82502

S/065/60/000/009/001/003
E194/E184

The Effects of Suppression of Functional Activity when the Components of Oil Additives are Mixed

engine type D-38. It will be seen that the difference in neutralising effectiveness of different oils initially containing equal quantities of barium is mainly due to the dialkyldithiophosphate components which remain in the oil throughout the engine tests. The results of engine tests given in Table 3 show that increased wear of piston rings associated with suppression of the neutralising effect of barium alkylphenolate by dialkyldithiophosphate components is accompanied by appreciable reduction in deposits, particularly on pistons. Apparently it is often necessary to use mixtures of additive components which give satisfactory wetting action with some impairment of neutralisation and so of anti-wear properties. However, it would be better to select the additive components in such a way that such interaction is absent. There are 5 figures, 3 tables and 7 references: 4 Soviet and 3 English.

ASSOCIATION: VNII NP

Card 5/5

S/115/60/000/010/005/028
B021/B058

5.1210

AUTHORS: Andres, U. Ts., Kadushin, A. A., and Shor, G. I.

TITLE: Measuring the Velocity of Fall of Bodies in a Liquid by a Radiometric Method 19

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 10, pp. 27-28

TEXT: In publications a great number of various schemes and devices is described for measuring the velocity of the movement of a ball in non-transparent liquids. All these methods become unreliable with an increasing ratio between the diameter of the tube and the diameter of the ball. In 1959, a device was designed at the Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza (All-Union Scientific Research Institute for the Processing of Oil and Gas) for measuring the velocity of the movement of bodies in a liquid and of the liquid itself respectively, by means of tagged atoms. The scheme of the measuring part of the device is shown in Fig. 1. The valve 6Н15П (6N15P), the cell of two diodes ДГЦ-12 ($Д_1$ and $Д_2$)(DGTs-12)(D_1 and D_2) and the relays $P_1(R_1)$ and $P_2(R_2)$ are used for it. In connection with the

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Measuring the Velocity of Fall of Bodies in a Liquid by a Radiometric Method

S/115/60/000/010/005/028
B021/B058

studies of the Institut goryuchikh iskopayemykh AN SSSR (Institute of Mineral Fuels of the AS USSR) in the field of the movement of bodies in highly viscous media, the device described was used for measuring the fall velocity of a ball in a finely disperse aqueous barite suspension (Fig. 2). The maximum velocity in the measurements reached 20 cm/sec, the minimum one 0.15 cm/sec. The device can be used for measuring the velocity of the movement of bodies in nontransparent media and also as a rheoviscosimeter. There are 2 figures and 5 Soviet references.

Card 2/2

P1277

15.6100 also 2209

S/069/60/022/005/008/011
B015/B064

AUTHORS: Zaslavskiy, Yu. S., Shor, G. I., and Morozova, I. A.

TITLE: Investigation of Electrokinetic Processes and Sedimentation in Disperse Systems by the Method of Radioactive Indicators

PERIODICAL: Kolloidnyy zhurnal, 1960, Vol. 22, No. 5, pp. 593-598

TEXT: A "radioindicator" method of studying electrokinetic processes related to the action of "dispersive" admixtures to motor oils is described here. Two beta counters are used simultaneously as counters and as electrodes (forming an electric field), as well as for recording the shift of the tagged disperse phase. Carbon black tagged with Tl^{204} was dispersed in motor oil of the type AC-5 (AS-5) and the admixtures ВНИИ НП-354 and -353 (VNII NP-354 and -353) (dialkyldithiophosphates), ПМС-19 (PMS-19) (calcium sulfonate with 17.0% ash content produced by V. N. Monastyrskiy and T. K. Aval'yani), PMS-19 + barium alkyl phenolate, ЦИАТИМ-339 (TsIATIM-339) (barium disulfide alkyl phenolate) were tested. The device used (Fig. 1) contains two beta counters of the type Т-25 БФЛ (T-25 BFL), arranged one above other, and connected to a radiometric

Card 1/3

Investigation of Electrokinetic Processes and Sedimentation in Disperse Systems by the Method of Radioactive Indicators

apparatus of the "Bambu" type (with electronic potentiometers of the types ЭПП-09 (EPP-09) and ПС-1 (PS-1), as well as ВСМ(VSM) rectifiers). The upper counter measures the sedimentation rate under the action of the electric field, i.e., the intensity of electrophoresis, while the lower one measures sedimentation with and without electric field. Calcium sulfonate was found to be adsorbed on the surface of the carbon black particles and to give them a positive charge. The deflocculating effect of PMS-19 sulfonate is apparently due to a molecular adsorption in which the negative charge of the sulfonate molecules is directed toward the colloid particles, and the positive charge toward the oil. Addition of PMS-19 sulfonate in any concentration caused the migration of carbon black to the cathode, while in the presence of TsIATIM-339 phenolate carbon black migrated to the cathode only. In the two thiophosphate admixtures, the carbon-black charge depends on the concentration of the admixture (Fig. 4). There are 4 figures and 6 references: 5 Soviet, 1 US, 2 French and 1 Dutch.

ASSOCIATION: Nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i poluchen'yu iskusstvennogo zhidkogo topliva, Moskva (Scientific Research Institute of Petroleum and Gas

88277

Investigation of Electrokinetic Processes and Sedimentation in Disperse Systems by the Method of Radioactive Indicators

S/069/60/022/005/008/011
B015/B064

Processing and the Production of Artificial Liquid Fuel, Moscow)

SUBMITTED: August 11, 1959

Card 3/3

SHOR, G.I.

137

PHASE I BOOK EXPLOITATION SOV/5486

Vsesoyuznoye soveshchaniye po vnedreniyu radioaktivnykh izotopov i yadernykh izlucheniy v narodnoye khozyaystvo SSSR. Riga, 1960.

Radioaktivnyye izotopy i yadernyye izlucheniya v narodnom khozyaystve SSSR; trudy soveshchaniya v 4 tomakh. t. 1: Obshchiye voprosy primeneniya izotopov, pribory s istochnikami radioaktivnykh izlucheniy, radiatsionnaya khimiya, khimicheskaya i neftepererabatyvayushchaya promyshlennost' (Radioactive Isotopes and Nuclear Radiations in the National Economy of the USSR; Transactions of the Symposium in 4 Volumes. v. 1: General Problems in the Utilization of Isotopes; Instruments With Sources of Radioactive Radiation; Radiation Chemistry; the Chemical and Petroleum-Refining Industry) Moscow, Gostoptekhizdat, 1961. 340 p. 4,140 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR, and Gosudarstvennyy komitet Soveta Ministrov SSSR po ispol'zovaniyu atomnoy energii.

Ed. (Title page): N.A. Petrov, L.I. Petrenko and P.S. Savitskiy; Eds. of this Vol.: L.I. Petrenko, P.S. Savitskiy, V.I. Sinitsin, Ya. M. Kolotyrkin, N.P. Syrkus and R.F. Romm; Executive Eds.: Ye. S. Levina and B. F. Titskaya; Tech. Ed.: E.A. Mukhina.

Card 1/12

Radioactive Isotopes (Cont.) SOV/5486

PURPOSE: The book is intended for technical personnel concerned with problems of application of radioactive isotopes and nuclear radiation in all branches of the Soviet economy.

COVERAGE: An All-Union Conference on problems in the introduction of radioactive isotopes and nuclear radiation into the national economy of the Soviet Union took place in Riga on 12-16 April 1960. The Conference was sponsored by: the Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR (State Scientific and Technical Committee of the Council of Ministers, USSR); Glavnoye upravleniye po ispol'zovaniyu atomnoy energii pri Sovete Ministrov SSSR (Main Administration for the Utilization of Atomic Energy of the Council of Ministers, USSR); Academy of Sciences, USSR; Gosplan USSR; Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu (State Committee of the Council of Ministers, USSR, for Automation and Machine Building) and the Council of Ministers of the Latvian SSR. The transactions of this Conference are published in four volumes. Volume I contains articles on the following subjects: the general problems of the Conference topics; the state and prospects of development of radiation chemistry; and results and prospects of applying radioactive isotopes and nuclear radiation in the petroleum refining and chemical industries. Problems of designing and manufacturing instruments which contain sources of radioactive radiation and are used for checking and automation of technological processes are examined, along with problems of accident prevention in their use. No personalities are mentioned. References accompany some of the articles.

