apparatus reaches the limit and welding of the balls sets in. 2) General wear index OPI for the degree of wear of the friction surfaces, lubricated by the oil to be tested at various loads up to welding load. This index represents the arithmetic mean from each of the 20 loads which are gradually increased, so that the 21st represents the welding load. The OPI value indicates the moment when the wear changes from the friction stage into the abrasion stage. It may happen that an oil unfavorably valued on the four-ball apparatus, stands up well under operational conditions, because there are cases where liquid friction exists, so that the wear-inhibiting properties of the oil do not appear. The load applied to the balls is selected from the geometrical progression with the denominator 1.12 and a maximum weight of 1260 kg, since modern lubricating oils of the hypoid type with wear-inhibiting additions have P_w-values close to 1000 kg. The test balls must have a diamter of 12.7 mm, the material is steel of the type WX-6 (ShKh-6) and accuracy must not be below the thirdcategory of POCT 3722-54 (GOST 3722-54).

Method of Determining the Wear-inhibiting Properties of Lubricating Oils

S/028/60/000/012/007/007
B027/B058

The balls can be used only once, and fresh oil is to be taken for each test. The test conditions are international as well as the determination of the OPI value, but if this value alone is applied without the P_w - value for the welding load, as it is the case abroad, the index of the wear-inhibiting properties of lubricating oils is insufficient. The introduction of the standard mentioned concerns the indices for wear-inhibiting properties of commercial lubricating oils and especially of heavy-duty oils with wear-inhibiting additions. The standardization of P_w and OPI warrants a control of these properties during storage and use. Designers of new machines can thus specify the proper oils increasing the service life of these machines and achieving savings in repair and replacement costs. There is 1 Soviet reference.

Card 3/3

LAGZDINS, Edgars; ROZENBERGA, R., red.

[Gypsum and its utilization] Gipsis un ta izmantosana. Riga, Latvijas PSR Zinatnu akad. izd-ba, 1963. 70 p. [In Latvian] (MIRA 17:6)

MORKONS, Miervalds; ZVIRGZDS, Andris; ROZENBERGA, R., red.

[New woody plant species introduced into the Latvian S.S.R.] Jaunas introduceto kokaugu sugas Latvijas PSR. Riga, LPSR Ainatnu akad. izd-ba, 1963. 93 p. [In Latvian] (MIRA 17:7)

ROZENBERGA, R., red.

[Cosmic noises] Kosmiskie troksni. Riga, Latvijas PSR Zinatnu akad. izd-ba, 1963. 74 p. [In Latvian]
(MIRA 17:6)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu Akademija. Astrofizikas laboratorija.

ROSENBERT, Mita; SMARDA, Jan

Comparison of certain properties of bacteriophages produced by lysogenic bacteria and of bacteriophages from passages. Cesk. biol. 4 no.8:449-456 Aug 55.

1. Ustav pro obecnou biologii lekarske fakulty university v Brne.

(BACTERIOPHAGE,
of lysogenic bact. & their passages, comparison.)

ROZENBERY M. D.

USSR/Mathematics - Hydrodynamics 21 Aug 52
Nonlinear Differential Equation

238T95

"The Radial Displacement of Gasified Petroleum by Boundary Water," M. M. Glogovskiy and M. D. Rozenberg

"DAN SSSR" Vol 85, No 6, pp 1223-6

Gives an approx soln of a planar-radial problem concerning the displacement of gasified petroleum by boundary water, which is described by a system of

238T95

two nonlinear differential eqs of the parabolic type with partial derivs, in the case of the flow of a gasified liquid through a porous medium. Submitted by Acad A. I. Nekrasov 24 Jun 52.

238T95

BOYARSKIY, L.; SLEPYAN, I.; ROZENBLAT, A.

Food industry enterprises for rural areas. Stroi.i arkhit. 8 no.6:8-9 Je '60. (MIRA 13:6)

1. Direktor Ukrgiproproda (for Boyarskiy). 2. Glavnyy inzhener Ukrgiproproda (for Slepyan). 3. Glavnyy arkhitektor Ukrgiproproda (for Rozenblat).
(Ukraine--Food industry--Equipment and supplies)

USSR / Human and Animal Physiology (Normal and Patholo- T
gical). Metabolism. Nutrition

Abs Jour: Ref Zhur-Biologiya, No 21, 1958, 97313

Author : Rozenblat, A. G.

Inst : Not given

Title : Utilization of Protein in Children in the First Year of Life by Various Methods of Feeding

Orig Pub: Pediatriya, 1957, No 7, 26-27

Abstract: The utilization of protein by various methods of mixed feeding in children of the first half year of life was studied. The children were fed sterilized female milk (FM), to which cows milk (CM), kefir (bacterial fermented milk), and artifically acidified milk were alternately added; 5 percent

Card 1/3

ROZENBLAT, A.F.

22067 Rozenblat, A.I. K uchetu tuberkuleznoy porazhennosti v gorodakh. Uchen. Zapiski Nauch-issled. in-ta tuberkuleza v Odesse, Ch. 1, 1948, s. 65-67.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

PRAVOSUDOVICH, N.P., inzhener; BUKH, V.M., inzhener; ROZENBLAT, A.Ya., inzhener.

The ET-142 trench cutting machine. Stroi.i dor.mashinostr. no.1:16-18 Ja '57. (MLRA 10:2)
(Excavating machinery)

ROZENBLAT, I.M.

Making pouring basins with a molding machine. Lit.proizv. no.7: 28 O '54. (MLRA 7:12)
(Founding)

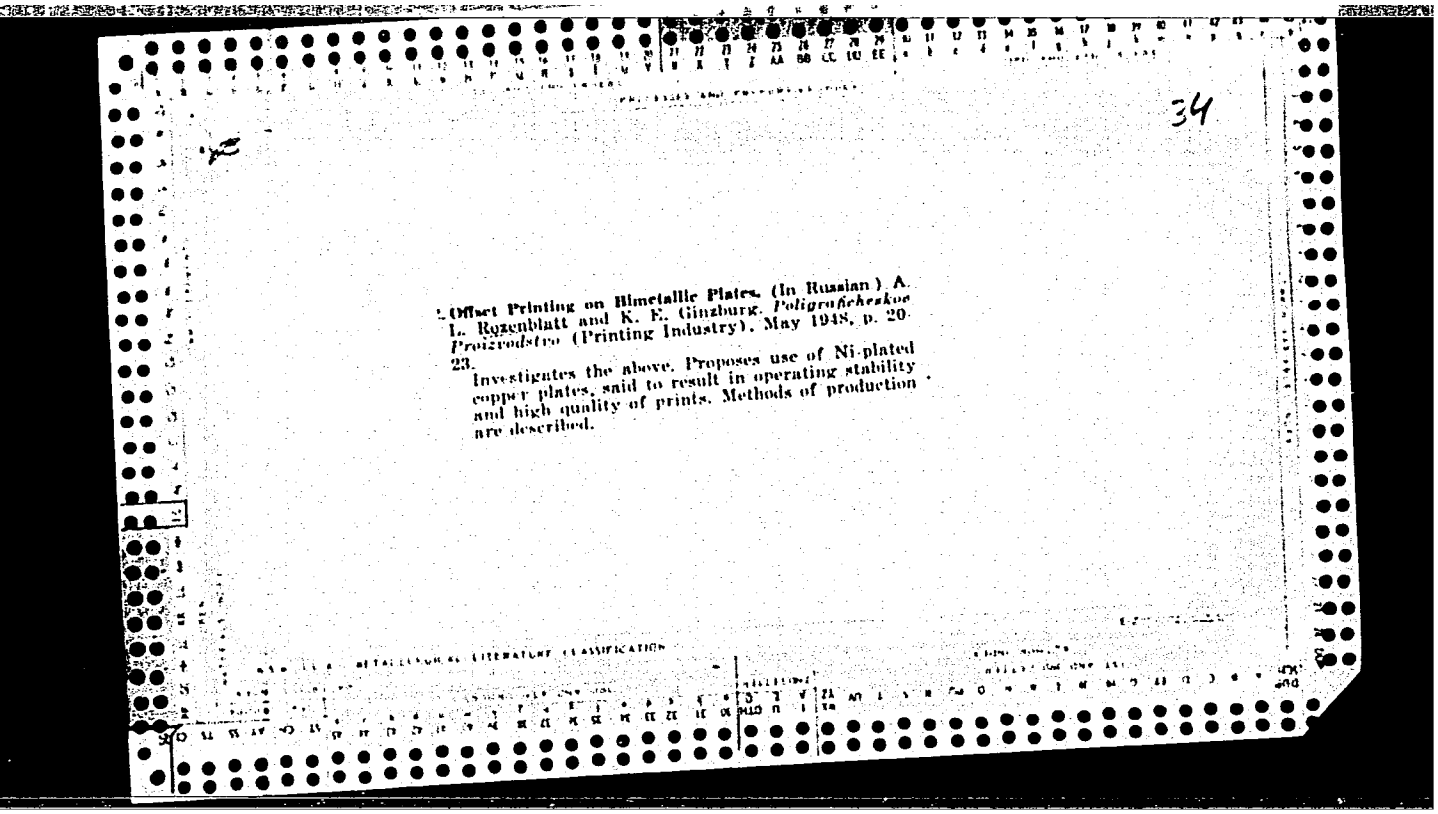
ROZENBLAT, M.

Magnetic amplifiers. Radio no.6:24-28 Je '54. (MLRA 7:7)
(Magnetic amplifiers)

CA

13

Bimetallic offset printing forms. V. I. Rozenblatt and K. B. Ginzburg. *Poligraf. Proizvodstvo* 1951, No. 2, 13-15. The best metal for the printing element is Cu, while blank spaces are best made of Ni, which is electrodeposited on the developed Cu form, made water-repellent by treatment with K xanthate and $Fe(NO_3)_3$. The Ni portions of the form are made water-repellent by treatment with ferrocyanide. After use, the Ni is removed electrolytically and the Cu form is again useable after suitable treatment. Typical formulations of the treating baths are cited. G. M. K.



