geology--Maps)

S/169/62/000/005/034/093
D228/D307

AUTHORS: Semenov, A. S., Turchaninov, L. V. and Barkhatov, D. R.

TITLE: The average gradient method on large-scale geologic mapping

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 5, 1962, 34, abstract 5A265 (V sb. Vopr. rudn. geofiz., no. 2, M., Gosgeoltekhizdat, 1961, 15-35)

TEXT: The procedure and the technique of electric prospecting work in accordance with the average gradient scheme are stated. The method fixes the change in the resistance of rocks, chiefly in a horizontal direction; this favors its use for detailed geologic mapping. In order to allow for the influence of the electroresistance's vertical change, it is suggested that the "normal" curves ρ_K and ΔU of the average gradient method should be taken into account. A means of calculating these curves from theoretical or experimental data of B93 (VEZ) [Abstracter's note: Vertical electric sound-

Card 1/2

S/169/62/000/005/034/093
D228/D307

The average gradient ...

ing? 7 is stated. Normal curves, calculated for a two-layer medium, are cited. An approximate formula is given for calculating the system's coefficients. A table and graphs of the coefficients, computed from this formula when AB = 2 km, MN = 20 m, and the interprofile distance is 50 m, are given for one-quarter of the plotter. The apparatus, used in conducting observations by the average gradient method with a low-frequency alternating current, is briefly described. It is pointed out that the average gradient method possesses a high sensitivity to horizontal heterogeneities. It is recommended that the technique should be employed for geologic mapping during large-scale surveys, in conjunction with the methods of VEZ and profiling. [Abstracter's note: Complete translation.]

Card 2/2

S/035/61/000/012/025/043
A001/A101

AUTHOR: Semenov, A.S

TITLE: Observations of Mars in 1958-1959

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 12, 1961, 71, abstract 12A576 ("Byul. Vses. astron.-geod. o-va", 1961, no. 29, 44 - 46)

TEXT: Observations were conducted by a group of people with the 5" refractor of the Moscow planetarium from November 1958 to April 1959. 94 drawings were made which were used for compiling the map of Mars. Visibility conditions of the polar cap are described. Brightnesses of individual parts were estimated on a 10-mark scale; they were reduced to a unified system by the graphical method. Changes in intensity of some formations are presented in a graph.

I. L.

[Abstracter's note: Complete translation]

Card 1/1

ANDREYEV, Boris Aleksandrovich; KLUSHIN, Igor' Gennad'yevich; SEMENOV, A.S., retsenzent; MIRONOV, V.S., retsenzent; DEMENITSKAYA, R.M., doktor geol.-miner. nauk, retsenzent; MIKHAYLOV, N.N., nauchnyy red.; TOKAREVA, T.N., ved. red.; SAFRONOVA, I.M., tekhn. red.

[Geological interpretation of gravity anomalies] Geologicheskoe istolkovanie gravitatsionnykh anomalii. Leningrad, Gostoptekhizdat, 1962. 495 p. (MIRA 16:3)
(Gravity anomalies)

SEMENOV, A.S.; PETROVSKIY, A.D.; SVIYAZHENINOV, F.I.; MAKAROV, A.N.; VEKSLER, V.I.; KHARLAMOV, I.P.

Electric prospecting operations in studying deep-seated sulfide veins. Uch.zap.LGU no.303:203-221 '62. (MIRA 15:11)
(Sulfides) (Electric prospecting)

KOGAN, L.A.; BOGOYAVLENSKIY, V.V.; MAKAROV, G.N.; SEMENOV, A.S.; KUZNETSOV, P.V.; MUSTAFIN, F.A.

