"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVICKY, A.

"Coauthorship of an invention and an improvement suggestion." p. 14.

VYNALEZY A NORMALISACE, OCHRANNE ZNAMKY, CHRANENE VZORY. (Urad pro vynalezy a normalisac). Praha, Czechoslovakia, Vol. 3, No. 5, May 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVICKY, A: KRALICEK, Q.: CIR, J.

The press should contribute even more to further technical development. p. 3

VYNALEZY A NORMALISACE, OCHRANNE ZNAMKY, CHRANENE VZORY. Praha, Czechoslovakia
Vol. 3, No. 6, June 1959

Monthly List of East Euorpean Accessions (EEAI), LC. Vol. 8, No. 9, September 1959
Uncl.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVICKY, Alfons

Standardization 4,000 years ago. Normalizace 11 no.7:232 Jl '63.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVICKY, R.

Epizootic observations on animal rables in Bohemia. Cesk. epidem. 14 no.3:157-162 My '65

1. Ustredni statni veter. ustav, stanice laboratorni diagnostiky, Vratislavice nad Nisou.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVICKY, Vojtech, promovany matematik (Kosice)

Standardization and automation of operations connected with the preparation of production. Tech praca 15 no.11:864-867 N'63.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. A.

123-1-1032

Translation from: Referativnyy Zhurnal, Mashinostroeyniye, 1957, Nr 1, p. 154 (USSR)

AUTHOR: Novik, A. A.

TITLE: Causes and Prevention of Transverse Failures in Tires (Prichiny i puti preduprezhdeniya poperechnykh razrusheniy bandazhey)

PERIODICAL: Tekhnol. transp. mashinostroyeniya, 1955, Nr 3, pp. 32-38

ABSTRACT: Five cases of failure in tires of diesel wheel-pairs during 1949-1954 years at the Khar'kov plant are described. In majority cases fine radial cracks were found in the inner structure of the defective tires made by the Taganrog metallurgical plant. The metal of all defective tires met the GOST 398-41 requirements. Conclusion of the Ukrainian Institute of Metals (Ukr.Inst-t Metallov) that the failures may be provoked by faulty setting technique of tires on the wheel centers or by harmful effect of local accumulation of non-metallic impurities is considered to be erroneous. According to the metal analysis of the

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Properties & tests

On the Evaluation of Fatigue Strength. A. A. Novik. (*Zavodskaya Laboratoriya*, 1950, No. 3, 352-353). [In Russian] The difficulty of deducing the performance of machine parts from fatigue test data is considered, and a series of experiments on factors influencing fatigue strength is described. Two smooth 14-mm. dia. specimens, held at different temperatures, were simultaneously tested at 2000 cycles/min., static and impact properties also being determined. Increasing tempering temperature decreased the number of reversals to fracture, the fatigue strength decreasing sharply in the presence of only a very small decarburized zone.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

1. NOVIK, A. A.: BELOKOPYTOV, YA. G.

2. USSR (600)

4. Dies (Metal-Working)

7. Cast hammer dies instead of forged ones. Vest.mash., 32, no. 12, 1952.

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

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.A., kandidat tekhnicheskikh nauk; GURARIY, R.I., inzhener.

Introducing the use of oil-free binders and rapid drying mixes in cast iron, steel and nonferrous casting. Obm.Tekh.opyt VPTI no.15: 3-27 '54. (MLRA 9:8)

(Founding) (Binding materials)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. A.

USSR/ Miscellaneous-Metallurgy

Card : 1/1

Authors : Kovalev, K. V., Cand. of Tech. Sciences, Docent; and Novik, A. A., Cand. of Tech Sciences

Title : On the nature of the deformation in high-strength cast iron

Periodical : Vest. Mash. 34/5, 69 - 72, May 1954

Abstract : Different cast irons were subjected to various mechanical strains and the results are given in tables. It was found that, of the various high-strength cast irons, the greatest stability of the true modulus of longitudinal elastic deformation was noted in magnesium cast iron. Three Russian references, latest 1952; graphs.

Institution : ....

Submitted : ....

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.A., kandidat tekhnicheskikh nauk; NOSKOV, B.A., kandidat tekhnicheskikh nauk, nauchnyy redaktor; DONSKOY, Ya.Ye., redaktor; SHUBIN, Ye.V., tekhnicheskiy redaktor

[The central factory laboratory] TSentral'naia zavodskaia laboratoriia. [Khar'kov] Khar'kovskoe obl. izd-vo, 1956. 82 p. (MIRA 10:1)

1. Zamestitel' nachal'nika tsentral'noy zavodskoy laboratorii Khar'kovskogo zavoda transportnogo mashinostroeniya. (for Novik)
(Engineering laboratories)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

AID P - 4319

Subject : USSR/Engineering

Card 1/1 Pub. 128 - 19/26

Authors : Novik, A. A., Kand. Tech. Sci., and V. I. Muzhikova, Engineer

Title : Strengthening of stamping hammer rods by surface hardening with rollers.

Periodical : Vest. mash., #3, p. 67-68, Mr 1956

Abstract : The wear of stamping hammer rods has been found to start and be most prominent close to their surface. In order to strengthen these surfaces, a hardening treatment is suggested by means of rollers applied under pressure. The rods are made of 45KhN steel. Photos, charts.

Institution : None

Submitted : No date

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.A., kandidat tekhnicheskikh nauk; KUZHIKOVA, V.I., inzhener.

Roller peening of forging hammer rods. Vest.mash. 36 no.3:67-68 Mr '56. (Metals--Hardening) (Forging machinery) (MLRA 9:6)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.A., kandidat tekhnicheskikh nauk.

Parkerizing for improving the running-in of machine parts. Vest.mash. 36 no.7:63-64 Jl '56. (MIRA 9:9)

1.Khar'kovskiy zavod transportnogo mashinostroyeniya.
(Friction)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.A., kand.tekhn.nauk; BALTER, M.A., inzhener.

Rolling used as an effective method for increasing the fatigue resistance of gears. Vest.mash. 37 no.10:65-68 O '57. (MIRA 10:11)
(Rolling (Metalwork)) (Gearing)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

Scientific-Technical Conference on Metallography and Heat Treatment, Khar'kov

properties of the components was elucidated. Practical experience has shown that most failures are due to fatigue. A very effective method of increasing the stable strength of components is by surface work hardening.

Candidate of Technical Sciences A. A. Novik and Engineer V. I. Muzhikov reported on the work of the Khar'kov Works for Building Transport Machinery in the paper "Surface Work Hardening as an Effective Method of Increasing the Fatigue Strength of Highly Stressed Components". The highest sensitivity to failure was observed in components which contain stress concentrators inherent in the design. Surface work hardening of such components gives better results and is technologically more suitable than shot peening. Work hardening by means of rolls is suitable for components like gears, shafts, etc. Work hardening of friction discs and of cylinder jackets of diesel engines by shot peening proved highly effective.

Card 3/20 In his paper Engineer D. P. [illegible]

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK A.A.

BELOV, N.Ya.; ASSONOV, A.D.; CHIZHIK, A.I.; ZAMOTAYEV, S.P.; BUTOMO, D.G.; SERGEYEV, L.N., rukovoditel' issledovatel'skoy gruppy; MASUROVA, A.I.; SHUBIN, G.N.; NOVIK, A.A.; PODSHIVALOV, R.N.; ALEKSO, A.I.; KUZ'MINA, L.I.; KORF, D.M.; KOZACHENKO, N.S.