34

Offset Printing on Bimetallic Plates. (In Russian.) A. L. Ryzenblatt and K. E. Ginzburg. *Poligraficheskoe Proizvodstvo* (Printing Industry), May 1948, p. 20-23.

Investigates the above. Proposes use of Ni-plated copper plates, said to result in operating stability and high quality of prints. Methods of production are described.

ROZENBLAT, B. E., ENG.

Steam Boilers

Operation of an uniflow boiler assembly on coarse lignite powder, Elek. sta. 23, no. 6, 1952

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

ROZENBLAT, B.E., inzhener; CHUKIN, V.V., kandidat tekhnicheskikh nauk.

Burning dust of coarse ground brown coal in a furnace with burners facing each other. Elek.sta. 24 no.9:10-13 S '53. (MLRA 6:8)
(Furncaes) (Coal, Pulverized)

V

Country : USSR
Category: Pharmacology. Toxicology. Cardio-Vascular Agents.

Abs Jour: RZhBiol., No 6, 1959, No 27803

Author : Kushlevskiy, B.P.; Rozenblat, F.Ya.
Inst : Sverdlovsk Medical Institute
Title : On Clinical Testing of New Agents for Treatment of Cardio-Vascular Diseases: Spasmolytic-Aprophene and Nitranole, Anticoagulant- Pheniline and Diuretic - Dianox.

Orig Pub: Tr. XX Godichn. nauchn. sessii (Sverdl. med.) in-ta, 1957, sb. 22, 181-183

Abstract: No abstract.

Card : 1/1

KUSHELEVSKIY, B.P.; ROZENBLAT, F.Ya.; VALEYKO, N.K.; KOKOSOV, A.N.
(Sverdlovsk)

Reserpine--anticoagulant treatment of hypertension concomitant with stenocardia. Klin.med. no.3:95-100 '62. (MIRA 15:3)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. - zasluzhennyy deyatel' nauki prof. B.P. Kushelevskiy) Sverdlovskogo meditsinskogo instituta.
(HYPERTENSION) (ANGINA PECTORIS) (RESERPINE)
(ANTICOAGULATNS (MEDICINE))

ROZENBIAT, F.Y., doktor med. nauk; SHMIDT, Ye.D. (Sverdlovsk)

Therapeutic and prophylactic use of anticoagulants in rheumatic heart disease. Klin. med. 37 no.5:71-76 My '59. (MIRA 12:8)

1. Iz kafedry fakul'tetskoy terapii (zav. - zasluzhennyy deyatel' nauki B.P. Kushelevskiy) Sverdlovskogo meditsinskogo instituta.
(RHEUMATIC HEART DISEASE, compl.
thrombosis, value of anticoagulants in prev. & ther. (Rus))
(THROMBOSIS, etiol. & pathogen.
rheum. heart dis., value of anticoagulants in prev. & ther. (Rus))
(ANTICOAGULANTS, ther. use
thrombosis in rheum. heart dis., prev. & ther. (Rus))

ROZENBLAT, F.Ya., doktor med.nauk

Clinical aspects of rheumatic heart disease complicated by atherosclerosis of the pulmonary artery. Terap.arkh. 29 no.2: 18-26 '57. (MIRA 11:1)

1. Iz fakul'tetskoy terapevticheskoy kliniki (dir. - prof. B.P. Kushelevskiy) Sverdlovskogo meditsinskogo instituta.
(RHEUMATIC HEART DISEASE, complication, arteriosclerosis of pulm. artery (Rus))
(ARTERIES, PULMONARY, diseases, arteriosclerosis, with pulm. heart dis. (Rus))
(ARTERIOSCLEROSIS, complications, pulm. artery, with pulm. heart dis. (Rus))

2148. *Rheumatic heart disease complicated by atherosclerosis of the pulmonary artery (Russian text)* ROZENBLAT F. YA. *Ter. Arkh.* 1957, 29/2 (18—26) Tables 3

110 autopsy reports of patients with pulmonary arteriosclerosis during the past 15 yr. are reviewed. Sclerosis of the pulmonary artery was most common in patients with chronic pulmonary disease and pulmonary emphysema (40%) and in patients with rheumatic valvular heart disease (28.1%). Of the latter, only patients with mitral or mitral and aortic valvular disease had pulmonary artery sclerosis, while patients with pure aortic valvular disease had none. The incidence in patients with mitral disease is similar to that in patients with chronic pulmonary disease (40%). The clinical picture of patients who developed pulmonary artery sclerosis was characterized by dyspnoea, haemoptysis, pulmonary infarctions, angina-like chest pain and enlargement of the pulmonary artery. Sinus rhythm was more common than atrial fibrillation among patients with mitral stenosis who developed pulmonary arteriosclerosis. Patients developing symptoms and signs of right ventricular failure early in the course of their disease had less pulmonary arteriosclerosis than patients with well-functioning right ventricles. The prognosis of patients with rheumatic heart disease who develop pulmonary arteriosclerosis is worse than that of other patients with rheumatic disease. Their average age of death was 32.5 yr., 9-10 yr. earlier than the age of death of patients without sclerosis of the pulmonary artery.

Surawicz – Burlington, Vt. (XVIII, 6*)

ROZENBLAT, F.Ya., prof.; BARATS, S.S., kand.med.nauk; SHCHERBA, N.I., ordinator

Comparative evaluation of the curative action of domestic drugs in stenocardia. Kaz. med. zhur. no.4:67-69 Jl-Ag '61. (MIRA 15:2)

1. Kafedra fakul'tetskoy terapii (zav. - prof. B.P.Kushelevskiy) Sverdlovskogo meditsinskogo instituta i kardiologicheskaya gruppa.
(NITRANOL) (AUTONOMIC DRUGS) (ANGINA PECTORIS)

ROZENBLAT, F.Ya., dot.; GORBUNOVA, Z.V., dots. (Sverdlovsk)

Pulmonary artery sclerosis in congenital heart disease. Klin.med. 36 no.1:127-132 Ja '58. (MIRA 11:3)

1. Iz kafedry fakul'tetskoy terapii (zav.-prof. B.P.Kushelevskiy) i kafedry propedevtiki vnutrennikh bolezney (zav.-dotsent Z.V.Gorbunova) Sverdlovskogo meditsinskogo instituta.

(CARDIOVASCULAR DEFECTS, CONGENITAL, compl.
pulm. artery sclerosis (Rus)
(ARTERIES, PULMONARY, dis.
sclerosis in congen. heart dis. (Rus)

[illegible], N. F.; Rozenblat, F. Ya.

Thrombosis

Symptomalogy and diagnosis of thrombosis of the pulmonary artery; Klin.med. 30 no. 1, 1952.

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

[redacted], B. L.; ROZENBLAT, F. Ya.

Pulmonary Artery - Diseases

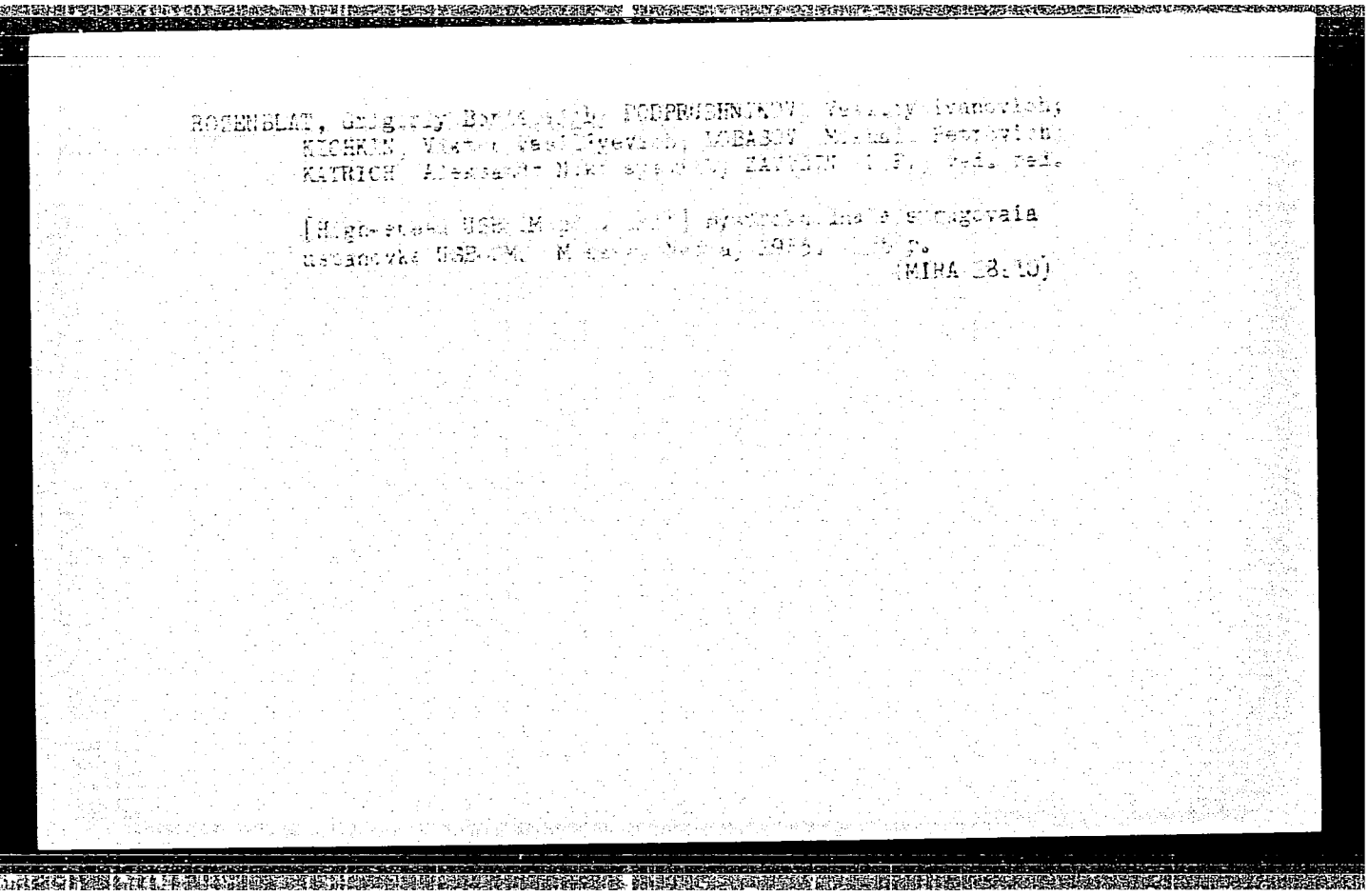
Symptomalogy and diagnosis of thrombosis of the pulmonary artery. Klin. med. 30 no. 1, 1952.