Obtaining pitch coal coke for electrode manufacture. Koks i khim. no.3: 22-25 '63. (MIRA 16:3)

1. Vostochnyy uglekhimicheskiy institut (for Kogan, Bogoyavlenskiy), 2. Moskovskiy Ordena Lenina khimiko-tekhnologicheskiy institut im. D.I.Mendeleyeva (for Makarov, Semenov). 3. Nizhne-Tagil'skiy metallurgicheskiy kombinat (for Kuznetsov, Mustafin).
(Coke)

MAKAROV, G.N.; KAZINIK, Ye.M.; POPCHENKO, R.A.; SEMENOV, A.S.; YERKIN, L.I.; RYVKIN, I.Yu.; PRIVALOV, V.Ye.; MUSTAFIN, F.A.; KUZNETSOV, P.V.; ZOROKHOVICH, G.Ya.

Coking of the coal charge in an oven with a rotating ring floor. Koks i khim. no.11:34-41 '62. (MIRA 15:12)

1. Moskovskiy khimiko-tekhnologicheskiy institut im. D.I. Mendeleyeva (for Makarov, Kazinik, Popchenko, Semenov). 2. Vostochnyy uglekhimicheskiy institut (for Yerkin, Ryvkin, Privalov). 3. Nizhne-Tagil'skiy metallurgicheskiy kombinat (Mustafin, Kuznetsov, Zorokhovich).
(Coke)

SEMENOV, A.S.

Studies conducted by F.IU. Loewinson-Lessing in the field of magnetic properties of rocks. Vop. magm. i metam. 1:144-154 '63. (MIRA 16:8)

(Loewinson-Lessing, Frants Iul'evich, 1861-1939)
(Rocks—Magnetic properties)

SEMENOV, A.S.; NOVOZHILOVA, M.Ye.

Vertical electric dipole field in an anisotropic medium. Vop. razved. geofiz. no.3:51-96 '64. (MIRA 18:2)

SEMENOV, A.S.

Measurement of the specific electric resistance of liquid, disperse, and solid media with two- and four-electrode apperatus. Vop. razved. geofiz. no.3:97-109 '64.
(MIRA 18:2)

KRAYNIY, A.I., inzh.; SEMENOV, A.S., inzh.; KALABINA, T.I., inzh.

Using plywood piling in hydraulic engineering. Transp. stroi. 14 no.9:51 S '64 (MIRA 18:1)

GRINBAUM, Iosif Isaakovich; SIMANOV, A.S., red.

[Geophysical methods of determining the filtration properties of rocks] Geofizicheskie metody opredeleniia fil'tratsionnykh svoistv gornykh porod. Moskva, Nedra, 1965. 186 p. (MIRA 18:9)

L 44603-66 EWT(1)/EWT(m)/EEC(k)-2/T/EWP(t)/ETI/EWP(k) IJP(c) WG/JD/JG

ACC NR: AP6030983 SOURCE CODE: UR/0181/66/008/009/2816/2818

77

B

AUTHOR: Basov, N. G.; Drozhbin, Yu. A.; Zakharov, Yu. P.; Nikitin, V. V.; Semenov, A. S.; Stepanov, B. M.; Tolmachev, A. M.; Yakovlev, V. A.

ORG: Physics Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: The effect of injection current on the temporal characteristics of a GaAs laser

27 27

SOURCE: Fizika tverdogo tela, v. 8, no. 9, 1966, 2816-2818

TOPIC TAGS: solid state laser, semiconductor laser, gallium arsenide, laser, injection laser, ELECTRIC CURRENT, INJECTION CURRENT

ABSTRACT: In an investigation of the temporal characteristics of a GaAs laser the radiative delay time (τ_g) was determined as a function of the injection current. Ordinary diodes, prepared by means of the diffusion process, were placed in a dewar at the liquid N temperature. The laser was excited by a current oscillator with pulse amplitudes from 4 to 40 amp and a duration of 40 nanosec. Several diodes were investigated at threshold currents from 1.8 to 4 amp. The dependence of τ_g on injection current indicates that the value of τ_g approaches 1.8×10^{-9} sec. This corresponds approximately to the spontaneous radiative lifetimes for electrons and holes calculated theoretically elsewhere (W. P. Dumke, Phys. Rev., 132, 1998, 1963). With a 16-fold