Articles and suggestions of supervisors of central industrial laboratories. Zav. lab. 25 no.1:5-22 '59. (MIRA 12:1)

1.Nachal'nik TSentral'noy zavodskoy labotarorii Kirovskogo mashinostroitel'nogo zavoda (for Belov). 2.Glavnyy metallurg Avtozavoda imeni Likhacheva (for Assonov). 3.Nachal'nik TSentral'noy zavodskoy laboratorii Leningradskogo metallicheskogo zavoda imeni Stalina (for Chizhik). 4.Nachal'nik TSentral'noy zavodskoy laboratorii Uralmashzavoda, g. Sverdlovsk (for Zamotayev). 5.Nachal'nik TSentral'noy laboratorii zavoda "Krasnyy Vyborzhets" (for Butomo). 6.Laboratoriya zavoda "Krasnyy Vyborzhets" (for Sergeyev). 7.Nachal'nik khimicheskoy laboratorii metallurgicheskogo zavoda imeni Petrovskogo (for Masurova). 8.Nachal'nik TSentral'noy laboratorii Verkh-Isetskogo metallurgicheskogo zavoda (for Shubin). 9.Zamestitel' nachal'nika TSentral'noy zavodskoy laboratorii zavoda imeni Malysheva, g. Khar'kov (for Novik). 10.Zamestitel' nachal'nika TSentral'noy zavodskoy laboratorii Sverdlovskogo turbomotornogo zavoda (for Podshivalov). 11.Nachal'nik eksperimental'nogo otdela Spetsial'nogo konstruktorskogo byuro Sverdlovskogo turbomotornogo zavoda (forAleksо). 12.Nachal'nik TSentral'noy laboratorii Okhtinskogo khimicheskogo kombinata (for Kuz'mina). 13.Nachal'nik TSentral'noy laboratorii zavoda "Krasnyy khimik" (for Korf). 14.Nachal'nik TSentral'noy zavodskoy laboratorii Kiyevskogo mashinostroitel'nogo zavoda "Bol'shevik" (for Kozachenko). (Chemical engineering laboratories)(Testing laboratories)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

SOV/[illegible]-25-1-9/51

25(0)

AUTHOR: Novik, A. A., Second in Charge of the Central Laboratory of the Works imeni Malyshev (Town of Kharkov)

TITLE: Articles and Suggestions of the Heads of the Central Works Laboratories in Connection With the Theses Laid Down by Party Member N. S. Khrushchev at the XXI Congress of the CPSU "Control Figures of the Development of National Economy of the USSR in the Years 1959-1965" (Stat'i i predlozheniya rukovoditeley Tsentral'nykh zavodskikh laboratoriy v svyazi s tezisami doklada tovarishcha N. S. Khrushcheva na XXI s"yezde KPSS "Kontrol'nyye tsifry razvitiya narodnogo khozyaystva SSSR na 1959-1965 gg.")

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp [illegible] (USSR)

ABSTRACT: New control departments for the thermo-processing, casting technique, metalloceramics, and synthetics are founded on the above mentioned works in connection with the seven-year plan. Analyses of gases in metals, for the determination of elements in alloys and an extension of spectrum analyses are to be carried out there. Special attention will be devoted to the various fatigue tests (on larger cross section samples), as well as to the utilization of natural gas instead of synthol and kerosene in the steel cementing process. Among the new materials to be adopted in the next

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SOV/32-25-1-9/51

Articles and Suggestions of the Heads of the Central Works Laboratories in Connection With the Theses Laid Down by Party Member N. S. Khrushchev at the XXI Congress of the CPSU: "Control Figures of the Development of National Economy of the USSR in the Years 1959-1965"

years high-resistant "manganese" cast iron is to replace chromium-nickel-molybdenum cast iron. Metalloceramic materials basing on iron dust are to be used for antifriction parts instead of bronze castings. In connection with the intended wider use of synthetics, experiments are carried out which are to secure a replacing of a number of metals by nonmetals. The use of drill steels and other steel types is to bring about a considerable reduction of the consumption of alloying elements in steels.

ASSOCIATION: Tsentral'naya zavodskaya laboratoriya zavoda im. Malysheva (g. Khar'kov) (Central Laboratory of the Works imeni Malyshev (Kharkov))

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

PLAKHUTA, A.N.; NOVIK, A.A.

Chemical analysis as performed in the plant labratory. Zav.lab 26 no.10:1189-1191 '60. (MIRA 13:10)

1. Zavod transportnogo mashinostroyeniya im. V.A.Malysheva. (Metallurgical labratories)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

29558
S/122/61/000/005/005/013
D221/D304

11730

AUTHORS: Novik, A.A., Candidate of Technical Sciences, Docent, and Babich, A.S., Engineer

TITLE: Fatigue strength increase in welded assemblies of diesels by surface work hardening

PERIODICAL: Vestnik mashinostroyeniya, no. 5, 1961, 37 - 39

TEXT: The authors in collaboration with M.A. Balter, Candidate of Technical Sciences carried out tests on measures for preventing the formation of cracks. The purpose of above was to reveal the effect of work hardening in the zone of welding, as well as the importance of annealing before and after welding. Calculations were made in accordance with equations cited by M.Ya. Shashin in "Vestnik mashinostroyeniya", no. 10, 1955. Published data are available on problems, concerned with deep annealing after welding which indicate that it produces a drop of fatigue strength in some- low-carbon steels. Here it is necessary to point out that in this case components were subject to deep annealing. During experiments compara-

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29558
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D221/D304

Fatigue strength increase in ...

tive tests were carried out on fatigue of various welded specimens. All samples were made in steel 10 kp, and lags - from steel St. 3, welded manually with electrodes, type Э-50 (E-50) in conditions normally employed. The hardening of seam and the near-seam zone was done by shot blasting in a conveyorized machine designed by ВПТИ (VPTI) which was made for shot blasting of springs. Density of shot blast is $p = \frac{O_s \cdot 2d}{S \cdot d \cdot v_k}$, where O_s is the output of rotor which is 100 kg/min, S is width of blade, or the width of thrown jet of shot, and is equal 0.065 m. During experiments p = 1660 kg/m^2, and its kinetic energy $\frac{pv^2}{2q}$ = 640 t.m/m^2. Pneumatic hammering of seam and adjacent zone was carried out with a hand pneumatic [illegible] The work hardening was acieved in one pass. Cold deformation [illegible] strain in the welding zone of receiver bend was accum[illegible] elongation of specimens in a rupturing machine till the [illegible] yield point. Fatigue testing of welded specimens took place [illegible] vibratory stand made by Schenk [Abstractor's note: West German [illegible]

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D221/D304

Fatigue strength increase in ...

pearlitic and ferrite of Widmanstätten structure which is clearer in the transition zone. Data of investigation established the following: Work hardening of seam and its adjacent zone markedly increases the life of welded specimens. Effectiveness of shot blasting and pneumatic hammering in improving fatigue resistance is about equal. Cold plastic deformation before welding lowers the fatigue strength of low-carbon specimens when compared to specimens that did not undergo elongation, which may be due to recrystallization. Work hardening does not remove the negative effect of deformation prior to welding. Deep annealing after cold plastic deformation shortens the life. On the basis of above it was decided to introduce shot blasting instead of annealing after welding of receiver bends. Two-year practice confirmed the effectiveness of shot blasting, and no cases of breakage were recorded. There are 4 figures [illegible]

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

KARANDEYEV, K.B.; GRINEVICH, F.B.; NOVIK, A.I.

Designing volumetric level indicators. Izm.tekh. no.10:52-55 O '61. (MIRA 14:11)

(Level indicators)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

GRINEVICH, Feodosiy Borisovich; CHEBOTAREV, Anatoliy Vladimirovich; NOVIK, Anatoliy Ivanovich; SHUMILOVSKIY, N.N., otv. red.; SKRIPKINA, Z.I., red. izd-va; POPOVA, M.G., tekhn. red.

[Elements and networks of experimental a.c. digital bridges] Elementy i skhemy tsifrovykh ekstremal'nykh mostov peremennogo toka. Frunze, Izd-vo AN Kirg.SSR, 1963. 141 p. (MIRA 17:1)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

Antagonism and synergism of male and female sex hormones. A. I. Novik. *Trudy Belorus. Seliko-Khozyaistvennogo Inst.* 2, 90 9 (1936); *Chem. Zentr.* 1938, I, 3487.—The effect of male and female sex hormones on dogs and bitches was studied. Spermokrin and Ovarikrin were the hormone prepns. used. In order to follow changes in the blood picture and compn. of the blood, the total no. of cells, the hemoglobin content, the sedimentation velocity and the erythrocyte resistance were detd. at intervals throughout the expts. Long-continued administration of Ovarikrin produced premature sexual maturity in males as well as females. No retarding action of Spermokrin in the case of females could be detected. The administration of both hormone prepns. produced the same type of changes in the condition of the blood in the case of both males and females. These consisted of an increase in the erythrocytes and leucocytes and also of the hemoglobin content and a certain reduction in the resistance. These phenomena were interpreted as indicating a stimulating effect of the sex hormones on the hematopoietic system and as an expression of the synergism of the 2 hormones.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

The effect of periodic injections of insulin on young rabbits A. I. Novik. *Trudy Belorussk. Sel'skokho. Inst.* 6, No. 1, 25-42(1938). *Chem. Zentr.* 1940, II, 2325 cf. *C. A.* 36, 4500[1]. — Twenty rabbits 28-32 days old divided into 3 groups all receiving the same diet were periodically injected subcutaneously with insulin (with the exception of the controls) in doses of 1 mouse unit per kg of body wt. As compared with the controls, the exptl animals showed a greater increase in body wt. (126%) with a simultaneously reduced food intake (50% less than the controls). When the administration of insulin was discontinued the reversal of this effect was observed.