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

[redacted], A.G.

Utilization of protein by the organism in infants during their first year of life according to various feeding methods. Pediatriia no.7:25-27 Jl '57. (MIRA 10:10)

1. Iz otdela fiziologii i vospitaniya (zav. - dotsent S.A.Gul') Khar'kovskogo nauchno-issledovatel'skogo institute imeni N.K. Krupskoy (dir. - kandidat meditsinskikh nauk A.I.Kornilova)
(PROTEINS) (INFANTS--NUTRITION)



ROSENBLAT, Grigoriy Borisovich; PODPRUGINKOV, Valeriy Ivanovich;
KICHKIN, Viktor Vasil'yevich; MARASOV, Nikolay Petrovich;
KATRICH, Aleksandr Nikolayevich; ZAYTSEV, I.P., red.; red.

[Highways USSR in the years of the Great Patriotic War] Avtomobil'nye dorogi SSSR v gody Velikoi Otechestvennoi voiny. Moskva, 1945. 56 p.
(MIRA 18:10)

ROZENBLAT, Grigoriy Borisovich; PODPRUZHNIKOV, Vasiliy Ivanovich; KICHKIN, Viktor Vasil'yevich; LOBASOV, Mikhail Petrovich; KATRICH, Aleksandr Nikolayevich; ZAVOZIN, L.F., ved. red.

[The USB-2m high-speed plow] Bystrokhodnaia strugovaia ustanovka USB-2m. Moskva, Nedra, 1965. 136 p. (MIRA 18:8)

KHUDENKO, I.D., inzh.; ROZENBLAT, G.B., inzh.; RABINOVICH, I.B., inzh.

Industrial testing of the USB-1 coal plow. Ugol' Ukr. 4 no.12: 27-29 D '60. (MIRA 13:12)

(Coal mining machinery)

ROZENBLAT, G.I. (Moskva)

Design of frames with graduated supports for stability. Stroi. mekh. i rasch. soor. 4 no.1:30-36 '62. (MIRA 16:12)

ROZENBLAT, G.I., kand. tekhn. nauk.

Designing arches beyond the elasticity limit. Sbor. trud. MISI no.27: 133-161 '57. (MIRA 11:3)

(Arches)

SOV/124-58-3-3240

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 102 (USSR)

AUTHOR: Rozenblat, G. I.

TITLE: Application of the Method of Deformations to the Design Calculation of Frames Beyond the Elasticity Limit (Primeneniye metoda deformatsiy k raschetu ram za predelom uprugosti)

PERIODICAL: V sb.: Issledovaniya po teorii sooruzheniy. Nr 7, Moscow, Gosstroyizdat, 1957, pp 299-314

ABSTRACT: A method of design calculation of statically indeterminate frames consisting of rectangular cross-section beams is investigated for cases of frame loads beyond the elasticilimit. The method suggested evaluates approximately the influence of the elastic-plastic zones acting as variable-rigidity areas on the distribution of the bending moments and on the calculated displacements which are determined with the aid of Mohr's integrals. It is pointed out that in these calculations it is important to select properly a statically determined system for plotting the curves based on a unit force. A specific calculation sample of a two-story (six times statically indeterminate) frame is investigated for three different degrees of loading

Card 1/2

Application of the Method of Deformations (cont.)

corresponding to one, three, and five plastic hinges. A misprint has been noted in Fig. 3b, i.e., $P_{1max}=P_{max\ y}$ should be read as $P_1=1.5\ P_{max\ y}$.

N. M. Sapozhkov

KUZ'MIN, N.L., kand. tekhn. nauk; REKACH, V.G., doktor tekhn. nauk; ROZENBLAT, G.I., kand. tekhn. nauk; RABINOVICH, I.M., red.; GORYACHEVA, T.V., red.izd-va; KOMAROVSKAYA, L.A., tekhn.red.

[Collection of problems for a course in structural mechanics; pt. I - Problems, Pt.II - Answers and solutions] Sbornik zadach po kursu stroitel'noi mekhaniki; ch.I - Zadachi, ch.II - Otvety i resheniia. Pod red. I.M.Rabinovicha. Izd.2., perer. Moskva, Gosstroiizdat, 1962. 331 p. (MIRA 16:2)

1. Chlen-korrespondent Akademii nauk SSSR, deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Rabinovich).
(Structures, Theory of)

ROZENBLAT, G.I. (Moskva)

Design of frames with graduated supports for stability. Stroi. mekh. i rasch. soor. 4 no.1:30-36 '62. (MIRA 16:12)

ROZENBLAT, G.I., kand. tekhn. nauk (Moskva).

Using the method of deformations in designing frames beyond elastic limit. Issl. po teor. sooruzh. no.7:299-314 '57. (MLRA 10:9)
(Structural frames)

KLEYN, Georgiy Konstantinovich, prof., doktor tekhn. nauk, prof.; REKACH, Vladimir Germanovich, doktor tekhn. nauk, prof.; ROZENBLAT, Genya Isaakovna, kand. tekhn. nauk, dots.; SMIRNOV, A.F., prof., doktor tekhn. nauk, retsenzent; KOSTROMIN, V.S., prof., retsenzent; L'VIN, Ya.B., dots., retsenzent; OSELED'KO, A.I., dots., retsenzent; BARCHENKOV, A.G., dots., retsenzent; BYCHKOV, D.V., prof., doktor tekhn. nauk, red.; KOROTKOVA, A.V., red.

[Manual for conducting lessons in a special course in structural mechanics] Rukovodstvo k provedeniiu zaniatii po spetsial'nomu kursu stroitel'noi mekhaniki. Moskva, Vysshaia shkola, 1964. 295 p. (MIRA 18:3)

MESHCHERSKIY, R.M.; SMIRNOV, G.D.; FEDOROV, V.M.; ROZENBLAT, I.I.

Functional connections of the visual cortex with the external geniculate bodies in a rabbit. Trudy Inst.vys.nerv.deiat. Ser.fiziol. 7:78-90 '62. (MIRA 16:2)
(CEREBRAL CORTEX) (OPTIC THALAMUS)

ACC NR: AT6034794 (N) SOURCE CODE: UR/2914/66/000/042/0100/0109

AUTHOR: Nartov, I. M. (Candidate of technical sciences); Rozenblat, I. Kh.; Kastal'skiy, A. L.; Srabov, K. Ye.

ORG: none

TITLE: Operational technical specification of "Peking" class tankers

SOURCE: Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut morskogo flota. Informatsionnyy sbornik, no. 42(152), 1966. Tekhnicheskaya ekspluatatsiya morskogo flota voprosy nadezhnosti sudov i ikh silovykh ustanovok (Technical operation of the Merchant Marine; problems of reliability of ships and their power systems), 100-109

TOPIC TAGS: ship, marine engineering, marine engine, ocean transportation, tanker/Peking tanker

ABSTRACT: A detailed analysis is presented of the main technical characteristics of six tankers of the "Peking" class ships of 40,000-tons displacement. The indices are based on data concerning operation of the ships during the first four years after launching as indicated in Table 1 of the original article. The analysis covers

Card 1/2 UDC: 629.123.56.022

ACC NR: AT6034794

various runs made by the ships, standing time, various fuels used, engine performance, labor required for repairs, as well as power and speed indices. The article includes a detailed criticism of machinery defects. These are explained by the fact that "Peking" class ships are the first heavy-tonnage Soviet vessels to have steam turbines (19;000 hp each). Orig. art. has: 3 figures, and 4 tables. [GC]

SUB CODE: 13, 11/SUBM DATE: none/ORIG REF: 004/

Card 2/2

L 09051-67

ACC NR: AR6032260 (N) SOURCE CODE: UR/0398/66/000/006/V007/V007

AUTHOR: Nartov, I. M.; Rozenblat, I. Kh.; Kastal'skiy, A. L.; Srabov, K. Ye.

6

TITLE: Technical operational indicies of Peking tankers

SOURCE: Ref. zh. Vodnyy transport, Abs. 6V34

REF SOURCE: Inform. sb. Tsentr. n.-i. in-t morsk. flota, no. 4(152), 1966, 100-109

TOPIC TAGS: ship, vessel, steam superheater tanker/Peking tanker

ABSTRACT: A study has been made of the basic technical indices of the first 4 years of operation of six Peking tankers built in 1960—1963 with 40,000 t displacement and 19,000-hp steam turbines. An analysis is given, and data of the time in operation (sailing and standing) for this vessel is compared with those of "Leninskiy Komsomol" general cargo vessels. Data on the main operational characteristics of the vessel are presented: power, mean annual duration of operation and speed. Analysis of repair work done on the main parts of the power plant showed that the greatest labor input was required by the main boilers (67.6% of the overall cost of the boiler maintenance in the second year of operation). Failures of KVG-34 steam

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L 09051-67

ACC NR: AR6032260 O

boilers, which had the largest number of failures, included leaks in economizers, cracks in hinges, spots in the tube expander of the steam superheaters, leaks in welds spots of the air heaters, worn-out nozzle sprayers, and a worn-out brick lining. The GTZA was the most reliable power plant. The periods during which the other main parts and mechanisms of the power plant worked were determined and presented in tabular form. A set of test runs is used for eliminating the basic structural defects in this series of ships. I. Makarov. [Translation of abstract]

SUB CODE: 13/

Card 2/2 nst

ROZENBLAT, L., inzh.; FISHBEYN, S., inzh.