Card 1/2

L 44603-66
ACC NR: AP6030983

increase of I_{thr}, τ_g increases to 0.9 nanosec; this is explained by the time increase necessary to achieve population inversion. To eliminate delay due to spontaneous emission and to achieve stimulated emission, the diode was pulsed by currents from an auxilliary oscillator with amplitudes of 1.5 I_{thr} and durations of approximately 200 nanosec. Some 50 nanosec after the onset of the auxilliary pulse, the diode was pulsed by a positive current from the master oscillator. The delay time between the onset of the injection current from the master oscillator and the radiation induced by it was measured, and at 17 I_{thr} was reduced to 6×10^{-11} sec. A further decrease in τ_g calls for considerably increased injection currents. The experimental data indicate that GaAs lasers can be used as radiation modulators in the centimeter band and as high-speed (10^{-10}—10^{11} sec) optical switches. Orig. art. has: 1 figure. [YK]

SUB CODE: 20/ SUBM DATE: 13Apr66/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: 5078

Card 2/2

(N) SOURCE CODE: UR/0000/65/000/000/0214/0229

[redacted], A. S.; Veshev, A. V.

[redacted]

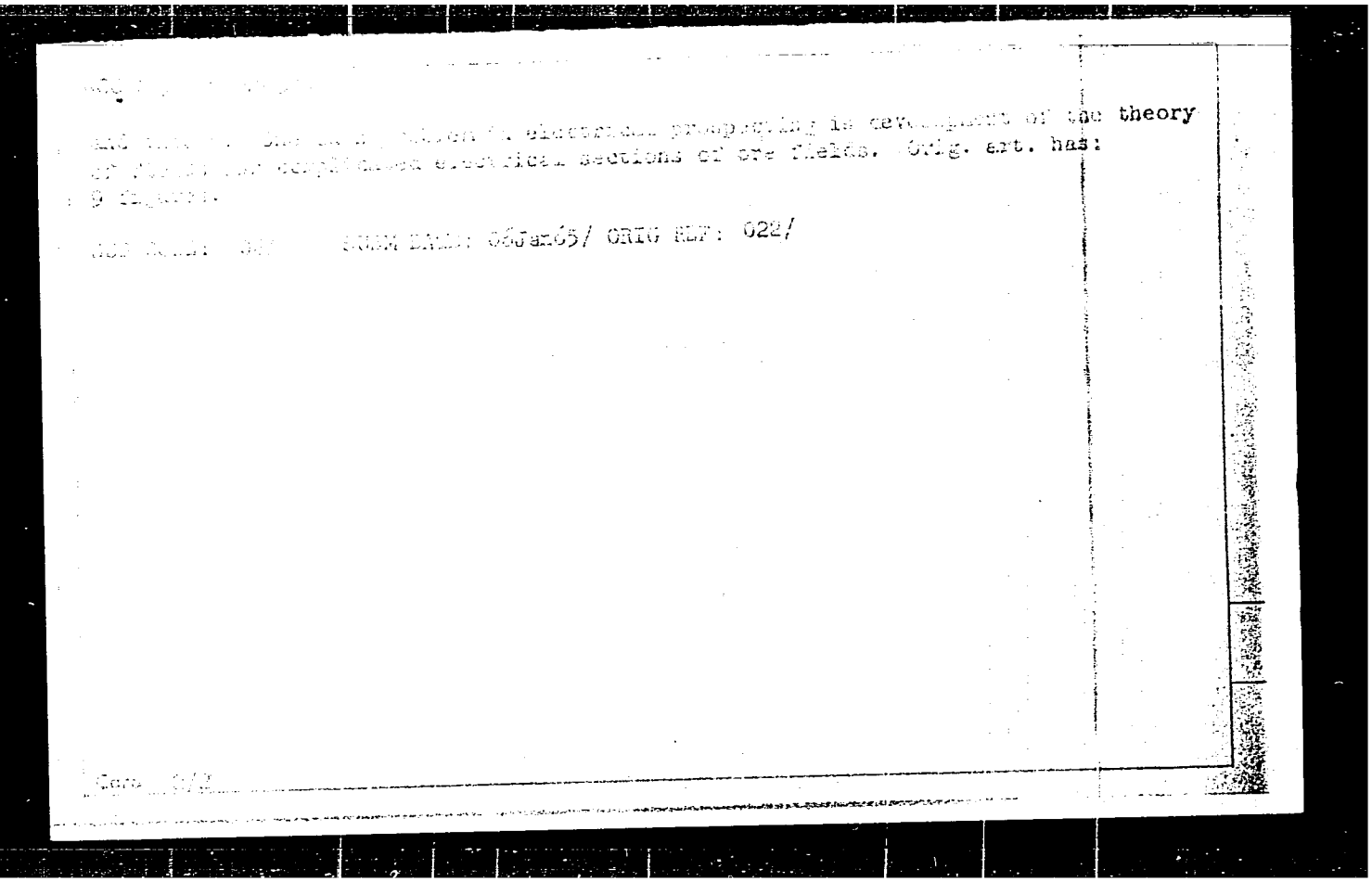
[redacted] electrical prospecting in geological mapping of ore fields