M. G. Moore

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

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11F

PROCESSES AND PROPERTIES INDEX

The influence of ammonia and water vapor on metabolism. I. M. Smirnov and A. I. Novik. *Trudy Belorus Sel'skokhoz. Inst.* 6, No. 1, 69-85(1938). *Chem. Zentr.* 1940, II, 2495.—A sheep 5 months old was exposed to water vapor and varying concns. of NH_3. Examn. of the blood and metabolism tests showed a reduction of erythrocytes and hemoglobin (anemia), a lowering of the resistance of the organism, difficult digestion of protein, interference with respiration, circulation and protein metabolism of the cells. M. G. Moore

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

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PROCESSES AND PROPERTIES INDEX

Chlorine degassing of ammonia. I. M. Smirnov and A. I. Novik. *Trudy Belorussk. Sel'skokhoz. Inst.* 6, No. 1, 93-101(1938); *Chem. Zentr.* 1940, II, 2495, cf. preceding abstract.—A study was made of the metabolism and the compn. of the blood of a sheep 5-6 months old after it had been kept 240 or 144 hrs. in an atm. contg. 0.01% Cl or 0.04% NH_3 or both. Among other effects the Cl produced increased digestion of protein and reduced digestion of cellulose as well as reductions in the hemoglobin value and the blood alkali reserve. Under the simultaneous influence of Cl and NH_3 pptn. of protein and of fat in the organism were increased; there was also an increase in the hemoglobin content and the alkali reserve of the blood.

M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

11H

PROCESSES AND PROPERTIES INDEX

The effects of insulin on the growth and activity of animals, on the morphological composition, and on some physicochemical properties of their blood A. I. Novik. *Trudy Belorussk. Sel'skokhoz. Inst.* 8, 153-60(1939). *Chem. Zentr.* 1940, II, 1161. Expts. conducted on rabbits gave the following results. Continuous feeding of insulin increased the appetite; there was an increase in wt. compared with the control specimens, but the wt. of food consumed per unit increase in wt. was smaller. Periodic addn. of insulin showed the same results for these periods as compared with the no-insulin periods for the same individuals. The pos. effects of the insulin periods are reversed when the insulin is stopped. With castrated males the effect of insulin is neg., and it has no effect on ovariectomized females. Insulin does not have a neg. effect on the compn. of blood. In many cases no marked increase of erythrocytes and hemoglobin was observed; the content of neutrophils and monocytes increased. From the observed changes in the resistance of erythrocytes it can be concluded that an increased rate of blood formation occurs. The increase of monocytes points to an increased activity of the reticulo-endothelial system. The sex functioning of the animals was not changed by insulin. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

NOVIK, A. I. (Candidate of Biological Sciences, Major, Veterinary Service). Modification of secretion of fundal glands of stomach in horses in transition from the green to the coarse fodder.

So: Veterinariya; 24; 9; September 1947; Uncl.
TABCON

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

"Change of secretion of the fundal glands of the stomache in horses during the change from green to coarse fodder," In symposium: Nauch. prakt. raboty vojenov. vet. sluzhby, Moscow, 1948, 9. [illegible]

SO: U-[illegible], 16 June 5[illegible], (Leto is 'Zhurnal 'nyan State, [illegible], 19[illegible]).

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

Novik, A. I.

The influence of microelements on growing animals. A. I. Novik. *Trudy Belorusk. Sel'skokhoz. Akad.* 21, 180–91(1935)(in Russian).—Rabbits were injected with salts carrying microelements and their behavior as to wt. and changes in the appearance of the organs watched. Before and after the expt. the morphologic compn. of the blood and hemoglobin content and behavior were detd. On the basis of these data the color index and all coeffs. were detd. $AgNO_3$ was injected at the rate of 1–2 mg./kg. of animal wt. at the age of one month. The injections were repeated every 2–3 days for periods from 1 to 4.5 months. The animals injected gained 10% in wt. as compared with the controls. The erythrocyte content of the blood was increased by 10–11%, as compared with 5.7% in the controls. The hemoglobin content also increased 13–23% against 9%. The leucocyte content increased by 248–76%. $ZnSO_4$ was injected at the rate of 1–2 mg./kg. wt. in some animals 22 days' old, and in others 0.5–1.0 mg./kg. The expt. lasted 140 days. With the 0.5–1.0 mg. dose the animals gained 27.9% in wt., whereas with 1–2 mg. the wt. decreased. The erythrocyte and hemoglobin content was increased. Except for the seminal sac which was increased there were no changes in the different organs. $Co(NO_3)_2$ was injected at the rate of 1 mg./kg. wt., at the age of 22 days, every 2–3 days for a period of 140 days. Two animals received 2 mg./kg. wt. during the last two months. Some animals received only 0.5–1.0 mg. of the salt. There was very little increase in wt. of the animals. There was an increase in

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Novik, A. I.

erythrocytes and hemoglobin. $CuSO_4$ was injected at the rate of 1.0 mg./kg. wt. for 2 months and after that 2 mg. Two animals received only 0.5–1.0 mg./kg. wt. Expt. lasted 3 months. There was no increase in wt. and not much of change otherwise. KI was injected at the rate of 1.0 mg./kg. wt. for the first 45 days and 2 mg./kg. for the next 45 days. There was a slight increase in wt. KI proved to be more effective in increasing the wt. of injected animals. There were no other differences, except for an increase in the seminal sac. J. S. Joffe

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A. I.

Doc Biol Sci - (diss) "Blood indicators in swine of the Belorussian black-mottled variety group as a function of growth and development, body structure, and productivity." Gorki, 1961. 33 pp; (Academy of Sciences Belorussian SSR, Inst of Biology); 120 copies; price not given; (KL, 6-61 sup, 205)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 28746-65

ACCESSION NR: AT5003153 S/3005/64/000/009/0011/0018

10
B+1

AUTHOR: Grinevich, F. B.; Novik, A. I.

TITLE: An unbalanced bridge for measuring the equivalent electrical parameters of living tissues

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut avtomatiki i elektrometrii. Trudy, no. 9, 1964. Elektricheskiye metody avtomaticheskogo kontrolya (Electric methods of automatic control), 11-18

TOPIC TAGS: measurement circuit, unbalanced bridge, electrical parameter measurement, living tissue, blood plasma, plasma electrical resistance, intravenous resistance measurement

ABSTRACT: A bridge circuit was designed to measure the time variations in resistance, the instantaneous resistance and the reactions of human blood plasma. A schematic diagram of the bridge is shown in Fig. 1 of the Enclosure. A probe con- [illegible] platinum electrodes, spaced 2-3 cm apart, is introduced into the pa-

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blood impedance $R_p - jX_p$, the reference resistance R_{ref},

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ACCESSION NR: AT5003153

ductances L_1 and L_2. Selection of $R_{ref} \geq 10\ R_p$ and $R_p >> X_p$ assures a current between the electrodes which is constant within 1.5-2%. To accommodate large changes in Z_p the number of turns in L_2 is made variable, thus enabling a partial balance of the bridge. The voltage u_{cd} is delivered to two phase-sensitive detectors. The reference voltage of one of the detectors is in phase with the voltage u_{ab} and the reference voltage of the other detector is u_{ab} shifted in phase by 90°. When the bridge is properly unbalanced the DC voltages at the outputs of two detectors can be made proportional to instantaneous values of R_p and X_p with

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from 100 [illegible] and at frequencies of 1, 5 or 30 kc. Orig. art. has: 5 figures and 4 formulas.