Phthalic anhydride. Pozh.delo 5 no.4:6 Ap '59.
(MIRA 12:5)

(Phthalic anhydride)

ROZENBLAT, M., kand.tekhn.nauk

Heaviness and curvilinear flight. Grazhd.av. 19 no.7:4-6 Jl '62. (MIRA 15:8)
(Stability of airplanes)

84-9-20/47

AUTHOR: Rozenblat, M., Candidate of Technical Sciences

TITLE: Piloting a Tu-104 During Takeoff with Only One Engine Running (Pilotirovaniye samoleta Tu-104 s odnim rabotayushchim dvigatelem na vzlete)

PERIODICAL: Grazhdanskaya Aviatsiya, 1957, Nr 9, pp. 17-20 (USSR)

ABSTRACT: The article discusses ways of operating a Tu-104, when one of the engines fails during takeoff, and emphasizes those peculiarities which distinguish this jet plane from a piston-engine aircraft attempting a takeoff under similar conditions. In jet planes the dependence of weight on speed is smaller, and so is the tendency of the jet aircraft to yaw and to bank. During the test with the Tu-104, the flying weight was increased up to 72.5 tons. The engine was cut off either one second after takeoff, or one and a half seconds prior to takeoff; in this latter instance the loaded weight was only 68.5 tons. The whole operation was registered by instruments.
M. Mogilevskiy, Candidate of Technical Sciences, proposed reducing the takeoff angle of the flaps from 20 to 10° in order to increase the rate of climb as soon as one of the engines failed. Since a normal takeoff speed (295 km/hr with a flying weight of 72.5 tons)

Card: 1/4

Piloting a Tu-104 During Takeoff with Only One Engine Running (cont.)

with a 20° flap angle provides a considerable lift reserve, a reduction of the flap angle to 10° maintaining the same speed, still retains the same takeoff run. The excess speed above the stalling speed in this case is adequate, amounting to 35 km/hr. Tests have proven that by flying at a speed of 300-320 km/hr without banking and with only one engine running, the additional resistance due to sliding decreases the climbing speed by 1.2-1.3 meters per second; this is avoided when the Tu-104 climbs with a 3° bank to the side of the running engine. If flying with no bank and with one engine idling, the pressure on the respective pedal is about 80 kg. A bank of 1° to the side of the running engine decreases the pressure by 30 kg; and almost no pressure exists when the bank is around 3°. If this bank is increased (e.g. up to 5°) the aircraft tends to turn in the same direction and thus the opposite pedal must be stressed to maintain a straight movement; this again should not be violent: the bank to the side of the idling engine should not exceed 1-1.5°. The retraction of the landing gear takes about 30 seconds. Since this operation decreases the climbing speed, it is advisable if one engine fails, to start retracting the gear only after the plane reaches an altitude of 70-80 meters. In case one engine fails, the takeoff run should be increased up to 310-315 km/hr. A mathematical formula shows the relation between the

Piloting a Tu-104 During Takeoff with Only One Engine Running (cont.)

kinetic and the potential energies of the flying plane. When the plane reaches an altitude of 70-80 meters, it should be levelled off and the speed increased to 360-380 km/hr. Only after the situation is completely under control, should the pilot prepare for landing and getting rid of excess fuel. Tests with the Tu-104 prove that climbing is possible with a loaded weight up to 72.5 tons. The crews should be trained under actual conditions also as far as the temperature is concerned, e.g., at a temperature of 15° to 20° Centigrade the loaded weight should be 60-62 tons, and at a temperature of 0 to minus 5 (Centigrade) 66-67 tons. The failure of one of the engines should be simulated by switching the engine to an idle position first at a speed of 310-320 km/hr, later at a speed of 280-290 km/hr. Four diagrams accompany this article. Diagram Nr 1 compares the speed of the aircraft at the 10° and 20° takeoff angle of the flaps. Nr 2 shows the dependence of the climbing speed on the angle of bank (to the side of the running engine). Nr 3 shows amount of pressure (in kg) on the two pedals and its relation to the banking angle. Nr 4 shows the relation between the climbing speed and the retraction of the landing gear.

84-9-20/47

Piloting a Tu-104 During Takeoff with Only One Engine Running (cont.)
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Card: 4/4

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S/020/60/134/002/033/041XX
C 111/ C 333

16.6100

AUTHOR: Rozenblat-Rot, M.

TITLE: The Law of Large Numbers for Heterogeneous Markov Chains

PERIODICAL: Doklady Akademii nauk, SSSR, 1960, Vol. 134, No. 2, pp. 278-281

TEXT: Let $(\mathcal{X}_i, \mathcal{S}_i, \mu_i)$ be a measure space, $x_i \in \mathcal{X}_i$, $A_i \in \mathcal{S}_i$ $i \in I$ (totality of all natural numbers), $\Theta = \{i_1, i_2, \ldots i_r\} \subset I$, $(\mathcal{X}^\Theta, \mathcal{S}^\Theta, \mu^\Theta) = \mathrm{X}_{i \in \Theta} (\mathcal{X}_i, \mathcal{S}_i, \mu_i)$, $x^\Theta = (x_{i_1}, x_{i_2}, \ldots x_{i_r}) = \{x_i, i \in \Theta\} \in \mathcal{X}^\Theta$, $A^\Theta \in \mathcal{S}^\Theta$ The transition probabilities $P_i(x_i, A_{i+1})$ with the domains of definition $(\mathcal{X}_i, \mathcal{S}_i, \mathcal{X}_{i+1}, \mathcal{S}_{i+1})$ $(i \in I)$ are assumed to define a Markov chain, and let $\alpha_{ij} = \alpha(P_{ij})$ be the coefficient of ergodicity of the transition function $P_{ij}(x_i, A_j)$ for the time interval $(i,j)(1 \leq i < j$. The author considers random variables Z_i which depend on a finite number of $m \geq 1$ time moments, i. e. on $x^{\Theta_i} = \{x_{i-m+1}, x_{i-m+2}, \ldots, x_i\} = \{x_k, k \in \Theta_i\}$, where $\mathrm{Card}\, \Theta_i = \{\tau, i - m + 1 \leq \tau \leq i\}$, where $\mathbf{D} Z_i < \infty$ $(i \in I)$.

S/020/60/134/002/033/041XX
C 111/ C 333

The Law of Large Numbers for Heterogeneous Markov Chains

Let $1 - \eta_n = O(n^{-\beta})(0 \leq \beta < 1)$ $\eta_n = \max_{1 \leq i \leq n-1} (1 - \alpha_{i,i+1})$.

Theorem 1: In order that a sequence of random variables $Z_i (i \in I)$, whiche are connected with the coefficients of ergodicity $\alpha_{i,i+1} > 0$ $(i \in I)$ in a Markov chain and which depend on $m \geq 1$ time moments, obeys the law of large numbers it is sufficient that

$$\lim_{n \to \infty} \frac{1}{n^{2-\beta}} \sum_{i=1}^{n} \mathbf{D} Z_i = 0. \quad \text{If } \alpha_{i,i+1} > \varrho > 0 \quad (i \in I),$$

then $\beta = 0$ in this condition.

Theorem 2: If $\mathbf{D} Z_i \leq C < \infty$ $(i \in I)$ under the conditions of theorem 1, then the sequence Z_i $(i \in I)$ obeys the law of large numbers.

Theorem 3: If in a discrete Markov chain with the coefficients of ergodicity $\alpha_{i,i+1} > 0$ $(i \in I)$ the probability of occurrence of the event i in the k-th test is equal to $p_k^{(i)}$, and if $\zeta^{(i)}$ is the number of occurrences of the event i in the first n tests, then for every $\varepsilon > 0$:

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C 111/ C 333

The Law of Large Numbers for Heterogeneous Markov Chains

$$\lim_{n \to \infty} P \left\{ \left| \frac{\mu^{(i)}}{n} - \frac{p_1^{(i)} + \ldots + p_n^{(i)}}{n} \right| > \varepsilon \right\} = 0 .$$

Let $Y_k = Z_k$ for $|Z_k| \geq \delta_n$, $Y_k = 0$ for $|Z_k| < \delta_n$ $(k = 1,2,..,n)$.

Theorem 4: If the random variables $Z_i (i \in I)$ connected with $\alpha_{i,i+1} > \beta > 0$ $(i \in I)$ in a Markov chain, which depend on $m \geq 1$ time moments, have a finite mathematical expectation $a_i = M Z_i$, where $M|Z_i| < b < \infty$ $(i \in I)$, and MY_i tends uniformly to zero for $n \to \infty$, then for every $\varepsilon > 0$:

$$\lim P \left\{ \left| \frac{1}{n} \sum_{i=1}^{n} Z_i - \frac{1}{n} \sum_{i=1}^{n} a_i \right| > \varepsilon \right\} = 0 .$$

Theorems 5 and 6 are corollaries of theorem 4.

The author mentions A. Ya. Khinchin and Chebyshev.

Card 3/4

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C 111/ C 333

The Law of Large Numbers for Heterogeneous Markov Chains

There are 8 references: 7 Soviet and 1 French.

ASSOCIATION: Fakul'tet matematiki i fiziki Universiteta imeni Parkhona (Faculty of Mathematics and Physics of the University imeni Parkhon)
Matematicheskiy institut Rumynskoy Akademii nauk, Bukharest, Rumyniya (Mathematical Institute of the Roumanian Academy of Sciences, Bucharest, Roumania)

PRESENTED: April 6, 1960, by A. N. Kolmogorov, Academician

SUBMITTED: December 19, 1959

Card 4/4

SOV/84-58-12-44/54

AUTHOR: Rozenblat, M., Candidate of Technical Sciences

TITLE: Autorotation of Air Propellers in Gas Turbine Engines (Avtorotatsiya vozdushnykh vintov gazoturbinnykh dvigateley)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 12, pp 31-34 (USSR)

ABSTRACT: The author discusses the characteristics of the TVD (turboprop) propeller during autorotation. The subject is of interest to pilots and flight engineers training on turboprop aircraft, since the characteristics of a gas-turbine propeller are particularly apparent in reverse action and autorotation. In reverse during take-off the propeller produces a negative thrust, while during autorotation the engine is switched off and, the propeller rotates under the influence of the air current. There are 4 diagrams.