Source: International Geological Congress. 22d, New Delhi, 1964, Geologicheskiye rezul'taty primeneniya geofiziki (Geological results of applied geophysics); doklady sovetskikh geologov, problem 2. Moscow, Izd-vo Nedra, 1965, 214-229

TOPIC TAGS: mineral prospecting, dipole, mapping, geologic map, ore deposit, electrical equipment

ABSTRACT: The present paper reviews the application of theoretical calculations of the [redacted] electrical components of a low-frequency electric field for a finite [redacted] suitable for mapping purposes. The calculations have been used in [redacted] prospecting and ingerial land surveys made with low-frequency instruments. The [redacted] power supply can be of different types, for example, magnetic [redacted]. If the survey is made under conditions when grounding is difficult, [redacted] method may be used with the equipment for mapping. The results of [redacted] and mapping work are used for compilation of various-scale [redacted] maps. Geological mapping requires solution by geophysicists of [redacted] important problems connected with instrumentation, methodology,

Card [redacted]



theory

ENCL: 00 SUBM DATE: 06Jan65/ ORIG REF: 022/

ACC NR: AP7000135 SOURCE CODE: UR/0115/66/000/011/0092/0093

AUTHOR: Drozhbin, Yu. A.; Nikitin, V. V.; Semenov, A. S.; Stepanov, B. M.; Tolmachev, A. M.; Yakovlev, V. A.

ORG: none

TITLE: A method of measuring the inertia of semiconductor lasers

SOURCE: Izmeritel'naya tekhnika, no. 11, 1966, 92-93

TOPIC TAGS: laser emission, semiconductor laser, minority carrier

ABSTRACT: A new method is proposed for measuring the delay time (inertia) between the laser diode emission and the injection current, which makes it possible to determine the upper frequency limit of the laser and the lifetime of the minority carriers. The time delay is determined by fixing the time of the leading edge of the injection pulse and the instant of appearance of laser emission. These times are displayed on a cathode ray screen as marks on a time base. The equipment consists of two current pulse oscillators, trigger generator, a blocking pulse circuit, a sweep generator, an optical system, a calibrated cable, and an electron optical transducer. The injection pulse signal is carried by the calibrated cable to a pair of deflection plates in the transducer. The laser emission is focussed on the photostage of the transducer, producing a beam of electrons, which are accelerated through the transducer tube. This beam is de-

 UDC: 621.375.4

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001547810017-7"

ACC NR: AP7000135

flected by the sweep generator so as to form the timed base line. The distance from the beginning of this line and the injection pulse is the delay time or inertia. The error of measurement is calculated to be $5 \cdot 10^{-11}$ sec. This error can be decreased to 10^{-11} sec by taking better account of the travel time of the electrons in the beam and improving the resolution time of the transducer. A delay time of $6 \cdot 10^{-11}$ sec was measured for a GaAs laser. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 07May66/ ORIG REF: 003/ OTH REF: 003

Card 2/2

SEMENOV, A.S.