Card 2/12

AVAILABLE: Library of Congress

Card 12/12

JP/dfk/mas
9-13-61

SHOR, G.I.

CHELNOKOV, YU.S., SHOR, G.I.

Mechanismus der Dispersionswirkung von Motorenolzusatzen Trets.

Report to be submitted for the Symposium Lubricants and Lubrication, Dresden, 27-30 June 1961

S/065/61/000/001/006/008
E030/E212

AUTHORS: Zaslavskiy, Yu. S. and Shor, G. I.

TITLE: Investigation of the Stability of Solutions of Additives in Oils by Means of their Electrical Conductivity

PERIODICAL: Khimiya i tekhnologiya topliv i masel, 1961, No. 1, pp. 52-54

TEXT: Electrical conductivity determinations are suggested as a rapid means of determining the stability of additives in oils to transitions between the colloidal and truly ionic states. Conventional electrolytic type cells are used, being concentric aluminium cylinders, 50 mm high, and 20 and 35 mm diameter respectively. By incorporating a thermostat bath, thermal stability to temperatures up to 250°C may be investigated. By studying change of conductivity with time alone, storage stability may be determined. Molybdenum blue is found to be indefinitely stable at room temperature, but after a short period of heating to 100°C, the conductivity suffers a sudden and permanent decrease. By contrast, the conductivity of molybdenum nonylxanthenate

Card 1/2

S/065/61/000/001/006/008
E030/E212

Investigation of the Stability of Solutions of Additives in Oils by Means of their Electrical Conductivity

solutions increases to a maximum after about 400 hours storage, then falls to a lower, but stable, value after about 600 hours. On taking a series of straight lubricating oil fractions from a high-sulphur crude, and plotting their conductivity versus viscosity, a distinct curvature is obtained, in apparent violation of Walden's Rule. It clearly shows that the concentration of electrically conducting material increases with boiling point. On heating straight oils with or without thermally stable additives to 250°C, little change in conductivity is found on cooling, but with unstable additives, the heating curve is much higher than the cooling curve over a certain high temperature range, but rejoins it at lower temperatures, thus exhibiting a hysteresis-type curve: this is attributed to a shift at high temperatures of the reaction between colloidal micelles and ions. By plotting conductivities versus concentrations, the conductivity of phenolate solutions is seen to be ionic, but that of sulphonate solutions micellar. There are 3 figures, 1 table and 8 references: 6 Soviet and 2 non-Soviet.
ASSOCIATION: VNII NP
Card 2/2

S/081/62/000/005/084/112
B162/B101

AUTHORS: Zaslavskiy, Yu. S., Shor, G. I., Shneyerova, R. N.

TITLE: Mechanism of action of certain types of additives to oils (washing, anticorrosion, and antiseizing additives)

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 529, abstract 5M217 (Sb. "Prisadki k maslam i toplivam". M., Gostoptekhizdat, 1961, 168-173)

TEXT: Results of previous work of the authors on the mechanism of action, selection and methods of evaluating the above types of additives in oils are discussed and generalized. 21 references. Abstracter's note: Complete translation.

Card 1/1

S/081/62/000/005/096/112
B160/B138

11 9706

AUTHORS: Zaslavskiy, Yu. S., Shor, G. I., Shneyerova, R. N., Lebedeva, F. B., Morozova, I. A., Ryabova, D. V., Stukin, A. D., Yevstigneyev, Ye. V., Yurchenko, P. F., Nizhnik, V. Ya.

TITLE: Radioactive tracer methods for studying the functional properties of oils with additives

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 534, abstract 5M262 (Sb. "Prisadki k maslam i toplivam", M., Gostoptekhizdat, 1961, 263 - 269)

TEXT: A short description is given of the radioactive tracer method developed in the VNIINP for studying electrokinetic processes connected with the mechanism of the action of certain dispersive additives for heavy diesel lubricating oils. A diagram of the experimental equipment is given. Its main feature is the combined use of radiation counters as electrodes for producing the electric field and for recording the movement of the labelled dispersed phase. Soot with the radioactive isotope Tl^{204}

Card 1/2

Radioactive tracer methods for...

was used to model the dispersed phase (oil oxidation and fuel combustion products). In the radioisotope method of studying the detergent properties of oils with additives the amount of gummy deposit was measured from the absorption of Co^{60} beta radiation in it. The method of studying the detergent properties of oils with additives, based on the oxidation of a thin layer of oil on a heated strip of steel, has been improved by radiometric measurement of the deposits, using Ca^{45} as a source. The chemical activity of antiscoring additives was estimated by determining the kinetics of the transitions from radioactive steel (irradiated with neutrons via Fe^{59}) or copper (activated by introducing tracer amounts of Ag^{110} into molten copper) to the oil, under the influence of the test additives. [Abstracter's note: Complete translation.]

Card 2/2

Z/011/61/018/012/002/007
E073/E535

11.9700

AUTHORS: Reznikov, V.D., Zaslavskiy, Yu.S. and Shor, G.I.

TITLE: New method of determining the content of active neutralising additives in motor oils

PERIODICAL: Chemie a chemická technologie; Přehled technické a hospodářské literatury, v.18, no.12, 1961, 560, abstract Ch61-7745 (Khimiya i tekhnologiya topliv i masel, no.5, 1961, 63-66)

TEXT: The proposed method is based on the existence of a linear relation between the content of these additives in the oil and the degree of neutralisation of the corrosive impurities. The engine defects caused by these abrasive products are enumerated. 5 figures, 6 references.

[Abstractor's note: Complete translation.]

Card 1/1

32530
S/065/61/000/012/004/005
E194/E135

11.9700 also 1583 2209

AUTHORS: Zaslavskiy, Yu.S., Shor, G.I., Shneyerova, R.N., Kuznetsova, A.I., and Lebedeva, F.B.

TITLE: Reducing the corrosivity of extreme pressure (E.P.) additives without impairing their effectiveness

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.12, 1961, 39-43

TEXT: Previous work by the authors has shown that whereas anti-corrosion additives should have strongly bonded sulphur or phosphorus in the molecule, E.P. additives should easily release sulphur, phosphorus or chlorine to form compounds on the metallic surfaces at high contact temperatures. This explains the well-known correlation between good anti-wear properties and high corrosivity. A combination of anti-wear and anti-corrosion additive components should overcome the effect of delayed E.P. action in high-speed friction tests. In surfaces subject to high speed friction there is not always time for the E.P. additive to operate. For laboratory tests of two component additives the

X

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Reducing the corrosivity of ....

authors developed radiotracer methods of determining the chemical activity of E.P. additives in oils in the presence or absence of friction. The chemical activity of the E.P. additives was assessed by determining the kinetics of solution of radioactive steel in oil or of copper which was activated with Ag^{110}. Determination of the chemical activity relative to radioactive copper and steel were made with various sulphurised and chlorinated organic compounds and mixtures of these. For example, in tests with copper foil at a temperature of 150 °C it was found that chemical activity of the sulphur-containing additive dibenzyl disulphide and that of chlorinated wax were both much less than the chemical activity of a mixture of these additives. A mixture containing base oil plus 3% dibenzyl disulphide plus 7% chlorinated wax gave the best E.P. protection in the four ball test. When 6% of barium alkyl phenolate dissolved in oxpropylated alkyl-phenol was added to the oil containing dibenzyl disulphide and chlorinated wax there was a marked diminution in corrosivity of the oil without impairment of the E.P. properties. However, the reduced corrosivity to copper lasted for only ten hours. The anti-corrosion properties of