Card 1/1

S/084/60/000/007/002/007
A104/A029

26.3130

AUTHOR: Rozenblat, M., Candidate of Technical Sciences

TITLE: On Climbing Performance

PERIODICAL: Grazhdanskaya Aviatsiya, 1960, No. 7, pp. 4 - 5

TEXT: The author discusses the economic aspects of air transport and describes a number of flying tests carried out by the GosNII GVF (State Scientific Research Institute of Civil Aviation) on Tu-104 aircraft. The purpose of tests was to increase the flying speed of aircraft which depends largely on the climbing performance and on the acceleration. During the climb the aircraft gains vertical speed from the surplus pull which in turn depends on the flying speed. The dependence of the surplus pull on true flying speed is shown in Figure 1. Figure 2 shows the dependence of the vertical climbing speed on the true speed at varying altitudes. The best climbing performance was achieved by navigation towards the echelon at operating speed which eliminates the necessity of acceleration at low surplus pull, after which the climbing speed was increased, accompanied by acceleration at relatively low altitudes. The selected method is shown in Figure 3. Tu-104 was accelerated at 1,000 m up to 600 km/h instrument

Card 1/2

speed which is maintained until a true speed of 800 km/h is reached. This coincides with the operating speed and is attained at altitudes of about 6,000 m. The flight then continued at unchanged speed until the echelon is reached. Acceleration at 4 - 5,000 m (instead of 1,000 m) provides a gain of 2 ½ min; this fact should be borne in mind in consideration of the bumpy air at low altitudes which makes acceleration inexpedient. In such circumstances the aircraft should be led out of the bumpy air zone at 560 - 580 km/h and then accelerated up to 800 km/h true speed. A comparison between the new and the old method produced the following results: the new method ensures a greater vertical speed from 8,000 m onwards; the fuel consumption remains the same; for distances like the Moscow - Vladivostok route such faster climbing performance results in a gain of 10 - 14 min. A nation-wide introduction of the new method will save many millions of rubles and reduce the cost of transport. There are 3 figures.

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S/084/60/000/007/002/007
A104/A129

10.5000

AUTHOR: Rozenblat, M., Candidate of Technical Sciences

TITLE: On climbing performance

PERIODICAL: Grazhdanskaya Aviatsiya, no. 7, 1960, 4 - 5

TEXT: The author discusses the economic aspects of air transport and describes a number of flying tests carried out by the GosNII GVF (State Scientific Research Institute of the Civil Air Fleet) on Tu-104 aircraft. The purpose of tests was to increase the flying speed of aircraft which depends largely on the climbing performance and on the acceleration. During the climb the aircraft gains vertical speed from the surplus pull which in turn depends on the flying speed. The dependence of the surplus pull on true flying speed on various altitudes(Fig. 1) shows that the steepest rise of aircraft corresponds to the maximum climb. Figure 2 shows the dependence of the vertical climbing speed of Tu-104 on the true speed at varying altitudes. The most favorable speed at 10,000 m altitude is 730 km/h, i.e. 30% higher than on the ground. The best climbing performance was achieved by navigation towards the echelon at operating speed which eliminates the necessity of acceleration at low surplus pull, after which the

Card 1/4

On climbing performance

climbing speed was increased, accompanied by acceleration at relatively low altitudes. The selected method is shown in Figure 3. The Tu-104 was accelerated at 1,000 m upt to 600 km/h instrument speed, which is maintained until a true speed of 800 km/h is reached. This coincides with the cruising speed and is attained at altitudes of about 6,000 m. The climb at increased take-off speed reduces the rising flight to 3 1/2 min. The flight is then continued at unchanged speed until the echelon is reached. Acceleration at 4 - 5,000 m (instead of 1,000 m) provides a gain of 2 1/2 min; this fact should be borne in mind in consideration of the bumpy air at low altitudes which makes acceleration inexpedient. Under such circumstances the aircraft should be led out of the bumpy air zone at 560 - - 580 km/h and then accelerated up to 800 km/h true speed. A comparison between the new and the old method produced the following results: the aircraft, climbing according to the old method, reaches the 10,000 m echelon, completing its climbing speed, at an altitude of 9,400 m; the new method ensures a greater vertical speed from 8,000 m onwards; according to the new method the fuel consumption per hour is lower during 70% of the climb and higher during the remaining 30%, i.e. the fuel consumption remains the same; for distances like the Moscow - - Vladivostok route such faster climbing performance results in a gain of 10 - 14 min. A nation - wide introduction of the new method will save many millions of rubles and reduce the cost of transport. There are 3 figures.

Card 2/4

ROZENBLAT, M., kand. tekhn. nauk

Overload and curvilinear flight. Grazhd. av. 19 no.6:2-4 Je '62. (MIRA 18:6)

Amplifiers, Magnetic
Regulators

"Contemporary Magnetic Amplifiers," M. A. Rozenblat, 11½ pp

"Avtomatika i Telemekh" Vol VIII, No 6

Gives summary of data contained in several articles, Soviet as well as foreign. Describes some basic types of magnetic amplifiers used in contemporary appliances in automatics as well as telemechanics. Discusses basic characteristics of these systems, and describes the fields in which each might be

IC 50T29

used. Also describes method to increase the sensitivity and the coefficient of amplification of the magnetic amplifier.

IC 50T29

ROZENBLAT, M. A.

"Experimental Investigation of Magnetic Amplifiers with Reverse Connection," Elektrichestvo, May 48.

ROZENBLAT, M. A.

PA 10/49T105

USSR/Physics
Ferromagnetism
Magnetic Fields

Jun 48

"The Effect of Even Harmonics on the Characteristics of Ferromagnetic Materials Which are Acted on Simultaneously by Constant and Alternating Magnetic Fields," M. A. Rozenblat, 9½ pp

"Zhur Tekh Fiz" Vol XVIII, No 6

States basic equations. Measures mean magnetic permeability. Plots results and discusses them. Concludes that, as a rule, even harmonics in a core decrease its permeability. Explains its bearing on

10/49T105

USSR/Physics (Contd)

Jun 48

magnetic intensifiers with a positive feed-back circuit.

10/49T105

ROZENBLAT, M.A.

"Magnetic Amplifiers." Gosenergoizdat, 1949, 184 pp.

ROZENBLAT, M. A. PA 22/49T5

USSR/Electricity Jan 49
Amplifiers, Power
Amplifiers, Magnetic

"Fundamentals of Calculating Two-Cycle Magnetic-Power Amplifiers," M. A. Rozenblat, Inst of Automatics and Telemech, Acad Sci USSR, 18½ pp

"Avtomat i Telemekh" No 1

Discusses design problems of two-cycle magnetic-power amplifiers based on differential bridge and transformer circuits. Deduces condition for obtaining maximum power at amplifier and maximum amplification factor. Gives methods

22/49T5

USSR/Electricity (Contd) Jan 49

for selecting operating conditions for magnetic material of cores. Presents results of experiments on designed amplifier. Submitted 26 Mar 48.

22/49T5

USSR/Physics Jul/Aug 49
Magnets
Magnetism

"Iron Saturated Magnetic Probes," M. A. Rozenblat, Inst of Automatics and Telemech, Acad Sci USSR, 15 pp

PA 51/49T67

"Avtomat i Telemekh" Vol X, No 4

Surveys and classifies magnetic probes based on nonlinear character of magnetization curve for ferromagnetic materials. Classifies probes according to type of auxiliary field they employ. Gives circuit diagrams of: magnetometer with [redacted]