Fortieth anniversary of electric prospecting in the U.S.S.R. Valuable work of a doctoral candidate. Vest. LGU 19 no.18:131 '64. (MIRA 17:11)

SEMENOV, A.V., tekhnik.

Device for removing the insulation from the ends of wires. Energetik 4 no.6:28-30 Je '56. (MLRA 9:8)
(Electric wire, Insulated)

SEMENOV, A.V.

Using double-headed fishplates on the track. Zhel.dor.transp. 37 no.10:78 O '55. (MLRA 9:1)

1.Nachal'nik distantsii puti, stantsiya L'gov II.
(Railroads--Track)

SEMENOV, A. V. (Aleksandr Vasil'yevich)

Fototelegrafnyy Apparat FTOZ-52 (Facsimile Device FTOZ-52), by A. V. Semenov and V. S. Vinogradov, All-Union Scientific Research Institute of Railroad Transport, Moscow, Transzheldorizdat; 1956, 44 pp

This booklet gives a concise description of the FTOZ-52 facsimile transmitter, developed at the Telegraph Laboratory of the Central Scientific Research Institute.

The maximum obtainable size of the transmitted image is 288 X 203 mm and the maximum resolution is 0.2 mm. The breakdown of the image into its components is accomplished with the aid of a scanning mechanism and light-electro-optical system. Reproduction of the image is accomplished by an open electrothermal method on a special paper with the aid of mechanical scanning and recording needle.

The FTOZ-52 is a receiving-transmitting device with drum-type scanning. The speed of drum rotation is 90 rpm, and the feed speed is 0.265 mm for each rotation of the drum. Under these conditions the full-size facsimile is transmitted in 12 min. The device is designed to operate on two-wire circuit, high-frequency telephone channels or on radio channels. The effectively transmitted frequency band, for the carrier frequency of 1,800 c, is 1,000-2,600 c.

SUM-1391

SEMENOV, A.V.

Synchronous rotation of the drums of the transmitting and receiving sets is controlled by an oscillator of high stability. Such a stability is maintained with a tuning-fork regulator at 1,800 c. The power is supplied to the facsimile transmitter from a single-phase 110-220 v ac line, and consumes about 320 va.

The main components of the device are scanning mechanism, light-electro-optical system, recording device, drive system with starting and sync motors, transmitting amplifier with photocell modulator and receiving amplifier with receiver of phasing pulses, variable voltage oscillator for 1,800 c, tuning-fork stabilizer, amplifier of synchronous motor power supply, electronic voltage stabilizer, and a rectifier.

The device is of a desk type and is built with sectionalized units. The tubes used in the device are 6Zh8, 6N8, 6P6, SG-4S, 6P3, 6A7, SG-2s, and 5Ts3. The over-all dimensions are 858X384X258 mm and the weight is 50 kg. (U)

SUM. 1391

SEMENOV, A.V. (st. L'gov II)

When will the delivery of incomplete switches be stopped? Put' i put. khoz. no.1:44 Ja '57. (MIRA 10:4)
(Railroads--Switches)

SEMENOV, A.V., inzhener; UMANSKIY, A.A., inzhener.

Television in railroad operations. Avtom., telem. i sviaz' no.3: 8-11 Mr '57. (MLRA 10:4)
(Railroads--Communication systems) (Industrial television)

SEMENOV, A.V.

SEMENOV, A.V., inzhener; NEFEDOV, V.M., inzhener.

Phototelegraph in railroad transport. Avtom.,telem.i sviaz' no.6:3-5 Je '57. (MLRA 10:7)
(Phototelegraphy)

VALGE, I.A., inzh.; SEMENOV, A.V., inzh.

Forming the shell of vessels for the chemical industry by the coiling method. Svar.proizv. no.2:7-9 F '64. (MIRA 18:1)

1. Chelyabinskiy zavod metallokonstruktsiy.

VALGE, I.A., inzh.; SEMENOV, A.V.