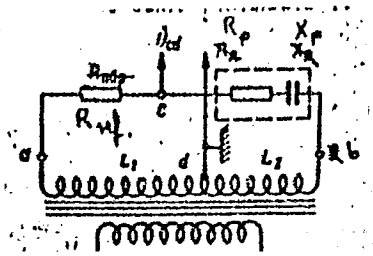
ASSOCIATION: Institut avtomatiki i elektrometrii, Sibirskoye otdeleniye AN SSSR (Automation and electrometrics institute, Siberian division, AN SSSR)

SUBMITTED: 25May62 ENCL: 01 SUB CODE: LS, EC

NO REF SOV: 003 OTHER: 001

L 28746-65

ACCESSION NR: AT5003153 ENCLOSURE: 01



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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 28747-65 EWT(1)/EPR/EWA(m)-2/EWA(h) Pa-4/Peb WW

ACCESSION NR: AT5003154 S/3005/64/000/009/0051/0057

30
27
B+1

AUTHOR: Grinevich, F. B.; Novik, A. I.; Chebotarev, A. V.

TITLE: A peak detector for a capacitive, self-compensating level gauge

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut avtomatiki i elektrometrii. Trudy, no. 9, 1964. Elektricheskiye metody avtomaticheskogo kontrolya (Electric methods of automatic control), 51-57

TOPIC TAGS: peak detector, level gauge, selfcompensating level gauge, automatic control, capacitive level gauge

ABSTRACT: The level gauge, described by the authors in a previous article (Izmeritel'naya tekhnika, 1961, No. 10), is essentially a six-arm bridge circuit with tight inductive coupling between the arms. The bridge is balanced with respect to one measured parameter by varying the number of turns in its inductive arm. The purpose of the peak detector is to detect the minimum of the bridge output voltage. The block diagram of the peak detector is shown in Fig. 1 of the Enclosure. After

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is triggered by clock pulses. The purpose of the sampler is to eliminate the

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L 28747-65

ACCESSION NR: AT5003154

transient signals due to switching of the number of turns in the bridge coils. The sampled signal is differentiated by (5). When the bridge is unbalanced, the output of the differentiator consists of pairs of pulses of alternating polarity. The logic gate (6,7) is only sensitive to a pair of successive negative pulses and will pass the control signal only in this case. When the bridge imbalance is large and the amplifier (1) saturates, the DC level of the detector (2) is used to open the gate (8) and deliver the clock pulses directly to the control servo until a coarse balance is achieved. The peak detector can be used in automatic AC bridge circuits which are balanced with respect to one parameter. Orig. art. has: 3 figures.

ASSOCIATION: Institut avtomatiki i elektrometrii, Sibirskoye otdeleniye AN SSSR (Automation and electrometrics institute, Siberian division, AN SSSR)

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

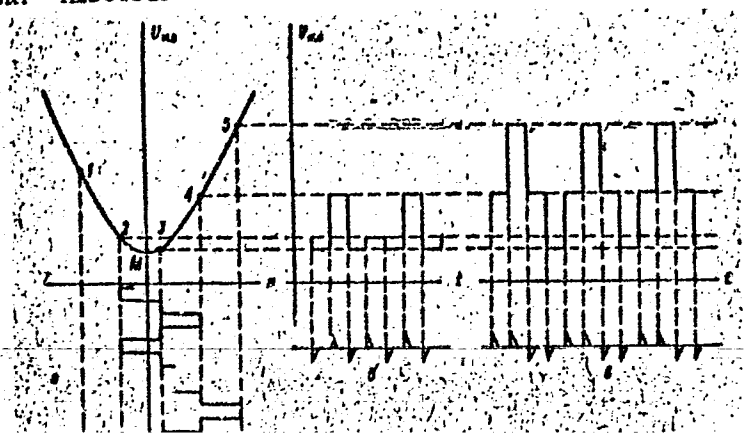
SUBMITTED: 22Aug62 ENCL: 01 SUB CODE: IE,EE

NO REF SOV: 003 OTHER: 000

Card 2/3

L 28747-65

ACCESSION NR: AT5003154 ENCLOSURE: 01



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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 54586-65 EWT(d)/EWT(1)/EEC(m)/EWA(d)/EWP(v)/EPR/EWP(k)/EWP(h)/EWP(1)/
EWA(h) Po-4/Pq-4/Pf-4/Ps-4/Pl-4 WW/GS
ACCESSION NR: AT5009800 UR/0000/64/001/000/0063/0068

AUTHOR: Grinevich, F. B. (Novosibirsk); Novik, A. I. (Novosibirsk); Chebotarev, A. V. (Novosibirsk)

TITLE: Synthesizing digital capacitance-type self-compensated level indicators

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy. 4th, Novosibirsk, 1962. Avtomaticheskiy kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 1: Metody elektricheskikh izmereniy. Tsifrovyye izmeritel'nyye pribory. Elementy izmeritel'nykh sistem (Automatic control and electrical measuring techniques; transactions of the conference, v. 1: Electrical measuring techniques. Digital measuring instruments. Elements of measurement systems). Novosibirsk, Redizdat Sib. otd. AN SSSR, 1964, 63-68

TOPIC TAGS: level indicator, liquid level gauge

ABSTRACT: Based on a six-arm-bridge two-compensating-sensor principle (K. B. Karandeyev et al., "Capacitive level gauge," Author's Certificate no. 146521, class 42e, 34, of 19May61), digital high-accuracy liquid-level gauges are

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L 54586-65
ACCESSION NR: AT5009800

considered. The bridge is balanced by a servo system that includes reversible pulse counters. The inductance of the bridge arms is controlled by counter triggers in such a way that the condition of the bridge circuit is one-to-one connected with the condition of the reversible counter. A binary-decimal counter operating with a self-complementary code is recommended; in this case, the counter decade is turned into a tetrade that contains four triggers with different assigned weights. As the phase-sensitive detection and selective amplifier may bring about considerable errors due to phase distortions, the use of the extremal control principle (balancing by the minimum bridge output voltage) is recommended. An experimental model had an overall error of 0.7% and a maximum balancing time of 1.5 sec. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 25Sep64 ENCL: 00 SUB CODE: IE

NO REF SOV: 006 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 5977-66 EWA(h)/EWT(1)/ETC(m) WW

ACC NR: AP5026794 SOURCE CODE: UR/0286/65/000/017/0075/0075

33
B

AUTHOR: Grinevich, F. B.; Novik, A. I.; Chebotarev, A. V.

TITLE: A digital storage-level gauge. Class 42, No. 174385 [announced by Institute of Automation and Electrometry, Siberian Department AN SSSR (Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 75

TOPIC TAGS: liquid level indicator, electronic measurement, digital system

ABSTRACT: This Author's Certificate introduces a digital storage-level gauge which contains three capacitance pickups connected in a measurement bridge circuit with strong inductive coupling between the arms. The instrument also has a discrete device for balancing the bridge circuit. Measurement accuracy is increased by connecting to the discrete balancing device a modulator which varies the output voltage of the bridge circuit by switching the number of turns in the coils of the inductive arms.

UDC: 681.128.63

Card 1/2

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L 5997-66

ACC NR: AP5026794

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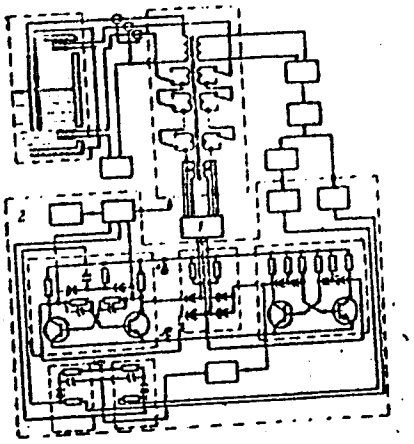

Fig. 1. 1--modulator; 2--device for balancing the bridge circuit.

SUB CODE: EC,DP/ SUBM DATE: 26Jul63/ ORIG REF: 000/ OTH REF: 000

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 6998-66 EWA(h)/EWT(1)/ETC(m) WW

ACC NR: AP5026795 SOURCE CODE: UR/0286/65/000/017/0076/0076

46
B

AUTHOR: Grinevich, F. B.; Novik, A. I.