51/49T67

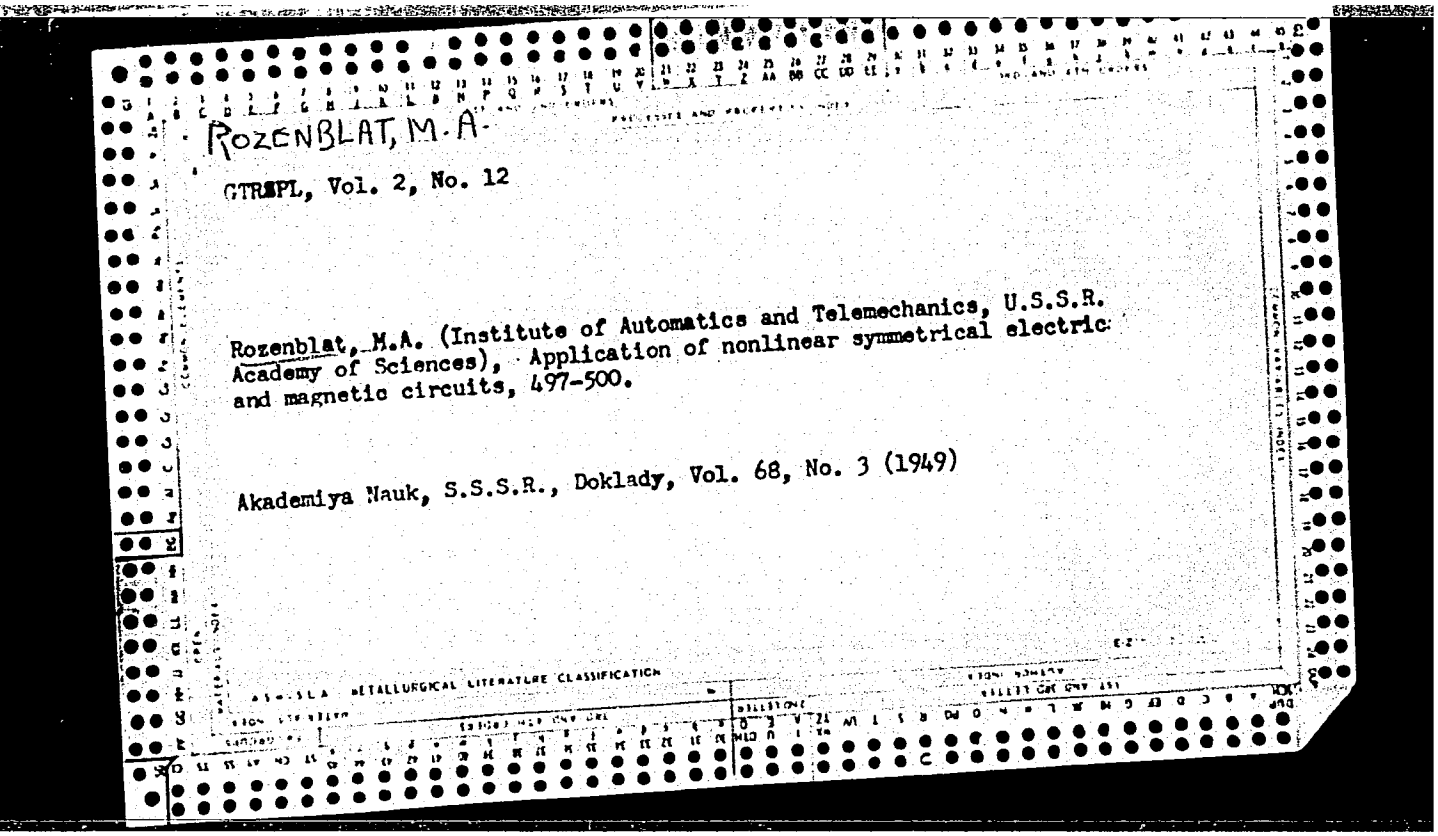
USSR/Physics (Contd) Jul/Aug 49

automatic compensation of the field being measured; magnetic probe with a frequency doubler arrangement; magnetic probe with varying inductance differential, bridge, and transformer circuits for magnetic probes with varying inductance; magnetic probes with impulse excitation; and magnetic probes with transverse excitation. Submitted 25 Jul 48.

[redacted]

51/49T67

ROZENBLAT, M. A.



ROZENBLAT, M.A.

GTRSPL, Vol. 2, No. 12

Rozenblat, M.A. (Institute of Automatics and Telemechanics, U.S.S.R. Academy of Sciences), Application of nonlinear symmetrical electric and magnetic circuits, 497-500.

Akademiya Nauk, S.S.S.R., Doklady, Vol. 68, No. 3 (1949)

ROZENBLAT, M. A.

Transients in Alternating-Current Circuits During Rapid Change of Induction. (In Russian.) M. A. Rozenblat. *Elektrichestvo* (Electricity), Feb. 1950, p. 9-12.

Influence of individual circuit parameters on character of the transient process is explained theoretically. Basic conclusions are confirmed experimentally.

ROZENBLAT, M. A.

538.247

6156. Ballistic demagnetization coefficient for prismatic bars. M. A. ROZENBLAT. *J. Tech. Phys.*, *USSR*, 20, 1117–20 (Sept., 1950) *In Russian.*

Such demagnetization factors have been given by Arkadiev and Sandheimer, and were based on the inscribed ellipsoid of revolution and three-axed ellipsoid, respectively. The new formula presented is also based on a three-axed ellipsoid of the same length, cross-section, but also the same mean perimeter as the prismatic bar, and takes the form $N = 16\delta d/l^2(\log \pi\gamma l^2/\delta + d) - 1$, where the shape factor γ depends on the ratio of the axes a/b of the ellipsoid and is computed by elliptic integrals. Comparison with experimental results and the same special cases calculated by the older formulae shows the considerable improvement in accuracy achieved; an estimate of the theoretical error shows that it will always lie within admissible limits, which does not apply to the other formulae. The experimental determination of the ballistic demagnetization factor was made on permalloy and transformer sheet strips as such, compared with toroids composed of such sheet material.

B. F. KRAUS

USSR/Electricity - Nonlinearity 1 Oct 50
Resistance, Nonlinear (Thyrite)

"Selective Rectification With the Aid of Nonlinear Resistances," M. A. Rozenblat, Inst Automatics and Telemech, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIV, No 4, pp 719-722

Describes thyrite systems with symmetric (i.e., odd) v-amp characteristics: $i = au + bu^3 + cu^5$, where selective rectification is effected by certain definite ratios of frequencies p and q (see "Dok Ak Nauk SSSR" Vol LXVIII, No 3, 1949) of 2 input voltages. Submitted 10 Aug 50 by Acad V. S. Kulebakin.

172T21

ROSENBLAT, M. A., SEDYEH, O. A.

Electric Resistors

Electric properties and use of carborundum resistors. Avitom. i telem. 12 No. 4 (1951)

9. Monthly List of Russian Accessions, Library of Congress, August 1952 1953, Uncl.

ROZENBLAT, M.A.

USSR/Electricity - Measurements 21 Dec 51

"The Problem of Measuring Iron Losses," M. A. Rozenblat

"Dok Ak Nauk SSSR" Vol LXXXI, No 6, pp 1059-1063

States that present-day methods of measuring iron losses (ac potentiometer method, balanced bridge method, 3-voltage method, and ferrometers) give results which are considerably in error because no correction is introduced for the power radiated into the resistance of the magnetizing circuit by higher harmonics. Submitted by Acad V. S. Kulebakin 30 Oct 51.

215T19

USSR/Electricity - Magnetic Materials Apr 52
Iron Losses, Measurements

"The Phase Shift Between the First Harmonics of Induction and Magnetic Field Intensity and Measurement of Iron Losses," M. A. Rozenblat, Cand Tech Sci, Inst of Automatics and Telemech, Acad Sci USSR

"Elektrichestvo" No 4, pp 58-62

PA 228T57

Shows that a ferromagnetic core magnetized by an ac can be considered a generator of hf currents, whose power determines, along with the iron losses, the effective power delivered to the core by the fundamental wave current and the phase shift between the 1st harmonics of field intensity and induction in the core. Notes that, because of this, many of the methods used for measuring iron losses give considerable number of errors. Submitted 27 Jun 51.

228T57

ROZENBLAT, M. A.

ROZENBLAT, M. A.

Electrical Engineering Abst.
Vol. 57 No. 676
Apr. 1954
Electrical Engineering

1 (1) elec

621.318.435.3.011.6

1541. Graphical determination of the time lag of magnetic amplifiers. M. A. ROZENBLAT. *Elektrichestvo*, 1953, *No.* 10, 38–9 *In Russian.*

The method uses either experimental or calculated magnetic characteristics of the material of the amplifier and is based on the graphical determination of the relation between the d.c. components of the flux density and of the field strength due to the amplified signal. The accuracy of the method for a permalloy or transformer-steel-cored amplifier is between 10 and 20%. E. M. DEMBINSKI

8/31/54

ROZENBLAT, M.A.

AID P - 612

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 16/35

Authors : Rozenblat, M. A., Kand. of Tech. Sci., Scientific Research Institute of the Ministry of Transportation [NII MK USSR], Senchenkov, A. F., Eng., [NII MRP USSR] Scientific Research Institute of the Ministry of the Fish Industry

Title : Magnetic amplifiers (History of electrical engineering)

Periodical : Elektrichestvo, 8, 67-72, Ag 1954

Abstract : Described are the early Russian discoveries in this field by Stoletov, A. G. in 1871-72 and Yablochkov, P. N. in 1876, who according to the author were the pioneers in experimenting with the problems of magnetic amplification. The first magnetic amplifier of sound frequencies was constructed in 1920 by Shenfer, K. I., a Russian Academician. Further developments in Russia and other countries are described. 5 diagrams, 27 references (1915-1952).

Institutions: See Author affiliations

Submitted : No date

ROZENBLAT, M.A.(Moskva,); DOKHMAN, S.A. (Moskva) .

Contactless magnetic relays. Avtom. i telem.15 no.1:3-21 Ja-F '54.
(MLRA 10:3)

(Electric relays) (Magnetic amplifiers)

ROZENBLAT, M.A. (Moscow)

Principles of the theory and design of selective rectifiers in nonlinear symmetric resistors. Avtom. i telem. 15 no.4:336-353 Jl-Ag '54. (MLRA 7:11)
(Electric resistors) (Electric current rectifiers)

Abs. -
W-31148, 7 Feb 55

ROSENBLATT, M.A.

USSR

95/114 538.247

Demagnetisation Coefficients of Rods with High Magnetic Permeability

Zh.tekh.Fiz. 24(4),637-661 1954 U.S.S.R.

62

M.A. Rosenblatt

Experimental study of the dependence of demagnetisation coefficient of solid and laminated cores with rectangular cross-section and of solid and hollow cylinders possessing high magnetic permeability, on their configuration. A semi-empiric formula for the calculation of such cores is offered. A number of works on the subject are criticized for inaccuracies.(Bibl.33)

ROZENBLATT, Moisey Aronovich; BERG, A.I., redaktor; DZHIGIT, I.S., redaktor; YELIN, O.G., redaktor; KULIKOVSKIY, A.A., redaktor; MOZHZHEVELOV, B.N., redaktor; SMIRNOV, A.D., redaktor; TARASOV, F.I., redaktor; TRAMM, B.F., redaktor; CHECHIK, P.O., redaktor; SHAMSHUR, V.I., redaktor; SENCHEKOV, A.F., redaktor; VORONIN, K.P., tekhnicheskiy redaktor.

[Magnetic amplifiers] Magnitnye usiliteli. Moskva, Gos.energ. izd-vo, 1955. 135 p. (Massovaia radiobiblioteka, no.230) (MLRA 8:11)
(Magnetic amplifiers)

ROZENBLAT, M. A.