Semiautomatic welding in carbon dioxide at the Chelyabinsk Plant for metal structures. Svar. proizv. no.5:30-31 My '64. (MIRA 18:11)

SEMENOV, A.V., inzh.

Making the bodies of air preheaters by the coiling method.
Svar. proizv. no.7:9-10 Jl '65. (MIRA 18:8)

1. Chelyabinskiy zavod metallokonstruktsiy imeni Ordzhonikidze.

L 21146-66 EWT(1)/EWA(h) GG

ACC NR: AT6008789 SOURCE CODE: UR/2657/65/000/014/0185/0195

27

B+1

AUTHOR: Semenov, A. V.

ORG: none

25

TITLE: Meter band switches with cascaded diodes

SOURCE: Poluprovodnikovyye pribory i ikh primeneniye; sbornik statey, no. 14, 1965, 185-195

TOPIC TAGS: circuit theory, switch, signal

ABSTRACT: The paper deals with a theoretical design analysis of meter band switches having cascaded semiconductor diodes. A comparison of various types of switches is made with respect to the maximum attenuation and insertion losses. Results of experimental examination of the basic, theoretically derived relationships are given. The results show that, with regard to the maximum attenuation, the waves design is equivalent to switches with antiresonance diode connection. Furthermore, with respect to the insertion losses, the switches in question are equivalent to the types with parallel, antiresonance, and series connections. Finally, it was established that the maximum attenuation and insertion losses in the cascaded diode switches depend to a lesser degree on the characteristic impedance than the maximum attenuation and insertion losses manifested in other types of switches. Orig. art. has: 3 figures, and 18 formulas. [JKP]

SUB CODE: 09/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 003

UDC: 621.382.029

Card 1/1 ULR

L 3658-66 EWT(d)/EWI(m)/EWP(w)/EPF(c)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(h)/EWP(z)
ACCESSION NR: AT5022686 EWP(b)/EWP(1) UR/0000/65/000/000/0327/0328
MJW/JD/DJ/GS

AUTHOR: Semenov, A. V.

TITLE: Use of ultracentrifuge for investigating the friction in sliding at superhigh velocity

SOURCE: AN SSSR. Nauchnyy sovet po treniyu i smazkam. Teoriya treniya i iznosa (Theory of friction and wear). Moscow, Izd-vo Nauka, 1965, 327-328

TOPIC TAGS: friction, sliding friction, friction determination

ABSTRACT: The UTs-II-A ultracentrifuge, built in Czechoslovakia, is used at the laboratory of friction and friction materials of the State Scientific Research Institute of the Science of Machines for investigating sliding friction at ultra-high velocity. The centrifuge is equipped with rotors 6—20 mm in diameter and weighing 1—40 g, suspended in a magnetic-field vacuum of 10^{-5} mm Hg, which makes it possible to reach a rotation speed of 1000 m/sec. The ultracentrifuge is usually used for the determination of the adhesion strength of various films and coatings. For friction research, a special friction subassembly has been designed. Experiments showed that the friction coefficient substantially drops with an increase in sliding speed. At the moment of contact of a copper specimen with

Card 1/2

L 3658-66
ACCESSION/NR: AT5022686

the ball surface.

ABARINOV, A.E., prof.; SEMENOV, A.V., inzh.; CHERNOVA, M.I., inzh.

Processing elements of sheet steel spherical structures. Prom. stroi. (MIRA 17:2)
2 no.10:24-26 O '64.

SEMENOV, A.V., inzh.

Manufacturing welded tanks for agricultural use. Svar.proizv. no.10:
34-35 O '64. (MIRA 18:1)

1. Chelyabinskiy zavod metallokonstruktsiy im. Ordzhonikidze.

NOVIKOV, I.I.; KOROL'KOV, G.A.; SEMENOV, A.Ye.

Using vibration during solidification for the prevention of hot shrinkage cracks. Lit. proizv. no.1:7-8 Ja '58. (MIRA 11:2)
(Solidification) (Foundry machinery and supplies)

SOV/163-58-1-19/53

AUTHORS: Novikov, I. I., Nemenov, A. Ye., Indenbaum, G. V.