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Reducing the corrosivity of ... S/065/61/000/012/004/005
E194/E135

phosphorus-containing compounds were also tested on the assumption that effective protection of metallic surfaces against corrosion by atoms of chlorine and sulphur can be achieved by creating, not a molecular, but a more continuous atomic film which is less penetrable. To create such films the phosphorus-containing compounds must be soluble in the base oil and release phosphorus at considerably lower temperatures than the decomposition temperatures of the E.P. components. It was indeed found that the use of phosphorus-containing additives ensured effective reduction of corrosion of steel at an oil temperature of 200 °C in the presence of a mixture of dibenzyl disulphide and chlorinated wax. Moreover, four ball machine tests showed that the E.P. properties were not impaired. Tricresyl phosphate had no anti-corrosive effect, whilst triphenyl phosphate caused a marked reduction in corrosion. By using phosphorus-containing anti-corrosion components in blends with more chemically active E.P. additives, effective blends may be made using chemical compounds that hitherto have been rejected because of their high corrosivity. E.P. oils were tested on a friction machine in which

X

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S/065/61/000/012/004/005
E194/E135

Reducing the corrosivity of ....

the rubbing surfaces are the ends of two hollow cast iron cylinders of 16 mm external diameter, one of which was radioactive. The tests were made at a speed of 600 r.p.m. with a load of 2.5 kg/cm^2 for a period of one hour. Typical test results show that the base oil gave a mean wear rate of 660 impulses/min of the counter; the base oil plus 3% of additive ЛЗ-6/9 (LZ-6/9) plus 7% chlorinated wax gave a wear rate of 1920 impulses/min. The same plus 0.5% triphenyl phosphite gave a wear rate of 840 impulses/min. Thus the triphenyl phosphite reduced the corrosivity of the E.P. oil to the level of the base oil. There are 3 figures, 1 table and 17 references: 11 Soviet-bloc and 6 non-Soviet-bloc. The four most recent English language references read as follows:

Ref.11: J.S. Elliot, N.E. Hitchcock, E.D. Edwards. Hypoid Gear Lubricants and Additives. J. of the Institute of Petroleum, v.45, no.428, 219-235, 1959.

Ref.12: F.T. Barcroft. A Technique for Investigating Reactions between E.P. Additives and Metal Surfaces at High Temperatures. Wear, v.3, no.6, 413-500, 1960.

Card 4/5

X

32530
S/065/61/000/012/004/005
E194/E135

Reducing the corrosivity of ....

Ref.14: R.B. Campbell, L. Grunberg. Study of reactions of metals with sulphur and phosphorus compounds by pulsed temperatures. Paper no.R1CC/32 at the International Conference on the use of isotopes in Physics and Industry (Copenhagen, September 6-17, 1960). Izd. MAGATE, Vena, 1961.

Ref.15: G. Hugel. Chemical nature of extreme pressure lubrication. Lubrication Engineering, v.14, no.12, 523-526, 1958.

ASSOCIATION: VNII NP

Card 5/5

39530
S/065/62/000/008/002/003
E075/E135

11.9700

AUTHORS: Shor, G.I., Zaslavskiy, Yu.S., Morozova, I.A., and Ryabova, D.V.

TITLE: Electrochemical aspects of the mechanism of action of detergent additives to motor oils

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.8, 1962, 58-66

TEXT: Electrical conductivity measurements of solutions of detergent additives in mineral oils were carried out in the belief that ionic dissociation of the additives, followed by subsequent adsorption of the ions on carbonaceous particles and metal surfaces, constitutes the mechanism of action of most detergent additives. The additives investigated were: alkylphenate - formaldehyde condensation product ВНИИ НП-370 (VNII NP-370), high-ash calcium sulphonate ПМС (PMS), and their mixtures. Different amounts of the additives were dissolved in oil АС-5НКЗ (AS-5 NKZ). The conductivity measurements were carried out with a microammeter (0.1 amp, full scale deflection) and a teraohmmeter МОМ-4 (MOM-4) giving a d.c. of 105 V. All the solutions obeyed

Ohm's law, thus showing that they are non-aqueous electrolytes. Some of the additive mixtures dissolved in the oil gave considerably increased conductivities compared with the solutions containing individual additives and the same cation concentration, which indicated that the additive mixtures dissociated to a considerably higher degree than the single additives. Experiments with a metal plate heated to 250 °C and covered with a thin film of oil containing the additives with Ca^{45} and C^{14} showed that the additives formed films on the metal surface. By studying deposition of soot particles labelled with T^{204} on the hot plate and adsorption of the additives with labelled Ca atoms on the metal surface in the presence of soot, it was established that the higher the degree of additive dissociation, the more effective its detergent activity. For a number of alkyl phenate additives the admixture of sulphonates did not give increased electrical conductivity, presumably due to their low solubility. All batches of the investigated additive VNII NP-370 with the added Ca sulphonate were completely soluble in mineral oils, which gave high electrical conductivities. Measurements of the electrical

Electrochemical aspects of the ... S/065/62/000/008/002/003
E075/E135

conductivity of detergent additive solutions in motor oils permitted carrying out preliminary laboratory evaluation of the detergent effectiveness of additives and their mixtures, and control of the additive quality.
There are 4 figures and 5 tables.

ASSOCIATION: VNII NP

Card 3/3

S/883/62/000/000/018/020
E194/E155

AUTHORS: Zaslavskiy, Yu.S., Shor, G.I., Paseshnichenko, A.N., and Lebedeva, F.B.

TITLE: Radio-tracer methods of studying the anti-wear properties of lubricants

SOURCE: Metody ispytaniya na iznashivaniye; trudy soveshchaniya, sostoyavshegosya 7-10 dek. 1960. Ed. by M.M. Khrushchov. Moscow, Izd-vo AN SSSR, 1962, 182-191

TEXT: Tests in engines with radioactive parts, such as are used at VNII NP and elsewhere, cannot fully assess the properties of additive type oils and they are supplemented by a number of laboratory test procedures. In test rig РУМ-1 (RUM-1) irradiated cast-iron blocks slide against the end of a cast-iron ring in the presence of acetic acid vapour, and wear is assessed by measuring the radioactivity of the oil. Alkaline additives such as barium alkyl phenolate retard wear until they are depleted. Results obtained on this apparatus with new and used oils correlate well with those obtained by engine tests and other procedures. A laboratory radioactivity indicator procedure was developed to

Card 1/3

assess the chemical activity of anti-wear additives by dissolving activated steel or copper in the oil. Test results are quoted for oil with various amounts of dibenzyldisulphide and chlorinated wax. Significant results are obtained in tests with steel at 200 °C in 75 hours or with copper at 150 °C in less than 5 hours. The results line up with seizure load determinations on the four-ball machines. The influence of chemical action of E.P. additives on frictional wear at light loads is assessed in a friction machine which uses hollow cylindrical test pieces 16 mm o.d., 10 mm i.d., one being activated. One cylinder is driven at 600 r.p.m. Oil is contained between the cylinders. The radioactivity of all of the oil is measured, and so is the transfer of metal from the irradiated to the inactive rubbing surface. Test results are quoted on high- and low-sulphur basic lubricants with various additives. The repeatability is good and the effects of various changes in the oils are clearly shown. Detergent engine additives can sometimes promote wear. A rig is described which comprises combined oxidation and wear tests. The oil is contained in a teflon cup with a cast iron base against which an irradiated

ZASLAVSKIY, Yu.S.; SHOR, G.I.; SHNEYEROVA, R.N.; LEBEDEVA, F.B.

Reducing chemical wear in using lubricating oils with antiseizing additives. Tren.i izn.mash. no.15:486-494 '62. (MIRA 15:4)
(Lubrication and lubricants--Testing)

S/120/63/000/001/039/072
E032/E314

AUTHORS: Zaslavskiy, Yu.S., Shor, G.I., Stukin, A.D. and Stukin, Ye.D.