AID P - 1281

Subject : USSR/Electricity

Card 1/2 Pub. 27 - 5/30

Author : Rozenblat, M. A., Kand. of Tech. Sci., Moscow

Title : Reversal of magnetization of cores with a rectangular hysteresis loop under current pulse conditions

Periodical : Elektrichestvo, 1, 24-28, Ja 1955

Abstract : The author studies the effect of variation of magnetic and physical factors on the time needed to change a magnetic toroid from a condition of residual flux density to the opposite condition of saturation flux density. This "switching time" is found to consist of three components, which depend, first, upon the eddy current losses, second, upon the demagnetizing action of the current in the outlet winding to which is coupled the load, and third, upon the delay in the magnetizing circuit. When eddy currents are absent, the magnetic flux in a rectangular hysteresis loop material increases in direct proportion to the time. Eddy currents change

ROZENBLAT, Moisey Aronovich, doktor tekhnicheskikh nauk; ALEKSANDROVA, A.A., redaktor; KORUZEV, N.N., tekhnicheskiy redaktor

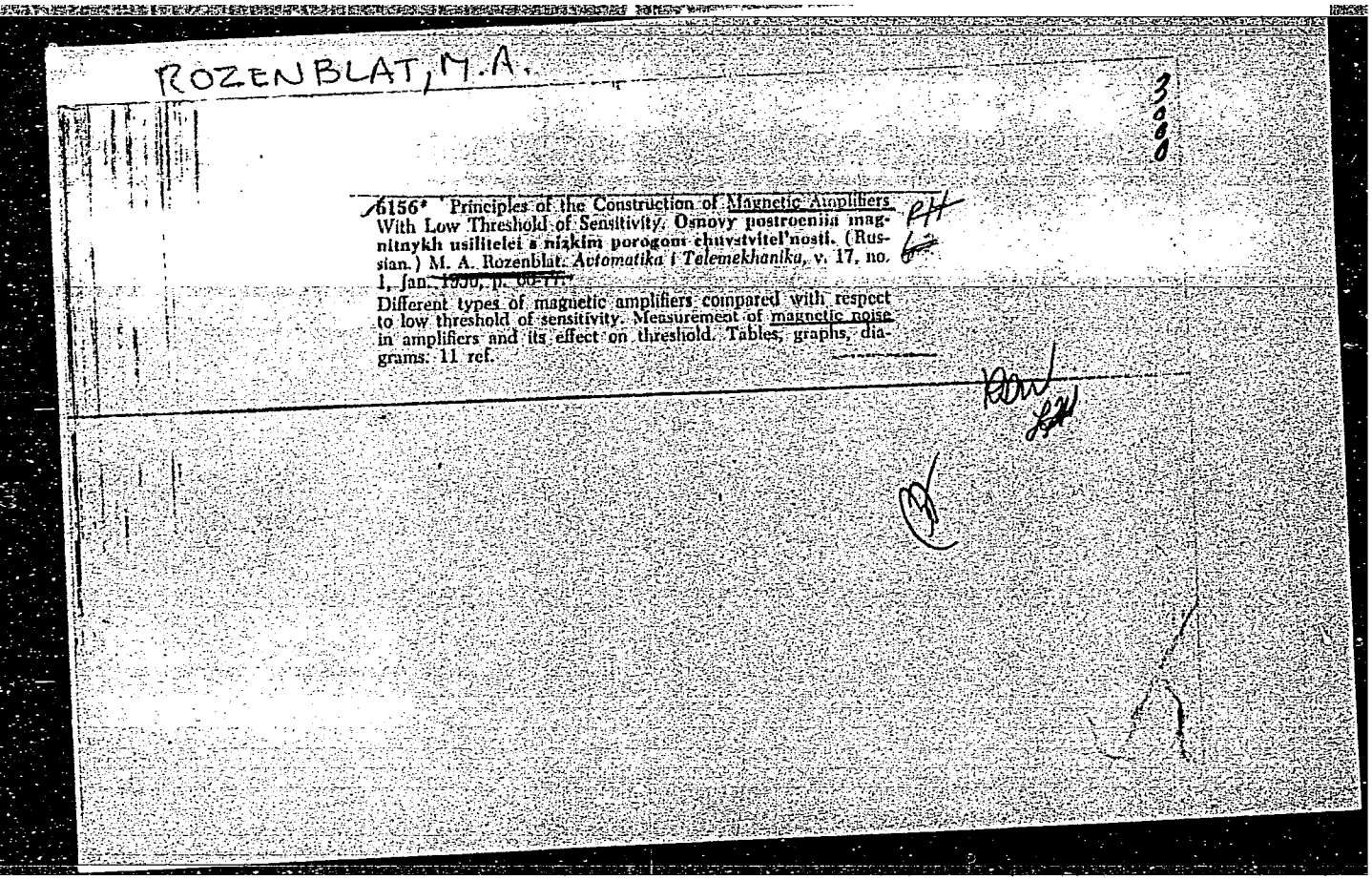
[Magnetic amplifiers] Magnitnye usiliteli. Moskva, Izd-vo "Sovetskoe radio," 1956. 823 p. (MLRA 10:2)
(Magnetic amplifiers)

621.318.435.3

3506. THE THEORY AND DESIGN OF A MAGNETIC MODULATOR OPERATING ON THE PRINCIPLE OF FREQUENCY DOUBLING.

M.A.Rozenblat,
Radiotekhnika, Vol. 11, No. 8, 36-51 (1956). In Russian.

An approximate method for the computation of the B/H curve is given and illustrated by a graph for a high-permeability alloy (type "80 NKhS") comparable with Mumetal. An expression for the flux density is derived and a dimensionless equation for the modulator characteristic is obtained. Factors which govern the maximum sensitivity are explained. The magnetic "noise" for various alloys is tabulated. The inertia of the modulator depends on the time constant of the control circuit and reduction of core dimensions is suggested as a means of reducing this inertia. Other factors considered include influence of load resistance on output power, creep of the zero point of the system and unbalance. A practical calculation is included and characteristic curves are plotted.



ROZENBLAT, M.A.

3000

6156* Principles of the Construction of Magnetic Amplifiers With Low Threshold of Sensitivity. Osnovy postroeniia magnitnykh usilitelei s nizkim porogom chuvstvitel'nosti. (Russian.) M. A. Rozenblat. *Avtomatika i Telemekhanika*, v. 17, no. 1, Jan. 1956, p. 66-77.

Different types of magnetic amplifiers compared with respect to low threshold of sensitivity. Measurement of magnetic noise in amplifiers and its effect on threshold. Tables, graphs, diagrams. 11 ref.

ROZENBLAT, M.A.

105-7-6/29

AUTHOR ROZENBLAT, M.A., Prof., Dr. techn. Sciences

TITLE On the Calculation of Magnetic-Modulation Transducers for the Magnetic Field Intensity
(K raschetu magnitomodulyatsionnykh datchikov napryazhennosti magnitnogo polya. Russian)

PERIODICAL Elektrichestvo, 1957, , Nr 7, pp 24 - 31 (U.S.S.R.)

ABSTRACT When computing donors with open cores, the dependence of the magnetic induction in the open core on the voltage of the outer magnetic field H must be known. This dependence is determined not only by the magnetic properties of the core substance but also by the shape and the measurements of the core. Magnetization of ferromagnetic rods in the open magnetic circuits is investigated. The formula for the demagnetization coefficient N given by the author in Zhurnal Tekhn. Fiz. 1954, Vol 24, Nr 4, pp 637 - 661 is valid only on the occasion of magnetization in an even field and may be used under the condition that the length of the magnetizing alternation current winding is in agreement with the length of the core, which, as rule, is anyhow the case. At first the sensitivity of a donor with one core and then the sensitivity of a donor with two cores is investigated and the formulae for the determination of this sensitivity is deviated. Next, the geometrical measurements of the cores are investigated. It is shown that at $\mu \gg m$ the enlargement of the active core cross section S cannot result in a decisive increase of the

Card 1/3

105-7-6/29

On the Calculation of Magnetic-Modulation Transducers for the Magnetic Field Intensity

donor sensitivity at the expense of an increase of its width, and, even more, at the expense of an increase of its thickness. μ denotes the relative magnetic permeability of the working material, m - relative permeability of form. It is shown that the power output consumed by the donor increases with the rectangle of the core cross section. The increase of the length of the core leads to an increase of sensitivity, i.e. proportional to $l^{3/2}$ (output capacity proportional to l^3) and to a decrease of the consumed power output inversely proportional to l. (l - length of core). It is shown that at $\mu \gg m$ the sensitivity of the donor practically does not depend upon the magnetic properties of the core material. The values of the permeability m of the shape of the core are determined which warrant a required stability of the sensitivity $\frac{\Delta G}{G} = 100\ \%$ of the donor in the case of a relative modification of the permeability of the material $\frac{\Delta \mu}{\mu}$ 100 %.

(With 8 illustrations, 3 tables, 3 Slavic references).

Card 2/3

105-7-6/29

On the Calculation of Magnetic-Modulation Transducers for the Magnetic Field Intensity

ASSOCIATION All-Union Scientific Research Institute for Sound Recording (vsesoyuznyy nauchno-issledovatel'skiy institut zvukozapisi)

PRESENTED BY

SUBMITTED 30.7.1956

AVAILABLE Library of Congress

Card 3/3

ROZENBLAT, M. A.

"Magnetic Amplifiers for Automatic Control Systems"

Avtomaticheskoye upravleniye i vychislitel'naya tekhnika, vyp. 1, Moscow, Mashgiz, 1958, 302pp. (Automatic Control and Computing Technique, v.1.)

The book is a collection of eleven articles presented at a seminar on the theory and technique of automatic control and computing machines. The seminar was organized by the Sci. and Tech. Soc. of Instrument Making, the Moscow Higher Technical School im Bauman, and the Moscow Aviation Inst im S. Ordzhonikidze. The Moscow Physics and Engineering Inst. also participated in the seminar.

Rozenblat, M. A.

ROZENBLAT, M.A., doktor tekhn.nauk, prof.; DOKHMAN, S.A., inzh. (Moskva)

Contactless magnetic relay for automatic control and sorting of articles. Elektrichestvo no.1:45-48 Ja '58. (MIRA 11:2)
(Electric relays)

ROZENBLAT, M.A.

Magnetic amplifiers for automatic control systems. Avtom. upr. i vych. tekh. no.1:182-204 '58. (MIRA 12:1)
(Automatic control) (Magnetic amplifiers)

ROZENBLAT, M.A

24-58-3-37/38

AUTHOR: Solomonov, M.