TITLE: A storage-level gauge for electrically conductive liquids. Class 42, No. 174388 [announced by Institute of Automation and Electrometry, Siberian Department AN SSSR (Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 17, 1965, 76

TOPIC TAGS: liquid level indicator, electronic measurement

ABSTRACT: This Author's Certificate introduces a storage-level gauge for electrically conductive liquids. The instrument contains a capacitance pickup with two insulated electrodes. This pickup is connected to a measurement bridge circuit with inductively coupled arms. The unit also contains an electromechanical device for balancing the measurement bridge circuit. Measurement accuracy is increased by electrical connection of the common point between the arms of the bridge circuit both to the liquid being measured and to "ground".

UDC: 681.128.63

Card 1/2

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 6998-66

ACC NR: AP5026795

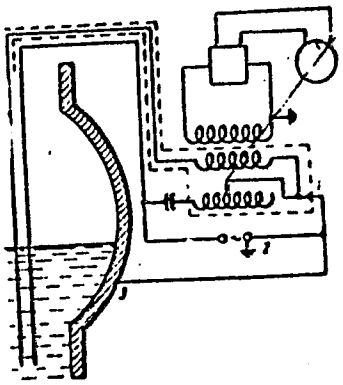

Fig. 1. 1--common point between the inductive arms of the bridge circuit; 2--"ground"; 3--point which is electrically connected with the liquid to be measured.

SUB CODE: SUBM DATE: 09Mar64/ ORIG REF: 000/ OTH REF: 000

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 9664-66

ACC NR: AP5026507 SOURCE CODE: UR/0286/65/000/019/0038/0039

24
B

AUTHORS: Grinevich, F. B.; Chebotarev, A. V.; Novik, A. I.

ORG: none

TITLE: Automatic digital extremal ac bridge. Class 21, No. 175126 [announced by Institute of Automation and Electrometry SO AN SSSR (Institut avtomatiki i elektrometrii SO AN SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 38-39

TOPIC TAGS: capacitance bridge, digital system

ABSTRACT: This Author Certificate presents an automatic digital extremal a-c bridge for measuring the capacitance and loss tangent of capacitors. The bridge contains an oscillator supplying the measuring bridge circuit, an equilibrium detector, two reversible counters with corresponding decoders and readout devices for the two measured parameters, a time selector of the controlling effects for the two parameters consisting of a multivibrator and two coincidence circuits, and two modulators for pulse modulation of the regulated parameters of the bridge circuit. To increase the response rate, each of the modulators is connected to a

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ACC NR: AP5026507

corresponding reverse trigger which controls the modulation polarity and count direction of the corresponding reversible counter (see Fig. 1).

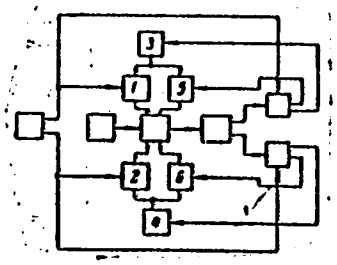

Fig. 1. 1 and 2 - Modulators; 3 and 4 - reverse triggers; 5 and 6 - reversible counters.

Orig. art. has: 1 diagram.

SUB CODE: 09/ SUBM DATE: 21Oct63

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

S/137/62/000/004/098/201
A052/A101

AUTHOR: Novik, A. S.

TITLE: The recovery of internal friction and elastic constants

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 27, abstract 41157 (V sb. "Polzuchest' i vozvrat". Moscow, Metallurgizdat, 1961, 166-200)

TEXT: The peculiar features of the process of recovery after plastic deformation are analyzed, and the nature of the E defect and internal friction in cold-hardened metals is considered (the E defect means the decrease of E at deformations, which is eliminated by annealing at relatively low temperatures). It is pointed out that the E defect and a relatively high level of internal friction in cold-hardened metal are conditioned by the presence of dislocation loops able to deflect under applied stresses. The E defect is proportional to NL^2, where N is the extension of dislocations in 1 cm^3 and L is the effective length of the loop of a dislocation segment. In this connection accurate measurements of E are useful for the study of changes in the groupings of dislocations after deformation. The recovery of internal friction and E after deformation takes

Card 1/2

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S/021/62/000/003/001/010
D251/D302

AUTHORS: Novik, A.S., ~~Shamans'kyy, V.~~ Ye.

TITLE: On the approximation of functions of many variables by the method of least squares

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 3, 1962, 323 - 327

TEXT: The authors demonstrate a compact computation scheme for the approximation of functions of two variables suitable for computer work. At a discreet set of points $\{x_i, y_j\}$ the function f takes the values f_{ij} and is approximated by the polynomial $P_{nm}(x_i, y_j)$ where

$$P_{nm}(x, y) = \sum_{r=0}^{n} x^r \sum_{s=0}^{m} C_{s_r} y^s \qquad (1)$$

and

$$\sum_{i=0}^{\alpha} \sum_{j=0}^{\beta} [f_{ij} - P_{nm}(x_i, y_j)]^2 = \min. \qquad (2)$$

Card 1/2

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

2828. Influence of some elements (microelements) on the growing animals. A. T. Novik Trud. Belorus. Selsk. Akad., 1955, 21, 180—191; Referat. Zh. Biol., 1956, Abstr. No. 78228.—Effects on the growth, wt. of the organs and on the blood morphology were studied on young rabbits. The period of investigation was 45–140 days; amount of salts introduced varied from 0·5 to 2 mg./kg. It was found that $ZnSO_4$ causes the rate of growth to increase by 27·9%, the erythrocyte count increased by 20% and leucocytes by 78–105%. The wt. of the seminal vesicles increases by 133%. $Co(NO_3)_2$ does not influence the rate of the growth of the animal but erythrocyte count increases by 76% leucocyte by 60–133% and Hb concn. by 21–32%. $CuSO_4$ slightly inhibited the growth and produced no significant changes in blood. KI and NaBr showed practically no influence. NaF increased the wt. of the seminal vesicles by 62%. $AgNO_3$ increased markedly the leucocyte count (218–416%), the erythrocytes number and Hb concn. were increased by 19–41% and 13–23% respectively. The rate of growth was not changed significantly. (Russian)

G. Fegler

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

LOMONOSOVA, L.S., inzhener; NEDOSPASOV, A.V., inzhener; NOVIK, A.Ye., inzhener.

Effect of admixtures of molecular gases on the radiation of fluorescent lamps. Svetotekhnika 2 no.3:14-15 My '56. (MLRA 9:8)

1. Moskovskiy elektrolampovyy zavod.
(Fluorescent lamps)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

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24(7) PHASE I BOOK EXPLOITATION SOV/1700

L'vov. Universitet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii, 1956. t. II: Atomnaya spektroskopiya (Materials of the 10th All-Union Conference on Spectroscopy, 1956. Vol 2: Atomic Spectroscopy) /Lvov/ Izd-vo L'vovskogo univ., 1958. 568 p. (Series: Its: Fizicheskiy sbornik, vyp.4(9)) 3,000 copies printed.

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii.

Editorial Board: G.S. Landsberg, Academician, (Resp. Ed.); B.S. Neporent, Doctor of Physical and Mathematical Sciences; I.L. Fabelinskiy, Doctor of Physical and Mathematical Sciences; V.A. Fabrikant, Doctor of Physical and Mathematical Sciences; V.G. Koritskiy, Candidate of Technical Sciences; S.M. Rayskiy, Candidate of Physical and Technical Sciences; L.K. Klimovskaya, Candidate of Physical and Mathematical Sciences; V.S. Milliyanchuk (Deceased), Doctor of Physical and Mathematical Sciences; A.Ye. Glauberman, Doctor of Physical and Mathematical Sciences; Ed.: S.L. Gazer; Tech. Ed.: T.V. Saranyuk.

PURPOSE: This book is intended for scientists and researchers in the field of spectroscopy, as well as for technical personnel using spectrum analysis in various industries.