TITLE: Determination of the thickness of coatings from measurements of scattered beta-radiation

PERIODICAL: Pribory i tekhnika eksperimenta, no. 1, 1963, 149 - 152

TEXT: The device now reported is illustrated in Fig. 1. It incorporates a Т-25-БФЛ (T-25-BFL) end-window geiger counter. A point β-ray source is deposited on a copper plate (5 mm in diameter, 1 mm thick) attached to the window, as shown. This plate prevents the β-rays from entering the counter directly so that only the back-scattered β-rays are recorded. A low-activity source (~ 1 μC) is sufficient and a standard scaler may be employed. The intensity of the recorded back-scattered radiation is critically dependent on the distance between the source and the measured surface. The distance is therefore first adjusted until the maximum counting rate is obtained. The thickness is then determined from the ratio

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Determination of ....

$$\frac{n}{n_o} = \frac{(1/4\pi)A \cdot 3.7 \cdot 10^4 G(h_o, r, R)kf + \Phi(A)}{(1/4\pi)A \cdot 3.7 \cdot 10^4 G(h_o, r, R)k_o f + \Phi(A)} \qquad (2)$$

where n is the counting rate obtained with the coating, n_o is the counting rate without the coating, A is the activity of the source, G is a geometrical factor, h_o is the optimum distance between the sources and the surface, r is the radius of the copper plate, R is the radius of the counter window, k the back-scattering coefficient of the coating and f a factor representing absorption in the counter window. With a properly screened counter the background becomes negligible and $n/n_o = k/k_o$. It was found that the ratio n/n_o could be written in the form

$$n/n_o = Ae^{-\mu d} + B \qquad (3)$$

where d is the thickness and A, μ and B are constants. Analysis of the possible errors shows that with Ca^{45} as the

Determination of ....

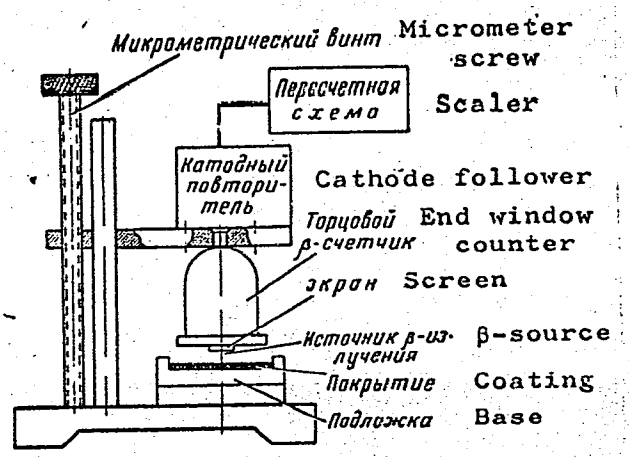
source the error reaches a minimum at $d = 4.2$ mg/cm^2. The apparatus has been used to determine the amount of lac and scaling formed by lubricating oils on a stainless steel base in the range 0 - 8 mg/cm^2 with an average accuracy of about 1%. It can also be used to measure the coatings of other materials, e.g. polythene dyes or metal films. There are 1 table and 3 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti
(All-Union Scientific Research Institute for Oil-refining)

SUBMITTED: January 31, 1962

Determination of ....

Fig. 1:



Card 4/4

ZASLAVSKIJ, J.S. [Zaslavskiy, Ya. S.]; SOR, G.I. [Shor, G.I.]

Radio-determining of neutralization efficiency of engine oil additions. Ropa a uhlie 5 no.3:66-72 Mr '63.

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkovo topliva.

ZASLAVSKIY, Yu. S.; SHOR, G. I.; MOROZOVA, I. A.; LEBEDEVA, F. B.; YEVSTIGNEYEV, Ye. V.; SHNEYEROVA, R. N.

"New methods of investigation of lubricant properties."

report submitted for Intl Lubrication Conf, Washington, D.C., 13-16 Oct 64.

ZASLAVSKIJ, J. [Zaslavskiy, I.S.]; SOR, G.I. [Shor, G.I.];
SNEJEROVA, R.N. [Shneyerova, R.N.]

Radio indicator research on the mechanism of action of anticorrosion and antiseizing additives to lubricating oils. Ropa a uhlie 6 no.5:130-135 My '64.

1. All-Union Scientific Research Institute for the Processing of Petroleum and Gas and for the Production of Synthetic Liquid Fuel.

SHOR, G.I.

Concerning V.S. Demchenko and V.N. Shchemelev's article "Electronographic analysis of films formed on lead by anticorrosive additives." Khim. i tekh. topl. i masel 9 no.1:59 Ja '64. (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.

L 10403-65 EPA(s)-2/EWT(m)/EPF(c)/EPR Pr-4/Ps-4/Pt-10 DIAAP/AFETR DJ

ACCESSION NR: AP4047390 S/0065/64/000/010/0044/0048

AUTHOR: Zaslavskiy, Yu. S.; Stukin, A. D.; Shor, G. I.

TITLE: Certain features of the irradiation of lubricants during the determination of their radiation resistance

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 10, 1964, 44-48

TOPIC TAGS: lubricant, radiation resistance, lubricant radiation resistance, calorimetric dosimeter, AS-6 oil, MS-20 oil, SU oil, MK-22 oil

ABSTRACT: A calorimetric dosimeter has been designed for use in a technique (Fiveyskiy, M. B.; Lazurkin, Yu. S.; Mokul'skiy, M. A. Atomnaya energiya, v. 9, no. 4, 1960, pp. 321-323) for determining the radiation resistance of lubricants.\\ The technique is based on the principle that virtually all absorbed radiation is converted into heat. Fig. 1 of the Enclosure shows the dosimeter, which was used for calibrating nuclear-reactor fuel-element channels prior to lubricant irradiation experiments. The calibration (given in the form of a table) performed, using a polyethylene pickup, was in terms of dose

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L 10403-65
ACCESSION NR: AP4047390

rates as a function of distance from center, thermal neutron flux, and sample temperature. These data make it possible to select the proper channel, depending on the predetermined thermal conditions of the experiment, and to calculate the irradiation time for a desired absorbed dose. One advantage of this dosimeter is that the lubricant to be irradiated can be used as the pickup. This is particularly significant for lubricants containing such elements as B, Li, Cl, and N. A special can was designed for the lubricant-irradiation experiments. Irradiation test results for various mineral oils (sulfur-containing transformer oil; AS-6, and MS-20 oils; and Baku SU and MK-22 oils) given in the form of a table show that the higher the initial viscosity, the greater is the viscosity rise due to irradiation. Orig. art. has: 5 formulas, 5 figures, and 2 tables.

ASSOCIATION: VNII NP

SUBMITTED: 00 ATD PRESS: 3119 ENCL: 01

SUB CODE: GC, MT NO REF SOV: 002 OTHER: 003

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L 10403-65
ACCESSION NR: AP4047390

ENCLOSURE: 01

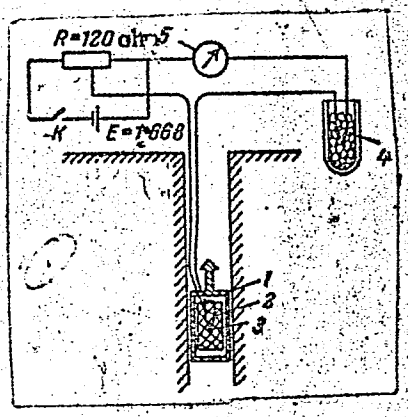

Fig. 1. Dosimeter for absorbed dose rate measurement in nuclear-reactor fuel-element channels

1 - Aluminum can; 2 - polyethylene pick up for calibration. During actual sample irradiation, lubricant in quartz beaker is placed here; 3 - copper-constructionthermocouple; 4 - microammeter.