TITLE: On the Temperature Dependence of the Plasticity of Alloys in Solid-Liquid State (O temperaturnoy zavisimosti plastichnosti splavov v tverdo-zhidkom sostoyanii)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 1, pp 99-103 (USSR)

ABSTRACT: The plasticity constants in the crystallization intervals of alloys were investigated. Solid aluminum alloys of the system Al - Mg - Zn - Cu were used as initial material for the samples. The temperature dependence of the breaking point and the relative expansion of the alloys above and below the solidus line for the alloy B 95 were investigated. This investigation showed that the breaking point drops rapidly to the solidus line and slowly decreases according to the rise of temperature in the crystal interval.
Furtnermore the temperature dependence of the relative expansion was investigated. Alloys below the solidus temperature have higher plasticity. The transition through the solidus from the solid to the liquid state is accompanied by a jump-

Card 1/2

On the Temperature Dependence of the Plasticity of Alloys in Solid-Liquid State

like drop of the relative expansion, which, however, does not reach the value 0, as mentioned in references, but only a value of 0,1 to 0,5.
The solidus line forms the boundary of the lower plasticity. The aluminum alloys in solid-liquid state have a temperature interval of low plasticity near the solidus line. The extent of this interval as well as the absolute values for the relative expansion beyond the solidus line depend on the chemical composition of the alloys.
The impurities of iron and silicon influence the plasticity of the aluminum alloys in solid-liquid state to a great extent.
There are 1 figure and 10 references, 8 of which are Soviet.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota (Moscow Institute of Non-Ferrous Metals and Gold)

SUBMITTED: October 1 1957

Card 2

SOV/137-58-10-20780

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 62 (USSR)

AUTHORS: Novikov, I.I., Semenov, A.Ye., Indenbaum, G.V.

TITLE: The Hot-shortness Zone in Billets Cast Semi-continuously (O zone goryachelomkosti v slitkakh polunepreryvnogo lit'ya)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Tsvetn. metallurgiya, 1958, Nr 1, pp 130-137

ABSTRACT: Measurement is made of the mechanical properties of Al alloy V-95 with various amounts of contaminants at temperatures near the solidus by a method making it possible to conduct testing to failure with determination of elongation per unit length in the effective interval of crystallization (a description of the apparatus is provided). It is found that the tendency of an alloy to hot cracks in semi-continuous cast billets is primarily dependent upon its plasticity in the effective interval of crystallization and is not governed by its strength in that interval. In the transition region of the billet it is possible to distinguish a zone of hot shortness. A broadening of that zone carries with it a danger of hot-crack formation. The size of that zone depends upon casting speed, the height of the

Card 1/2

SOV/137-58-10-20780

The Hot-shortness Zone in Billets Cast Semi-continuously

crystallizer mold, and the chemical composition of the alloy. A diminution in Si contents and increase in Fe contents narrows the zone of hot shortness and increases the resistance of V-95 alloy to hot-crack formation.

B.L.

1. Aluminum alloys--Production 2. Aluminum alloys--Thermodynamic properties
3. Aluminum alloys--Fracture

Card 2/2

36787
S/137/62/000/004/033/201
A006/A101

AP 1210(2408)

AUTHORS: Podsechinov, A. V., Semenov, A. Ye.

TITLE: The effect of the dimensions of the transitional zone in large-size ingots on the mechanical and casting properties of deformed aluminum alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 35, abstract 4D220 (V sb. "Deformiruyemyye alyumin. splavy". Moscow, Oborongiz, 1961, 181 - 188)

TEXT: The quality of large-size ingots depends considerably on the dimensions of the transitional zone. A decrease of these dimensions at a lesser casting rate, promotes an improvement of mechanical properties and a reduction of segregation in large size ingots. The poor quality of the ingots is caused by microporosity due to insufficient feed of the crystallizing metal in the lower section of the crystallization range. Cracks in large size ingots of alloys Д 16 (D16), АК 4 (AK4), ВД 17 (VD17), АК 4-1 (AK4-1) are of the cold type and are determined by the ductility of the cast metal at low temperatures. When