COVERAGE: This volume contains 177 scientific and technical studies of atomic spectrography presented at the 10th All-Union Conference on Spectroscopy in 1956. The studies were carried out by members of scientific and technical institutes and include extensive bibliographies of Soviet and other sources. The studies cover many phases of spectroscopy: spectra of rare earths, electromagnetic radiation, physicochemical methods for controlling uranium production, physics and technology of gas discharge, optics and spectroscopy, abnormal dispersion in metal vapors, spectroscopy and the combustion theory, spectrum analysis of ores and minerals, photographic methods for quantitative spectrum analysis of metals and alloys, spectral determination of the hydrogen content of metals by means of isotopes, tables, and atlases of spectral lines, spark spectrographic analysis, statistical study of variation in the parameters of calibration curves, determination of traces of metals, spectrum analysis in metallurgy, thermochemistry in metallurgy, and principles and practice of spectrochemical analysis.

Card 2/31

Materials of the 10th All-Union Conference (Cont.) SOV/1700

Shelkov, L.S., and A. Kostin. Studying the Photometric Characteristics of Photon Counters 195

Mal'tsev, A.A., V.A. Koryazhin, M.Ye. Mirgusevich, and V.M. Tatevskiy. Certain Changes in the Design of the DFS-4 Spectrometer Recording System for the Purpose of Resolving the Isotope Shift in the Lithium Resonance Line 195

Vorsin, A.N. Flame Spectrophotometer 197

Podmoshenskiy, I.V., and N.N. Ogurtsova. Radiation From the Explosion of a Wire Under Water 199

Lomonosova, L.S., A.V. Nedospasov, and Ye. Novik. Effect of Molecular Gas Admixtures on Low-pressure Mercury Discharge Radiation 201

Podmoshenskiy, I.V., and L.D. Kondrashova. Concave Mirror Installation for Studying Absorption in Light Sources 204

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APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

LOMONOSOVA, L.S.; NEDOSPASOV, A.V.; NOVIK, A.Ye.

Effect of admixtures of molecular gases on the radiation of a low-pressure mercury vapor discharge. Fiz.sbor. no.4:201-204 '58. (MIRA 12:5)

(Gases, Rare) (Mercury--Spectra)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.Ye., inzh.; SASOROV, V.P., kand. tekhn. nauk

Direct-current fluorescent lamps. Svetotekhnika 4 no. 7:14-18 Jl '58. (MIRA 11:7)

1. Moskovskiy elektrolampovyy zavod.
(Fluorescent lamps)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NEDOSPASOV, A.V., kand.fiz.-mat.nauk; LOMONOSOVA, L.S., inzh.; NOVIK, A.Ye., inzh.

Cathode emission in fluorescent lamps. Svetotekhnika 5 no.9:7-9 S '59. (MIRA 13:2)

1. Moskovskiy elektrolampovyy zavod.
(Fluorescent lamps)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

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84561

S/057/60/030/011/004/009
B006/B054

9.4120 (1105, 1138, 1140)

AUTHORS: Nedospasov, A. V. and Novik, A. Ye.

TITLE: Propagation Velocity of the Ionization Front in Spark-over in Long Discharge Tubes

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30 No. 11, pp. 1329-1336

TEXT: The authors report on experimental studies of phenomena appearing in spark-over in long ($l \gg r$) gas discharge tubes with a fast voltage increase (10^5 - 10^6 v/sec). Above all, the authors studied the ignition processes under conditions similar to those with ignition of luminescence tubes, without a starter, and determined the dependence of the velocity of the ionization front on various conditions. At first, they describe the experimental arrangement (circuit diagram - Fig. 1), and discuss the method of measurement. The tubes had diameters of 15, 25, and 38 mm, and lengths of 47, 88, and 120 cm, respectively, and were filled with chemically pure argon (0.5 - 10 mm Hg). The measurement results are shown in diagrams. Fig. 2 shows current oscillograms obtained from a set of Al foil

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Propagation Velocity of the Ionization Front in Spark-over in Long Discharge Tubes S/057/60/030/011/004/009 B006/B054

capacitor plates. These plates, being arranged along the discharge tubes at half the tube diameter, had a length equal to the diameter of the tubes Fig. 3 shows the dependence of the displacement time (in μsec) of the ionization front on the distance (in cm) from the ignition electrode; Fig. 4 shows the dependence of the velocity of the ionization front on the amplitude of the voltage applied (800 - 1400 v); Fig. 5 shows the dependence of the velocity of the ionization front on the frequency of the voltage (50 - 200 cps); Fig. 6 shows the pressure dependence of the velocity of the ionization front (0.5 - 10 mm Hg); and Fig. 7 shows the pressure dependence of the charge hitting 1 cm of the tube wall. Figs. 3, 4, 5, and 7 (approximately) show ascending straight lines, and Fig 6 shows a hyperbolic branch. In the last part of the paper, the authors first discuss the processes leading to a discharge, after which they give a theoretical interpretation and discussion of the results. The short discharges between the electrode and the walls along the tube are accompanied by ionization and the formation of primary plasma. The rate of this process is determined by the kind and pressure of the gas, the tube diameter, the wall capacity and the rate of variation of the electrode potential. G. V. Spivak and Ye. L. Stolyarova are mentioned. There are 8 figures, 1 table and

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Propagation Velocity of the Ionization Front in Spark-over in Long Discharge Tubes

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15 references: 7 Soviet, 3 German, 4 US, and 1 British.

SUBMITTED: April 20, 1960

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.Ye., inzh.

Turning-on flourescent lamps in circuits without starters
Svetotekhnika 7 no.8:7-10 Ag '61. (MIRA 14:7)

1. Moskovskiy elektrolampovyy zavod.
(Fluorescent lighting)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.Ye., inzh.

Breakdown and development of a discharge in fluorescent lamps with starterless ignition. Svetotekhnika 8 no.12:4-8 D '62. (MIRA 16:1)

1. Moskovskiy elektrolampovyy zavod.
(Fluorescent lamps)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, A.Ye., inzh.

Calculation of the geometric parameters of the cathodes of fluorescent lamps. Svetotekhnika 9 no.11:9-13 N '63. (MIRA 16:1[illegible])

1. Moskovskiy elektrolampovyy zavod.

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

MOSKALEV, Andrey Ivanovich; NOVIK, A.Z., nauchn. red.; STEPANSKAYA, I.M., tekhn. red.

[Training adjusters of automatic machine-tool lines] Podgotovka naladchikov avtomaticheskikh linii stankov. Moskva, Proftekhizdat, 1962. 41 p. (MIRA 17:2)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, B.F., assistent

Use of a photoelectric device in testing the precision of sighting. Izv. vys. ucheb. zav.; geod. i aerof. no.3:111-116 '63. (MIRA 17:1)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartofrafii.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

112-57-8-17729

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 8 p 266 (USSR)

AUTHOR: Novik, D. A.

TITLE: On the Transmission of Electric Signals (O peredache elektricheskikh signalov)

PERIODICAL: Tr. Televiz. fil.-labor. M-vo radiotekhn. prom-sti SSSR (Transactions of the Television Branch Laboratory. Ministry of the Radio-Engineering Industry, USSR), 1956, Nr 1, pp 75-79

ABSTRACT: The fundamental problem of any system of electro-signal transmission is a reconstruction of the transmitted signal on the basis of the received one. A mathematical proof is submitted that one, and only one, input signal should correspond to any one output signal, i.e., in the absence of noise, an accurate receiving-end reproduction of the initial signal transmitted over the link, having any characteristic, is possible. Engineering materialization of this method of signal reception requires a computer that would automatically correct the signal distortion introduced by the link. Block diagrams of the computer are

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NOVIK, D. A.

3
1-B7

621.397.2 2298

Increasing the Efficiency of the Transmission of Television Signals. D. A. Novik. (*Radiotekhnika i Elektronika*, Sept. 1956, Vol. 1, No. 9, pp. 1230-1239.)

The bandwidth-compression system discussed is based on a transformation of the time-scale of the television signal. Block diagrams of the system are given.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, D. A.

621.397.5 1242

A Method for Narrowing the Frequency Band of a Television Channel. D. A. Novik. (*Zh. tekh. Fiz.*, April 1956, Vol. 26, No. 4, pp. 900-910.)

The proposed method is based on the extension in time of the steeper edges of television signals at the expense of the contraction of the more gradual ones. Storage tubes could be used for such a redistribution of the time scale. The restoration of the original signal at the receiving end is considered, and the saving in bandwidth is estimated. Use of the method for transmission on long-distance lines is suggested.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

Novik, D. A.