Card 3/3

L 52573-65 EWT(m)/EPF(c)/T Pr-4 DJ

ACCESSION NR: AP5009902 UR/0065/65/000/004/0055/0059

AUTHORS: Shor, G. I.; Zaslavskiy, Yu. S.; Morozova, I. A. 23 45 B

TITLE: Investigation of the particle sizes and charges determining the cleansing action of additives

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 4, 1965, 55-59

TOPIC TAGS: additive, cleaning compound, additive function, lubricant, lubricant additive, lubrication oil

ABSTRACT: A direct relation between the electrical conductivity of some cleaning admixtures in motor oils and the intensity of their cleansing action was established in the experimental study of radioactive soot adherence to a hot sloping steel plate in the process of oil oxidation. Additives that dissolved in oil, producing the greatest quantity of highly charged particles, showed the strongest cleansing effect. Such solutions had a high electrical conductivity. A procedure was developed for the study of comparative sizes and charges of the particles by observing their migration (under the action of electrical field) from an oil layer with the additives into the oil free of them. A device designed for this purpose is shown schematically in Fig. 1 on the Enclosure. Comparative sizes and charges

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L 52573-65

ACCESSION NR: AP5009902

of three admixture types were evaluated by experimental data analysis with the aid of voltage at the electrodes versus the intensity of saturation current. The particles with the smallest size and highest charge showed the best cleansing properties because of their greater ability for sorption on finely dispersed carbonaceous matter or metal surfaces. They also showed the highest stability during centrifugation and in the state of a long rest. The additives introduced to oil in certain combinations produced a sudden increase in electrical conductivity. This is explained by the formation of charged particles with new structures. The procedure described was used for the quality control of cleansing additives. Orig. art. has: 2 tables and 4 figures.

ASSOCIATION: BNII NP

SUBMITTED: 00 ENCL: 01 SUB CODE: FP

NO REF SOV: 002 OTHER: 001

Card 2/3

L 20367-66 EWT(m)/T DJ

ACC NR: AP6006448 (A) SOURCE CODE: UR/0065/66/000/002/0038/0043

AUTHORS: Shor, G. I.; Morozova, I. A.; Lapin, V. P.

ORG: VNII NP

TITLE: Investigation of the cleansing action of additives to motor oils under the influence of an electric field

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 2, 1966, 38-43

TOPIC TAGS: lubricant, lubricant additive, lubricating oil, electric field, electric conductivity, fuel deposit formation

ABSTRACT: An investigation was carried out to study the "self-cleansing" effect of motor oils containing suitable additives. This effect arises due to the existence of an electric field generated by adjacent engine parts, as described by A. Bodey (Untersuchungen über Korrosionsverschbeiβ in Verbrennugsmotoren, Deutsche Kraftfahrtvorschung, Heft 84, 1954). The emf generated between different metals immersed in oils of various composition was determined (see Fig. 1). The removal of carbon deposits by oils containing different additives was determined by using a radioisotope technique employing a Tl-204 tagged carbon black deposit,

Card 1/3 UDC: 665.521.5

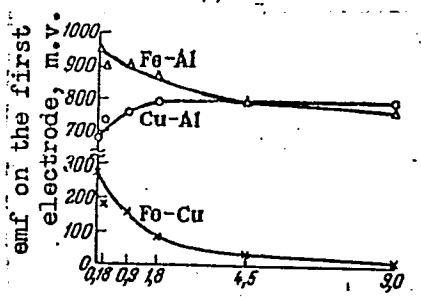

Fig. 1. Dependence of the magnitude of the emf generated between different metals separated by an oil layer on the type E additive concentration.

concentration of additive in oil AS-6,%

as suggested by Yu. S. Zaslavskiy, G. I. Shor, and I. A. Morozova (Kolloid., zhurn., t. 22, No. 5, 1960, str. 593 - 597) (see Fig. 2). It was found that an

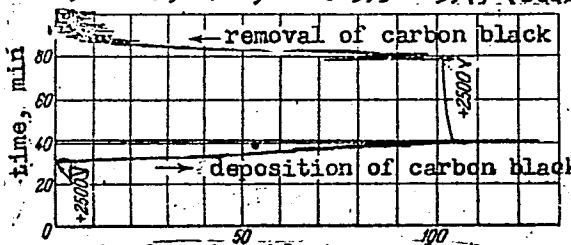

Fig. 2. Diagram of formation and removal of tagged phase deposition on the surface of the upper electrode.

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L 20367-66
ACC NR: AP6006448

electric field of several thousand volts per cm exists between adjacent moving engine parts made up of dissimilar metals (see Fig. 2). Motor oil additives which increase the electrical conductivity of the oils prevent the formation of (and also remove previously formed) carbon deposits. Orig. art. has: 3 tables and 7 graphs.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 004

Card 3/3 vmb

L 20632-66 EWT(m)/T DJ

ACC NR: AP6011220 (A) SOURCE CODE: UR/0413/66/000/006/0057/0057

INVENTOR: Blagovidov, I. F.; Druzhinina, A. V.; Monastyrskiy, V. N.; Puchkov, N. G.; Deryabin, A. A.; Borovaya, M. S.; Filippov, V. F.; Avaliani, T. K.; Zaslavskiy, Yu. S.; Tarmanyan, G. S.; Shor, G. I.; Dmitriyeva, N. A.; Belyanchikov, G. P.; Kuliyev, A. M.; Suleymanova, F. G.; Zaynalova, G. A.; Sadykhov, K. I.

ORG: none

TITLE: Preparative method for motor oils. Class 23, No. 179868

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 6, 1966, 57

TOPIC TAGS: lubricating oil, lubricant additive

ABSTRACT: An Author Certificate has been issued for a preparative method for motor oils, involving the introduction of additives. To impart the required service properties, the additives used are an alkylphenol-formaldehyde condensation product (3—15%), a sulfonate additive (1—6%), an additive based on xanthates or dithiophosphates (0.5—1%), and an organosilicon additive (0.003—0.005%) [the additives are no further identified in the source]. [SM]

SUB CODE: 11/ SUBM DATE: 02Aug62/ ATD PRESS: 4225

Card 1/1 UDC: 665.521.5002.237

SHOR, G.M.

Some problems of the hydrogeology in the mountainous regions of the Kyzyl Kum. Inform.sbor.VSEGEI no.56:55-63 '62. (MIRA 17:1)

[redacted], A.L.; [redacted] G.N.

Hydrogeology of the southern Aral Sea Region. Trudy (MIRA 17:7)
VSEGEI 109:349-366 '63.

SHOR, G.M.

Metals in the underground waters of the Devations in the southern Kyzyl Kum. Izv.vys.ucheb.zav.; geol. i razv. 6 no.10:80-91 O '63. (MIRA 18:4)

1. Leningradskiy gornyy institut im. G.V.Plekhanova.

SHOR, G.P. [Shor, H.P.]

Detection of children with chronic tonsillitis in the boarding school. Ped., akush. i gin. 22 no.6:29-31 '60. (MIRA 14:10)

1. Kostopil'skaya shkola-internat Rovenskoy oblasti i L'vovskiy nauchno-issledovatel'skiy institut okhrany materinstva i detstva (direktor - kand.med.nauk L.Ya.Davidov [Davydov, L.IA.], nauchnyy sotrudnik - dotsent I.M.Rudnev.
(TONSILS—DISEASES)

VASYUK, A.Ye.; SHOR, G.P.

Appendicitis in children as revealed by data of a district hospital.
Sov. med. 25 no.3:120-122 Mr '61. (MIRA 14:3)

1. Iz Kostopol'skoy rayonnoy bol'nitsy (glavnyy vrach S.Ya.Gormakh) Rovenskoy oblasti.
(APPENDICITIS)

SHOR, G.P.

Sanation of the tonsils in children in boarding schools. Vop. okh. mat. i det. 7 no.5:91-92 My '62. (MIRA 15:6)

1. Iz shkoly-internata Kostopol'skogo rayona Rovenskoy oblasti (glavnyy vrach rayona S.Ya. Gormakh, nauchnyy rukovoditel' raboty - dotsent I.M. Rudnov).
(TONSILS—DISEASES) (BACTERICIDES) (PENICILLIN)

BA[illegible]YUK, [illegible].Ye.; SHOR, G.P.

Some characteristics of closed abdominal trauma in children.
Sov. med. 27 no.10:49-52 O '63. (MIRA [illegible])

1. Iz Kostorol'skoy rayonnoy bol'nitsy (glavnyy vrach [illegible].Ya. Gorman) [illegible] oblasti.

SHOR, G.P.