TITLE: Role and Importance of Magnetic Elements. Some Findings of the All-Union Conference on Magnetic Elements in Automation, Telemechanics and Computer Engineering (Rol' i znacheniye magnitnykh elementov. Nekotoryye itogi vsesoyuznogo soveshchaniya po magnitnym elementam avtomatiki, telemekhaniki i vychislitel'noy tekhniki)

PERIODICAL: Izvestiya Akademii Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk, 1958, Nr 3, pp 174-175 (USSR)

ABSTRACT: This conference was convened by the Institut avtomatiki i telemekhaniki Akademii nauk SSSR (Institute of Automatics and Telemechanics, Academy of Sciences USSR) and the Komissiya po magnitnym usilitelyam i beskontaktnym magnitnym elementam (Commission on Magnetic Amplifiers and Contactless Magnetic Devices). It was held on Nov. 20-30, 1957 with the participation of 800 delegates, representing 240 research and industrial organisations. In the plenary meetings the following papers were read: B. S. Sotskov on "Present state and problems of developing magnetic elements for automation and telemechanics"; K. M. Polivanov on "Dynamic characteristics of elements of electric circuits"; R. V. Telesnin "The influence of magnetic viscosity on the process of remagnetization of cores"; M. A.

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Role and Importance of Magnetic Elements. Some Findings of the All-Union Conference on Magnetic Elements in Automation, Telemechanics and Computer Engineering.

Rozenblat on "Certain factors influencing the static and dynamic characteristics of toroidal cores"; E. T. Chernyshev, N. G. Chernysheva and E. N. Chedurina on "Present state of the problem of testing magnetic materials in dynamic regimes"; M. A. Rozenblat and O. A. Sedykh on "Fundamental principles of constructing (type) series of toroidal cores for magnetic amplifiers and contactless magnetic elements". A number of papers were read in two sections (magnetic amplifiers and discrete magnetic elements). Altogether 80 papers and communications were presented. These showed that in recent years successful results were obtained in the Soviet Union in the field of theory, development and application of various types of magnetic elements to automation, telemechanization and computer engineering. Application of magnetic elements brings about a considerable improvement in reliability and simplifies the design and operation of equipment. Depending on the type of the apparatus, use of static magnetic elements instead of electronic tubes, relays, amplidynes,

24-58-3-37/38

Role and Importance of Magnetic Elements. Some Findings of the All-Union Conference on Magnetic Elements in Automation, Telemechanics and Computer Engineering.

etc. results in an increase in efficiency, reduction of dimensions, increased speed of response, a reduced power consumption, an increase in sensitivity and a reduction in the costs of apparatus and various other advantages. Simultaneous utilization of magnetic amplifiers and semiconductors will enable the solution of complicated technical problems and opens up wide prospects for further improvement of apparatus used in automation, remote control, computer and communication engineering.

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1. Telemechanics and Computer Engineering--Conference--USSR

SOV/28-58-6-9/34

AUTHORS: Rozenblat, M.A., Professor, Doctor of Technical Sciences, and Sedykh, O.A., Engineer

TITLE: The Principles of Forming Series of Toroidal Cores for Magnetic Amplifiers (Printsipy postroyeniya ryadov toroidal'nykh serdechnikov dlya magnitnykh usiliteley)

PERIODICAL: Standartizatsiya, 1958, Nr 6, pp 37-42 (USSR)

ABSTRACT: In automation and telemechanics, magnetic amplifiers and non-contact magnetic elements with rectangular hysteresis loop and high magnetic penetration are used. The production of the cores of these magnets is not centralized, and the sizes differ in the various plants. A series of cores is proposed here which satisfy all the needs of the industry, make maximum use of the magnetic properties, are of light weight, etc. There are three groups of amplifiers according to their use: 1) small-power amplifiers with high sensitivity

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The Principles of Forming Series of Toroidal Cores for Magnetic Amplifiers

for which weight, efficiency factor, etc. are of minor importance; 2) medium power amplifiers for which the economic factor determining the relations between output, cost, weight, size, etc. is most important; 3) high-power amplifiers for which maximum power, limited only by the heat development in the windings, is important. The selection of the correct values for the inner diameter of the cores (Table 4), their height, outer diameter, the minimum series (Table 5) and maximum series (Table 6) is demonstrated by formulae and tables. Table 6 shows the range in which the dimensions for a new core may be selected.

SOV/28-58-6-9/34

The Principles of Forming Series of Toroidal Cores for Magnetic Amplifiers

There are 2 graphs and 6 tables.

ASSOCIATION: Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automatization and Telemechanics)

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ROZENBLAT, M.A.

103-1-7/10

AUTHOR: Rozenblat, M. A. (Moscow)

TITLE: Dynamic Characteristics of Cores with a Square Static Hysteresis-Loop (Influence of Eddy Currents) (Dinamicheskiye kharakteristiki serdechnikov s pryamougol'noy staticheskoy petley gisterezisa (Vliyaniye vikhrevykh tokov))

PERIODICAL: Avtomatika i Telemekhanika, 1958, Vol. 19, Nr 1, pp. 75-84 (USSR)

ABSTRACT: In this paper, a theoretical investigation of the influence of eddy currents on the dynamic characteristics of torus-shaped (cylindrical) annular cores with a square static hysteresis-loop under various magnetising conditions is conducted. The influence of magnetic relaxations is neglected. It is assumed, that the boundary of the static loop is of an ideal rectangular shape, which is characterised by the features of having a remanent induction B_r equal to the saturation induction B_s and a differential permeability μ_D equal to infinity at values of $|B| < B_s$. It is shown:
1) that the influence of eddy currents on the magnetising processes of cores with a rectangular static hysteresis-loop can be taken into consideration according to the method

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proposed by V. K. Arkad'yev (reference 3). 2) The shape of the dynamic hysteresis loop and the magnitude of the dynamic coercive force is essentially dependent on the laws governing the modification of the magnetic induction or of the field strength. 3) In the case of a sinusoidal induction a quite unusual shape of the dynamic hysteresis-loop may be observed, which is characterised by the fact, that the field strength increases up to a certain maximum value at an increasing induction, where the differential permeability equals infinity, and that it decreases from there onwards, in which case the differential permeability may assume negative values. 4) The eddy currents cause a reduction of the coefficient of amplification and of the linearity of the characteristics of magnetic amplifiers with a positive feed-back, which are governed by d. c. signals. The influence of eddy currents may also be estimated by measuring the coercive force at d.c. and at a sinusoidal induction. 5) The influence of short-circuited windings differs from that of the eddy currents. The influence of eddy currents cannot be taken into consideration by the introduction of an "equivalent" short-circuited winding. 6) The essential influence of eddy currents

becomes manifest already at a frequency of 50 cycles, even if the thickness of the material is 0,05 - 0,1 mm and less, particularly if the field strength modifies according to a sinus-curve. There are 7 figures, 3 tables, and 4 references, 3 of which are Slavic.

SUBMITTED: May 15, 1957

AVAILABLE: Library of Congress

1. Magnetic cores-Analysis 2. Electrical equipment-USSR

AUTHOR: Rozenblat, M. A., (Moscow) SOV/103-19-8-8/11

TITLE: The Dependence of the Static Magnetic Characteristics of Toroidal Cores Upon Their Geometrical Dimensions (Zavisimost' staticheskikh kharakteristik toroidal'nykh serdechnikov ot ikh geometricheskikh razmerov)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol 19, Nr 8, pp 788 - 799 (USSR)

ABSTRACT: The influence of the ratio $\alpha = R_{external}/R_{internal}$ (external and internal diameter of toroidal cores) on the shape of the magnetization curve and on the shape of the hysteresis loop is investigated. This problem was partly investigated in reference 1. The following is shown: 1) It is possible to obtain the magnetic characteristics of such cores in the form of a mathematical function B=F(H), if the influence of the heterogeneity of magnetization across the cross section is taken into account. They can be constructed graphically, if an analytical expression is given for the corresponding characteristics of the magnetic material, or if they are given in the form of experimental curves. 2) The ratio α has a considerable effect on the magnetic properties of cores, in

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particular, when magnetic materials with a rectangular hysteresis loop or with a sharp bend in the virgin magnetization curve are used. 3) If α is increased, a flattening out of the bend in the magnetization curve and a decrease of the magnetic permeability in this range is observed. The differential permeability in the "vertical sections" of the "rectangular" hysteresis loop, the linear functions $B = F(H)$ is disturbed in these sections and the factor of rectangularity of the core becomes smaller. In the range of weak fields an increase of the magnetic permeability is found. 4) The modification of the magnetic characteristics of toroidal cores as a result of the modification of α can considerably influence the properties of magnetic amplifiers and of the other contactless magnetic circuit elements. It must be taken into consideration in the choice of the geometric dimensions of these cores. There are 11 figures, 2 tables, and 3 references, 2 of which are Soviet.

SUBMITTED: July 17, 1957

SOV/103-19-9-3/11

AUTHORS: Kerbnikov, F. I., Rozenblat, M. A. (Moscow)

TITLE: Magnetic Modulators (Frequency Multipliers) Crossed With Magnetic Fields (Magnitnyye modulyatory s poperechnym vozbuzhdeniyem)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol 19, Nr 9, pp 836-848 (USSR)

ABSTRACT: Here the theory and method of computing magnetic frequency multipliers with crossed bias and signal field is presented. Multipliers with doubled frequency and such with an output with the initial frequency are investigated. The purpose of this investigation was to compare the theoretical and the actual values of the amplification factors and of the transmission factor of the individual types of multiplier cores from "Oksifer-2000" were used. The characteristics obtained by experiment agree with those obtained by computation. As a summary the following is stated: 1) Frequency multipliers with crossed fields as compared with multipliers with parallel fields have the advantage of considerably reducing the parasitic voltage of interferences (pomekha) in simple constructions, and of displaying higher stability of the characteristics. The application of crossed fields in multipliers with a double frequency output frequently

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