109-5-16/22

AUTHOR: NOVIK, D.A.

TITLE: On Working with Electron-Beam Tubes with Accumulation of Charges. (O rabote elektronno-luchevykh trubok s nakopleniyem zaryadov, Russian)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol 2, Nr , pp 642 - 652 (U.S.S.R.)

ABSTRACT: Equivalent systems of operation are constructed of electron-beam tubes with accumulation of charges on the basis of the introduction of the concept of a volt-ampere characteristic of the target. Formulae are derived for the determination of the depth of the potential relief and the current of a signal. The thin structure of the input signal of electron-beam tubes with accumulation of charges which is determined by the capacity of dissolution of the latter, is investigated. The connection between incoming and outgoing signals, the winding parameters and the tube parameters is determined. It is shown that the input signal is directly proportional to the depth of the potential relief at any current density in the spot. It is further shown that the effect [illegible] accumulation leads to the effect of varied "activity" [illegible] spot surface which is, however, not dependent [illegible] of the potential-relief, by which fact the absence of [illegible]

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NOVIK, A.

TUBES & THERMIONICS

"Certain Features of Aperture Correction of Cathode Ray Tubes with Charge Storage", by D.A. Novik, Radiotekhnika, No 7, July 1957, pp 9-14.

The transfer characteristics of cathode ray tubes with charge storage are defined and used to analyze the aperture correction of such tubes. The Aperture correction features are characterized by allowance for the phase distortion that are inherent in cathode ray tubes with charge storage, unlike tubes without charge storage, which introduce no distortion.

The author published an article on cathode ray tubes with a charge storage in the May 1957, Radiotekhnika i Elektronika.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, D. A.

D. A. NOVIK, "Comparative analysis of certain statistical coding systems." Scientific Session Devoted to "Radio Day", May [illegible], Trudrezervizdat, Moscow, 9 Sep. 5[illegible]

Statistical systems of transmitting electrical signals are compared with systems to transmit the optimum Shannon-Fano code on the basis of introducing an informational criterion of the effectiveness of a communication system. Quantitative estimates are presented of the effectiveness of statistical systems of transmitting electrical signals, the advantages and inadequacies of the in-didividual systems are analyzed.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, D. A.

D. A. NOVIK, "System to transmit electrical signals by an optimum Shannon-Fano code." Scientific Session Devoted to "Radio Day", May 1958, Trudrezervizdat, Moscow, 9 Sep. 58

A technical method of performing the signal recording operation by an optimum Shannon-Fano code and certain peculiarities of a nonuniform binary Shannon-Fano code in the class of binary codes are analyzed. The basic difficulties in using a nonuniform binary code for a discrete signal whose elements follow through equal time intervals are noted. "Elastic delay" and the technique of time-scale redistribution when rerecording the records on "memory" tubes at a controlled rate is the method of resolving the difficulties mentioned.

A block diagram of the proposed system and the operating principles of its basic elements as well as questions of the time-scale redistribution technique at the transmitting and receiving ends of the system are analyzed. Circuits to decode a nonuniform binary Shannon-Fano code are analyzed. Results are presented of a quantitative estimate of the system effectiveness and of the possible uses of the proposed system for different communication systems.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

SOV/142-58-4-29/30

AUTHOR: Stolyarov, A.G.

TITLE: All-Union Session Marking "Radio Day" (Vsesoyuznaya nauchnaya sessiya, posvyashchennaya "Dnyu Radio")

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy - Radiotekhnika, 1958, Nr 4, pp 517-521 (USSR)

ABSTRACT: During the period May 12-17, 1958, an All-Union Scientific Session was held in Moscow, devoted to "Radio Day". It was organized by the Scientific Technical A.S.Popov Association for Radio-Engineering and Electro-Communications. 280 papers were read at the session, 25 in the field of information theory and more than 20 in the field of electronics, dealing with theoretical/experimental research on electronic equipment. V.I.Siforov spoke on "The Transmission Capacity of Single-Ray and Multi-Ray Communication Canals". L.I.Filippov looked at the potential interference resistance of an ideal radio receiver. I.A.Novik spoke on "The Transmission System of Electric Signals

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by the Optimal Code of Shannon-Fano." A. Ye. Basharinov and B.S.Fleyshman discussed "The Use of the Successive Analysis Method in Equipment for Determining Weak Signals in Noise", and L.M.Fink examined "The Potential Interference Resistance in a Non-Definite Signal Phase". V.A.Kashirin and G.A.Shustova discussed "The Optimal Parameters of the Tele-measuring System with regard to Interference Resistance". B.S.Fleyshman spoke on the question of creating an optimal code - in the Shannon conception - in the case of a binary symmetrical canal. L.F.Borodin discussed "The Method of Creating Several Codes with a Simple Base". In the field of electronics, P.A.Tarasov spoke on "Broad Band Electron Ray Tubes for Observation and Recording of Electric Impulses and Ultra-High Frequencies" and V.P.Radchenko examined the question of the practical utilization of tubes with a cathode net. G.F.Semenov, V.P.Sazonov, M.M.Sbitneva and A.S.Bondarev examined: "Use of the Radiosonde with a High-Ohm Feed for Examining Electromagnetic fields in resonators and wave guides". V.V.Bakakina spoke on

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the use of the diffusion method for resonance discharge. M.I.Kuznetsov, V.A.Berbasov and L.P.Bobrova looked at the fluctuation process in an indivisible magnetron, and Yu. Katsman spoke on "The Selection of Oscillatory Energy of an Electronic Current, Modulated According to Density". M.B.Golant discussed a negative clystron with a wide range of electron adjustment. S.I.Bychkov explained the phenomenon of electron displacement and gave an approximate description of the frequency characteristics of the magnetron under conditions of high amplitude oscillations. A.I.Tereshchenko spoke on "The Influence of Various Factors on a Critical Magnetic Magnetron Field with a Grid", and A.S.Tager and V.A.Solntsev discussed the question of diffusing a small high frequency signal in electron currents with a periodically variable electron velocity. V.V. Slutskaya spoke on the results of research into spiral thin film absorbers for LBV. Approximately 2 papers were read in the field of transmitting equipment. These included: Z.I.Model' and N.S.Fuzik who discussed

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All-Union Session Marking "Radio Day"

an approximately equivalent lay-out for a tube generator. A.I.Lebedev-Karmanov spoke on "Modern Television Stations" and V.M.Katushkina and Z.I.Model' discussed "Bridge Methods of Combining the Outputs of Several Generators". S.G.Afanasov and P.M.Bubnov examined the design of triode generators for the decimeter range. V.P.Demesnin spoke on the control of an RC generator with the help of an element, possessing a linear, broken characteristic, and K.N.Burmistrov's paper dealt with questions of temporary instability of quartz resonators. M.N.Merzlyakova, Z.M.Alekseyeva, I.N. Vazhenin and V.N.Letinko examined the question of causes for frequency and amplitude facing in autogenerators with semi-conductor triodes. A.S.Maydanovskiy investigated the work of a semi-conductor triode with a grounded base and influenced by an extra-harmonious force. More than 25 papers were read in the field of radio-engineering, including E.V.Zelyakh on the theoretical basis of the autonomous four poles. S.I.Tetel'baum spoke on compensation for distortions and pre-

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distortions. G.Sh.Kevanishvili spoke on "The Theory of Non-Linear Oscillations in Radio Engineering". I.G.Akopyan gave the results of research into processes in an autogenerator, influenced by fluctuation interference and synchronized by a small sinusoidal force with a frequency close to the proper frequency of the autogenerator. More than 20 papers were delivered in the field of semi-conductor equipment. These included: A.V.Krasilov, Ye.S.Saltykov and A.B.Polyakov on semi-conductor triodes produced in the USSR and abroad. E.I.Adirovich and A.Yu.Gordonov discussed the calculations for frequency and transition characteristics of an amplifier cascade with semi-conductor triodes according to a lay-out with a common base. B.N.Kononov spoke on change-over processes with symmetrical triggers and with semi-conductor surface triodes. Yu.M.Azyan and Ye.Ya.Senatorov examined the question of the influence of the change-over characteristics on the work of transistor lay-outs. Papers read in the field of antenna equipment included: A.A.Pistol'kors and M.L.