Microbiological picture of the surface of the tonsils in healthy and sick children; data from a boarding school. Zhur. mikrobiol., epid. i immun. 40 no.9:139 S'63. (MIRA 17:5)

1. Iz Kostopol'skoy shkoly-internata Rovenskoy oblasti.

ACCESSION NR: AP4026854 S/0065/64/000/004/0066/0069

AUTHOR: Averbakh, K.O.; Shor, G. S.; Smirnov, O. K.; Gol'din, G. S.

TITLE: Methods of preventing the formation of ice crystals in fuels

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 4, 1964, 66-69

TOPIC TAGS: Fuel, hydrocarbon fuel, ice formation, ice crystal formation, prevention, mechanical water removal, additive, ice prevention additive, surface active agents, review, literature survey.

ABSTRACT: This is a literature survey relating to the behavior of water in hydrocarbon fuels at low temperatures and to methods of preventing crystalization in them. The solubility of water in the hydrocarbon fuels at different temperatures, the transfer of water molecules between the fuel and air, formation of microdroplets of water on cooling, and conditions for the formation of ice crystals are included. Various physical and mechanical means of preventing or removing ice have not proven too successful. Two types of additives have helped solve the problem. The addition of 0.1-3% of materials which dissolve water and which are dissolved in hydrocarbons at low temperatures, e.g., certain alcohols, glycols or ethers, increases the solubility of water in the hydrocarbon fuel. The use of

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ACCESSION NR: AP4026854

smaller amounts, 0.004-1%, of anionic, cationic, or non-ionic surface active materials, which also exhibit some emulsifying action, appears extensively in the current Soviet and foreign literature.

ASSOCIATION: None

SUBMITTED: 00 DATE ACQ: 28Apr64 ENCL: 00

SUB CODE: FL NO. REF. SOV: 018 OTHER: 047

Card 2/2

SHOR, G.S.; CHERTKOV, Ya.B.; GOL'DIN, G.S.

Characteristics of the oxidation product composition of polymer distillate of the butane-butylene fraction. Zhur. prikl. khim. 37 no.9:2080-2082 S '64.

(MIRA 17:10)

SHCH, G.S.; [illegible] TKO, Ya.B.; GOLUBIN, G.S.

Characteristics of oxygen compounds of light pyrolysis oil. Zhur. prikl. khim. 37 no.12:2766-2768 D '64. (MIRA 18:3)

PHASE I BOOK EXPLOITATION SOV/5103

Shor, Emmanuil Romanovich, and Izabella Romanovna Shor, Stalin Prize Winners

Profili prokata (Rolled Shapes) Moscow, Izd-vo "Znaniye", 1960. 47 p. 39,500 copies printed. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya 4, Nauka i tekhnika, no. 27

Ed.: T.F. Islankina; Tech. Ed.: Ye. V. Savchenko

PURPOSE: This booklet is intended for technical personnel of rolling mills and for general readers.

COVERAGE: Some information on production of pig iron, steel, and rolled stock is given and the manufacture of structural shapes, sheets, tubes, and bars of various types is outlined. Rolling mills and their principal equipment are described. The development of rolled-stock production is reviewed and probable future types of rolling mills are described. No personalities are mentioned. There are 5 references, all Soviet.

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Rolled Shapes SOV/5103

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Bibliography

AVAILABLE: Library of Congress

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KOLPASHNIKOV, A.I., kand. tekhn. nauk; OSIPOVA, A.D., inzh.; SHOR, I.R., inzh.; SHLENSKIY, G.N., inzh.; SERGEYEVA, L.N., inzh.

Developing a procedure for the manufacture and investigating the physicomechanical properties of thin magnesium alloy sheets. Trudy MATI no.57:58-65 '63. (MIRA 16:12)

SHOR, I.

Mechanical Drawing

How to read a drawing. Kinomekhanik no. 8, 1951.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, April 1952. Uncl.

SHOR, I.

Electric Motors

Inspection of the interior of the L-3/2 motor. Kinomekhanik No. 4 (1952)

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, August 1952. Uncl.

SHOR, I.

Speed governor used on generators. Kinomekhanik no.8:28-31 Ag '53.
(MLRA 6:8)
(Governors (Machinery))

SHOR, Isaak Vladimirovich; USHAGINA, V.M., redaktor; SHILINA, Ye. I., tekhnicheskiy redaktor.

[Electric power plants for movie installations] Elektrostantsii kinoustanovok. Moskva, Gos. izd-vo "Iskusstvo," 1955. 197 p. (MLRA 8:8)
(Electric power plants)
(Motion-picture projection)

SHOR, Isaak Vladimirovich; EYSYMONT, L.O., red.; MALEK, Z.N., tekhn.red.

[Motion-picture operator of the first category] Kinomekhanik pervoi kategorii. Moskva, Gos.izd-vo "Iskusstvo," 1958. 326 p. (MIRA 12:4)

(Motion-picture projection)

SHOR, Isaak Vladimirovich; VINOGRADOV, V.L., red.; POPOV, N.D., tekhn. red.

[Electric power plants for motion-picture projection] Kinoelektrostantsii; uchebnoe posobie dlia uchashchikhsia kinotekhnikumov. Moskva, Izd-vo "Sovetskaia Rossiia," 1960. 272 p. (MIRA 13:7)
(Electric power plants) (Motion-picture projection)

BENEDIKTOV, Aleksandr Aleksandrovich [deceased]; SHOR, I.V., inzh.; EYSYMONT, L.O., red.; PODSHEBYAKIN, I.N., tekhn. red.

[The sound system part of the motion-picture projector] Zvukovaia chast' kinoproektora. Izd.2., perer. i dop. I.V. Shorom. Moskva, Iskusstvo, 1962. 167 p. (MIRA 15:12)
(Motion-picture projectors) (Sound--Recording and reproducing)

SHOR, I.Ya.

A case of cerebral echinococcosis diagnosed as tuberculous meningitis
Sov.med. 20 no.9:89-90 S '56. (MLRA 9:11)

1. Iz 2-y Bel'tskoy gorodskoy bol'nitsy.
(ECHINOCOCCOSIS, differ. diag.
cerebral, differ. diag. from tuberc. meningitis)
(BRAIN, dis.
echinococcosis, differ. diag. from tuberc. meningitis)
(TUBERCULOSIS, MENINGEAL, differ. diag.
echinococcosis of brain)

SHOR, I.Ya.

Difficulites and errors in the diagnosis of tuberculous meningitis. Vrach.delo no.1:1319-1321 D '58. (MIRA 12:3)

1. Vtoraya gorodskaya bol'nitsa g. Bel'tsy.
(MENINGES--TUBERCULOSIS)

SHOR, I.Ya.

A syndrome of funicular myelosis in polycythemia. Probl. gemat. i perel. krovi 3 no.5:55-56 S-O '58. (MIRA 11:11)

1. Iz 2-y Bel'tskoy gorodskoy bol'nitsy (glavnyy vrach I.N. Sarukhanova) Ministerstva zdravookhraneniya Moldavskoy SSR.

(SPINAL CORD, diseases
funicular myelosis in polycythemia, case report (Rus))
(POLYCYTHEMIA, case reports
funicular myelosis in polycythemia (Rus))

SHOR, I.Ya.

Rare observation of an entotic noise. Vest.oto-rin. 20 no.1:98-99 Ja-F '58. (MIRA 11:3)

I. Iz 2-y Bel'tskoy gorodskoy bol'nitsy.
(ARTERIES, CAROTID, aneurysm
occipital, causing entotic noise (Rus)

GAMARNIK, M.N.; SHOR, I.Ya.

Bone fractures due to neurotrophic disorders as a result of nerve root trauma in spinal puncture. Vest. rent. i rad. 33 no.6:73-74 N-D '58. (MIRA 12:1)

1. Iz 2-y gorodskoy bol'nitsy g. Bel'tsy (glavnyy vrach R.S. Rabinovskaya) i Respublikanskogo rentgenotsentra (nauchnyy rukovoditel' - kand. med. nauk N.Ya. Mil'man).