Card 1/2

The effect of the...

casting large-size ingots with elimination of water, it is necessary to reduce the lower limit of the casting speed on account of cold crack formation, and the upper limit for the purpose of improving the quality of ingots.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 2/2

KHABAROVA, O.Ye.; ZASYPKIN, V.A.; SEMENOV, A.Ye.; PODSECHINOV, A.V. [deceased]

Characteristics of smelting and casting of the VAD23 alloy. Alium. splavy no.3:201-208 '64. (MIRA 17:6)

L 46989-66 EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AT6024908 (A,N) SOURCE CODE: UR/2981/66/000/004/0015/0020

AUTHOR: Grushko, O. Ye.; Novikov, I. I.; Semenov, A. Ye.

ORG: none

TITLE: Hot cracking of alloys of the Al-Cu-Li-Mn system

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 15-20

TOPIC TAGS: hot cracking, aluminum alloy, copper containing alloy, lithium containing alloy, manganese containing alloy, cadmium containing alloy, CRACK PROPAGATION

ABSTRACT: The effect of composition on the hot cracking, elongation, and linear shrinkage of alloys (in the solid-liquid state) of the systems Al-Li, Al-Cu-Li, and Al-Cu-Li-Mn, and also of VAD23 industrial alloy was studied. In the Al-Li system, the maximum hot cracking is displayed by the alloy containing 0.1% Li; on the whole, the dependence of hot cracking on composition is qualitatively the same as in other eutectic-type binary systems. In the ternary Al-Cu-Li alloys, hot cracking decreases with rising lithium content; the higher the copper content, the stronger the influence of the lithium admixture. In alloys of the quaternary system Al-Cu-Li-Mn, lithium decreases the hot cracking, but manganese increases it considerably by affecting the plasticity in the solid-liquid state. In VAD23 alloy, similar changes in the content of

Card 1/2

L 16982-66 0

ACC NR: AT6024908

alloying elements (Li, Cu, Mn) have the same qualitative effect as in the other systems; an increase in the content of Mn and also Cd increases the hot cracking. It is concluded that in order to decrease spoilage due to crystallization cracks, it is necessary to try to keep the copper and lithium content close to the upper limit of the technical specifications, and the content of manganese and cadmium, close to the lower limit. Orig. art. has: 5 figures.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 006

Card 2/2

L 46988-66 EWT(m)/EWP(t)/ETI IJP(c) JD/JT

ACC NR: AT6024909 (A,N) SOURCE CODE: UR/2981/66/000/004/0021/0025

AUTHOR: Zal'tsman, I. Ya.; Grushko, O. Ye.; Semenov, A. Ye.; Zasypkin, V. A.; Vinokurov, N. D.; Kryukov, M. A.; Yevstyugin, A. P.; Bozhenok, I. V.

38
B+1

ORG: none

TITLE: Some aspects of the preparation of VAD23 alloy

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 21-25

TOPIC TAGS: aluminum alloy, copper containing alloy, lithium containing alloy, manganese containing alloy, cadmium containing alloy / VAD23 alloy

ABSTRACT: VAD23 alloy belongs to alloys of the Al-Cu-Li system with small admixtures of Mn and Cd. Because of the loss of lithium from the melt during the preparation of this alloy, the introduction of lithium (and cadmium) was carried out under a special flux consisting of a eutectic mixture of lithium and potassium chlorides. This flux was found to prevent the loss of lithium to a considerable extent; however, as the lithium content of the alloy increases, this protection becomes less effective. Particular attention must be paid to the quality of preparation of the flux and to the manner in which lithium is introduced into the melt (without disturbing the flux). The flux has the disadvantage of being hygroscopic because of the LiCl present in its composition, and therefore must be used only in the liquid or freshly-remelted state, the

Card 1/2

L 46988-66

ACC NR: AT6024909

liquid state being preferred. Refining of the alloy with gaseous chlorine after the addition of lithium insures the required purity of the ingots. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 2/2