(FRACTURES, etiol. & pathogen.
neurotrophic disord. due to nerve root trauma in spinal puncture (Rus))
(SPINAL PUNCTURE, compl.
nerve root trauma causing neorotrophic disord. of bones & fract. (Rus))
(BONE AND BONES, innerv.
neurotrophic disord. causing fract. after nerve root trauma in spinal puncture (Rus))

SHOR, I.Ya.; DASHEVSKAYA, M.A.

Treatment of children with tuberculous meningitis without subarachnoidal use of medicinal substances or by use of a small amount. Zdravookhranenie 3 no.3:35-39 My-Je '60.
(MIRA 13:7)

1. Iz bol'nitsy g. Bel'tsy (glavnyy vrach I.N. Sarukhanova).
(MENINGES--TUBERCULOSIS)

SHOR, I.Ya.

Opercular syndrome in tuberculous meningitis. Zhur.nevr.i psikh. 60 no.7:795-796 '60. (MIRA 14:1)

1. 2-ya Bel'tskaya gorodskaya bol'nitsa (glavnyy vrach I.N. Sarukhanova).
(MENINGES--TUBERCULOSIS) (BRAIN)
(MOVEMENT DISORDERS)

DATS_EPSHTEYN, M.S.; SHOR, I.Ya.

Rare forms of chorea. Zdravookhranenie 4 no.6:45-46 N-D '61. (MIRA 15:2)

1. Iz detskoy bol'nitsy g. Bel'tsy (glavnyy vrach L.G.Gerekke).
(CHOREA)

SHOR, I.Ya.

Rare forms of a disease of the blood vessels of the brain in rheumatic fever. Zdravookhranenie 2 no.4:18-22 Jl-Ag '59. (MIRA 14:6)

1. Iz 2-oy bol'nitsy goroda Bel'tsy (glavnyy vrach - I.N. Sarukhanova).

(RHEUMATIC FEVER) (BRAIN--DISEASES)

AUTHOR: Shor, L.A. (Voroshilovsk) SOV/39-45-4-5/7

TITLE: On the Deformation of Convex Polyhedra With a Boundary (Ob izgibanii vypuklykh mnogogrannikov s granitsey)

PERIODICAL: Matematicheskiy sbornik, 1958, Vol 45, Nr 4, pp 471-488 (USSR)

ABSTRACT: The author considers convex polyhedra with a simple closed boundary which are homeomorphic to an open circle. In a very complicated manner the author defines three classes of such polyhedra and he proves that the considered polyhedra are not deformable then and only then if they belong to one of these three classes.
There are 4 figures and 3 Soviet references.

SUBMITTED: March 11, 1957

1. Topology 2. Functions - Theory

Card 1/1

SHOR, L.L., Cand Phys-Math Sci — (diss) "On the curving of convex polyhedrons with a boundary." Khar'kov, 1959. 8 pp with drawings (Min of Higher Education UkSSR. Khar'kov Order of Labor Red Banner State U im A.M. Gor'kiy). 150 copies Bibliography at end of text (10 titles) (KL,40-59, 101)

7

SHOR, L.A

SOV/96-59-3-5/21

AUTHORS: Sobolev, S.P., Engineer: Shneydman, A.Ye., Candidate of Technical Sciences: Zel'des, N.Ya., Engineer: Sukhinin, V.P., Engineer and Shor, L.A., Engineer

TITLE: Experience in Developing the Blading for the Last Stage of a 150-MW Turbine (Opyt sozdaniya lopatki posledney stupeni dlya turbiny moshchnost'yu 150 Mvt)

PERIODICAL: Teploenergetika, 1959, Nr 3, pp 26-29 (USSR)

ABSTRACT: For a long time the Khar'kov Turbine works has been developing last-stage blading for large turbines, leading, in 1956-7, to a rational series of designs. All the blades in the series are designed on common principles and are standardised as much as possible. Blades with an active length of 740 mm were installed in a 100-MW turbine that commenced operation in 1957. Blading for the last stage of the PVK-150, 150-MW turbine, illustrated in Fig.1, is designed for a speed of 3,000 rpm and has an active length of 780 mm. It is based on profile T3 recommended by the Central Boiler-Turbine Institute. The stationary nozzle vanes were of sheet steel. The main aerodynamic characteristics of the blade are tabulated. Successive

Card 1/3

Experience in Developing the Blading for the Last Stage of a 150-MW Turbine

stages in profiling of the blade are described. The blading was made of stainless chrome steel 1Kh13 and the stress levels conformed to its properties. The stress distribution over the length of the blade is plotted in Fig.2 and does not exceed 2,630 kg/cm^2. By means of resistance strain gauges, vibration studies were made on a special experimental wheel in a vacuum chamber. A considerable number of resonant frequencies in the blading were disclosed. The blading was then de-tuned to 300 c/s, leaving four types of oscillation which are described. Various constructions were studied in order to reduce these vibrations and finally two conventional hoops of stiffening "wire" were threaded through the blading in the usual manner. Actually the "wire" consisted of tubing with an external diameter of 15 mm and a wall thickness of 2 mm. Because of the high centrifugal forces side-entry blade attachment was adopted, using serrated roots of diminishing cross-section, with six steps in the "fir tree", as drawn in Fig.3. The method of assembling the blading in the wheel is described and

Experience in Developing the Blading for the Last Stage of a 150-MW Turbine

illustrated photographically in Fig.4. The blades are made from forgings each weighing 35 kg. The method of manufacture is described and, despite the large size, no special difficulties arose. It is considered that it will be possible to make still larger blades. There are 4 figures and 1 table.

ASSOCIATION: Khar'kovskiy turbinnyy zavod (Khar'kov Turbine Works)

84759

S/042/60/015/004/017/017XX
C111/C222

16,5600

AUTHOR: Shor, L.A.

TITLE: The Example of an Unbending Convex Surface Which is a Limit to Surfaces Isometric With it.

PERIODICAL: Uspekhi matematicheskikh nauk, 1960, Vol.15, No.4, pp.193-198

TEXT: The notions are taken from (Ref.3 and 5).
Theorem 1: In order that a convex surface F homeomorphic to the circle admits a non-trivial isometric mapping, it is necessary and sufficient that it admits a non-trivial junction.
Theorem 2: In order that a convex surface homeomorphic to the circle is bendable it is necessary and sufficient that the corresponding trivial junction admits a deformation.
Let L' be a simple open curve with the equation

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S/042/60/015/004/017/017XX
C111/C222

The Example of an Unbending Convex Surface Which is a Limit to Surfaces Isometric With it

$$\begin{cases} 0 & \text{for } \xi = 0 \\ (\xi - \frac{1}{2^{n+1}}) \operatorname{tg} \frac{\pi}{2^{n+6}} & \text{for } \frac{1}{2^{n+1}} \leq \xi \leq \frac{3}{2^{n+2}} \quad (n=1,2,\ldots) \\ (\frac{1}{2^n} - \xi) \operatorname{tg} \frac{\pi}{2^{n+6}} & \text{for } \frac{3}{2^{n+2}} \leq \xi \leq \frac{1}{2^n} \quad (n=1,2,\ldots) \\ 2(\xi - \frac{1}{2}) \operatorname{tg} \frac{3}{8}\pi & \text{for } \frac{1}{2} \leq \xi \leq 1 \ . \end{cases}$$

Let A and B be the endpoints (0,0) and $(1, \operatorname{tg} \frac{3}{8}\pi)$ of L'. Let L" be the mirror image of L' with respect to AB. Let L = L'+L". Let Q be the domain bounded by L. Let F be a surface homeomorphic to the circle the trivial junction of which is Q. Here let $\bar{F}$ be a cube ($\bar{F}$ is the boundary of the convex closure of F). Let A be the single point of the boundary of Q to which there corresponds a corner of F. Let M'_n be the point $\xi = \frac{1}{2^n}$, $\eta = 0$, let M''_n be symmetric to M'_n with respect to AB (n=1,2,...). Let A_{ij} be

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S/042/60/015/004/017/017XX
C111/C222

The Example of an Unbending Convex Surface Which is a Limit to Surfaces Isometric With it

symmetric to A with respect to M'_i M''_j. $AM'_i \subset L'$ is turned by the angle $AM'_i A_{ij}$ around the point M'_i; $AM''_j \subset L''$ is turned by $\sphericalangle AM''_j A_{ij}$ around the point M''_j. Here L goes over into L_{ij} which bounds a domain Q_{ij}. According to theorem 1 to the domain Q_{ij} there corresponds a convex surface F_{ij} non-trivially symmetric to the surface F. Since for $i,j \to \infty$ the sequence of the Q_{ij} converges to Q, the sequence of the surfaces F_{ij} converges to F (according to theorem 2). Now it is proved that the limit surface F is unbendable.

The author mentions A.V.Pogorelov and A.S.Leybin. There are 1 figure and 5 Soviet references.

[Abstracter's note: (Ref.3) concerns A.D.Aleksandrov, Convex Polyhedra; (Ref.5) concerns A.D.Aleksandrov, Inner Geometry of Convex Surfaces]

SUBMITTED: February 14, 1959

Card 3/3

SHOR, L.A.

Flexibility of multiply connected convex surfaces. Usp.mat.nauk 15 no.5:199-202 S-O '60. (MIRA 13:10)
(Surfaces)

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S/020/60/134/001/035/038 XX
C111/C222

AUTHOR: Shor, L.A.

TITLE: On the Unique Definiteness and Deformation of Some Convex Surfaces With a Boundary

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 1, pp. 55-58

TEXT: Let a surface F homeomorphic to the open circle belong to the type K if its complement up to the boundary F of its convex closure is a convex domain of the plane. A convex surface F is called uniquely determinable in the class of all convex surfaces if every surface F' isometric to it is either congruent to it or its mirror image.
Theorem 1: If a convex surface F contains a uniquely definable convex surface Φ, then F is defined uniquely too.
Theorem 2: In order that a convex surface F homeomorphic to the open circle is defined uniquely, it is necessary and sufficient that it admits no non-trivial junction.
Theorem 3: In order that a surface F homeomorphic to the open circle is

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On the Unique Definiteness and Deformation of Some Convex Surfaces With a Boundary

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bendable it is necessary and sufficient that there exists a deformation of the corresponding trivial junction. Theorem 1 follows from a result of A.S. Leybin (Ref. 1). The theorems 2 and 3 are analogies to well-known theorems of A.D. Aleksandrov (Ref. 1) on convex polyhedra. A fourth theorem gives necessary and sufficient conditions that a surface of the type K is defined uniquely ; These conditions consist in claims to the boundary of the surface F (its spherical image on $\overline{F}$ must be concentrated in at most one point) and to the turn of a certain auxiliary curve.
The author mentions A.V. Pogorelov. There are 4 Soviet references and 1 figure.

[Abstracter's note: All notations are taken from (Ref. 1) - Aleksandrov, A.D., Convex Polyhedra, 1950]

ASSOCIATION: Voroshilovskiy gorno-metallurgicheskiy institut (Voroshilovsk Mining-Metallurgical Institute)

PRESENTED: April 15, 1960, by P.S. Aleksandrov, Academician
SUBMITTED: April 15, 1960

Card 2/2

SHOR, L.A.

Flexibility of convex surfaces having a boundary. Dokl. AN SSSR 135 no.5:1061-1063 D '60. (MIRA 13:12)

1, Voroshilovskiy gorno-metallurgicheskiy institut. Predstavleno akademikom P.S. Aleksandrovym.
(Surfaces)

SHOR, L.A.

Example of a discontinuum of nontrivially isometric convex surfaces. (MIRA 15:12)
Usp.mat.nauk 17 no.5:157-160 S-O '62.
(Convex surfaces)

ZEL'DES, N.Ya., inzh.; SUKHININ, V.P., inzh.; SHOR, L.A., kand.fiziko-matematicheskikh nauk

Initial bending of the working blades of steam turbines.
Energomashinostroenie 7 no.8:39-41 Ag '61. (MIRA 14:10)
(Steam turbines)

SHOR, L.A.

Flexibility of any part of a flexible convex surface. Usp.mat.nauk 16 no.3:207-208 My-Je '61. (MIRA 14:8)
(Surfaces) (Elastic plates and shells)

YUSHKIN, V.T., inzh.; SHOR, L.D., inzh.

Using suspension-bridge methods in constructing river crossings.
Stroi. truboprov. 5 no.4:16-18 Ap '60. (MIRA 13:9)
(Gas, Natural--Pipelines)

KUZNETSOV, Ye.N., inzh.; SHOR, L.D., inzh. (Samarkand)

Suspension crossings of the Dzharkak-Bukhara-Samarkand-Tashkent gas pipeline. Stroi.truboprov. 5 no.11:21-23 N '60. (MIRA 13:11)

(Gas, Natural--Pipelines)

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[Industrialization of underwater engineering operations in the laying of pipelines] Industrializatsiia podvodno-tekhnicheskikh rabot pri stroitel'stve magistral'nykh truboprovodov. Moskva, Gos. nauchno-tekhn. izd-vo neft. i gorno-toplivnoi lit-ry, 1961. 40 p. (MIRA 14:5)
(Underwater pipelines)

SHOR, Leonid Davidovich, starshiy inzh.; JURYSHEV, A.N., inzh., red.; KHRYASTOV, Yu.P., red.; DENIDOV, Ya.F., tekhn. red.

[Construction of the Dashava-Minsk gas pipeline]Iz opyta stroitel'stva gazoprovoda Dashava-Minsk. Moskva, VNIIST Glavgaza SSSR, Redaktsionno-izdatel'skii otdel, 1961. 47 p. (MIRA 15:8)

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(Ukraine--Gas, Natural--Pipelines)
(White Russia--Gas, Natural--Pipelines)

IDEL'SON, N.N.; SHOR, L.M.

Experience in treating neglected congenital pyloric stenosis.
Pediatriia no.3:69-71 My-Je '55. (MLRA 8:10)

1. Iz detskogo spetsializirovannogo otdeleniya (zav.N.N. Idel'son, glavnyy vrach L.M.Shor) Kaliningradskoy oblastnoy bol'nitsy.
(PYLORUS, stenosis
congen., surg.indic.)

SHOR, L.M.

USSR/Chemistry - Chemical patents FD-2653

Card 1/1 Pub. 50-18/18

Author : Shor, L. M.*

Title : Consultation

Periodical : Khim. prom. No 3, 190-191, Apr—May 1955

Abstract : Outlines various USSR patent laws and procedures.

Institution : Ministry of Chemical Industry USSR (*Chief Legal Consultant of)

[redacted]: NAZAROVA, N.A.

On the problem of the organization of specialized medical help for children. Pediatriia no.3:62-67 Mr '57. (MIRA 10:10)
(CHILDREN--HOSPITALS AND ASYLUMS)

SHOR, L. M. Cand Med Sci -- (diss) "Results of gastric resections ~~of the stomach~~ in ~~cases of~~ ulcers." Len-Kaliningrad, 1959. 19 pp with illustrations (Min of Health RSFSR. 1st Len Med Inst im Academician I. P. Pavlov. Chair of Faculty Surgery. Kaliningradskaya Oblast Hospital), 200 copies (KL, 41-59, 106)

SHOR, L.M., zasluzhennyy vrach RSFSR (Kaliningrad obl., Bankovskaya ul., d.4, kv.2)

On repeated operations in peptic ulcer. Vest.khir. 83 no.8:9-17 Ag '59. (MIRA 13:1)

1. Iz Kaliningradskoy oblastnoy bol'nitsy (glavnyy vrach - zasluzhennyy vrach RSFSR, kand.med.nauk V.V. Filippov, nauchnyy rukovod.raboty - prof. V.I. Kolesov).
(GASTRECTOMY)