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All-Union Session Marking "Radio Day"

Marshak on reflection and refraction of electro-magnetic waves on the air-ferrite boundary and in a right-angled wave guide, and V.A.Khromov and G.L.Sucikin spoke on "The Electro-Magnetic Radiation in Systems not Conditioned by the Theory of Reciprocity in the Ultra-High Frequency Range". V.A.Kaplun, L.V.Knyazeva and A.A. Pistol'kors examined - helped by the Kirchhoff Method - diffraction in a dielectric or semi-conductor plate. In the field of radio wave propagation, around 15 papers were read. These included: G.V.Bukin on an apparatus for probing the ionosphere; G.Ye.Levitskiy on questions of the ultra-short wave propagation theory over the non-homogenous earth's surface; F.I.Peregudov and B.S.Ludnik both spoke about radiolocation observations of meteors in Tomsk. K.M.Kosikov and V.I.Trunov gave an experimentally tested formula for computing the coefficient of a cross-over modulation, depending on the parameters of the transmitters and on their territorial dispersion. G.M.Bartenev evaluated the mutual dependence between the 11 year cycle of solar activity and the degree of

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All-Union Session Marking "Radio Day"

ionization of the atmosphere. V.I.Mikhaylov investigated the propagation of electromagnetic waves on turbulent pulsations. Finally, a series of interesting papers was read on the field of television. The conference closed on May 17, with speeches by the foreign delegates.

SUBMITTED: June 30, 1958

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

SOV/106-58-7-1/18

AUTHOR: Novik, D.A.

TITLE: The Transmission of Electrical Signals by an Optimum Shannon-Fano Code (K peredache elektricheskikh signalov optimal nym kodom shennona-fano)

PERIODICAL: Elektrosvyaz', 1958, Nr 7, pp 3 - 5 (USSR)

ABSTRACT: A proposal is made for realising Shannon-Fano coding in practice. Figure 1 shows a discrete signal consisting of a succession of n symbols which may take m discrete (quantized) values over a transmission time T. The average amount of information per element is given by Eq.(1). The [illegible] of this form of code is that it is a non-uniform binary code not requiring separating signs since no one of the coded combinations represents the beginning of another longer combination. This non-uniformity makes direct coding of a message impossible. Figure 2 shows a proposed block diagram. 1 is the quantizer, 2 the coder, 3 the controlled-scan-velocity generator, 4 the re-writer (memory-tube), 5 the constant-scan-velocity generator, 6 the auxiliary frequency generator, 7 the auxiliary code-combination generator, 8 the decoder, 9 the pulse

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The Transmission of Electrical Signals by an Optimum Shannon-Fano Code

counter, 10 the re-writer (memory-tube), 11 the constant-scan-velocity generator. The de-correlated signal is applied to 1 and thence to the coder 2, with the result as in Figure 1(b). The memory-tube 4 is used to equalize the time intervals between the binary symbols of the coded signal. The signal as read off and finally transmitted is as in Figure 1(в). The rest of the waveforms in Figure 1 correspond to the reverse process in the right-hand part of Figure 2. There are 2 figures and 4 references, 2 of which are Soviet and 2 English.

SUBMITTED: February 24, 1958

Card 2/2 1. Signals--Transmission 2. Cryptography 3. Information systems--USSR

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7"

"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

AUTHOR: Novik, D.A., Member of the Association 57-28-3-8/14

TITLE: On the Problem of the Average Component of a Television Signal and the Method of Obtaining It (K voprosu o sredney sostavlyayushchey televizionnogo signala i metodakh yeye polucheniya)

PERIODICAL: Radiotekhnika, 1958, Vol. 13, No. 3, pp. 53-67 (USSR)

ABSTRACT: The discrepancies connected with the problem of the average component of a television signal are pointed out, and the incorrectness of the usual explanations given in this case is proved by an analysis of the process of producing the signal in television transmission tubes with charge storage. The operation of an iconoscope (recording and readout) is investigated on the basis of the assumption that there is no effect produced by the redistribution of the surplus secondary electrons (i.e. that there is no "black spot"). For the determination of the amount of the output signals the determination of the transition characteristics in the recording and readout cycle for cathode and radiation tubes with charge storage is used (Ref 5). The stable values of the respective transition characteristics are used. Two possibilities of obtaining the television signal with an average component are investigated

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

On the Problem of the Average Component of a Television Signal and the Method of Obtaining It

SOV 108-13 7-8/4

1.) The method of dividing input currents (photocurrents) $i_{Ph_{average}}(t)$ and the readout current $i_r(t)$. In this method two basic dividing methods are possible: a) the method of spatial division (superorticon, vidicon) and b) the method of the frequency division of the signal current and of the input photocurrent. 2.) A method which is based upon the previous reception of the single signal $i_{Ph_{average}}(t)$ with following summation with $i_{storage}(t)$ for the purpose of obtaining $i_{signal}(t)$. Also in this case two methods are possible: a) $i_{photocurrent_{average}}(t)$ is obtained at the expense of a spatial division, and b) the same is obtained by making use of the time for the reversed development. On the strength of the investigations described it may be said that: 1.) All television transmission tubes with charge storage, among them also the iconoscope and the supericonoscope, potentially generate the signal of the average component of a television signal (Refs 1,2). 2.) The methods suggested for the purpose of obtaining and introducing the average component of the television signal by means of external circuits (high-frequency modulation of the beam, selection with respect to time of $i_{photocurrent_{average}}(t)$ for the time of reversed

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On the Problem of the Average Component of a Television Signal and the Method of Obtaining It SOV/ 108-13-7-8/14

development) (Refs 6 and 7) necessitate no constructional changes in television transmission tubes. There are 4 figures, and 7 references which are Soviet.

SUBMITTED: April 8, 1957

ASSOCIATION: Vsesoyuznoye nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi im. A.S. Popova (All-Union Scientific-technical Association for Radio Engineering and Electrical Communications im. A.S. Popov)

1. Video signals--Analysis 2. Television receivers--Applications
3. Television receivers--Circuits 4. Electron tubes--Applications

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

SOV/106-59-5-1/13

AUTHOR: Novik, D.A.

TITLE: Methods of Detection of Irregular Binary Codes (Metody dekodirovaniya neravnomernykh dvoichnykh kodov)

PERIODICAL: Elektrosvyaz', 1959, Nr 5, pp 3-12 (USSR)

ABSTRACT: This article deals with detection of the Shannon-Fano optimum code. The detection process consists of two operations: (A) Direct decoding of the binary digit train into a sequence of corresponding decoded, original-signal symbols. (B) Equalisation of the time intervals between successive decoded symbols.
The article deals with the first operation only. It is necessary to know the following at the receiver end of the system: (i) the code "dictionary", i.e. the correspondence between the code combinations and the original-signal symbols, (ii) the recurrence frequency of the binary digits; (iii) a start-stop signal indicating the instant decoding is to commence. Three detection methods are described: 1) Parallel detection. For an "alphabet" of m original-signal symbols there are m channels in the receiver and comparison is made between the received code combination and the dictionary symbols

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Methods of Detection of Irregular Binary Codes

in all m channels simultaneously. Whenever coincidence is recorded the circuits are cleared and operation recommences. 2) Series detection. This uses a relay-contact circuit which simulates the "genetic" tree from which the Shannon-Fano code is derived. Depending on the sign of the first digit, a relay in the left- or right-hand "branch" of "level" 1 is operated. The relay remains closed and also prepares a circuit in level 2. The next digit operates a level-2, left-hand or right hand branch relay. The action is successively repeated When a code combination corresponding to a dictionary symbol is established on the relay contacts, the symbol is recorded and a clearing command releases the relays. The circuit is then ready to receive the next code combination. 3) Detection using electron-beam deflection. The Shannon-Fano code combinations differ from each other in two ways (parameters): (a) in the number of digits in a combination and (b) by the order of the 1 s and 0 s Thus, each code combination is uniquely defined by two

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parameters and can be represented by the coordinates of a point in a plane. If the horizontal and vertical deflection voltages of a C.R.T. are made analogues of the two parameters, then the position of the electron beam specifies the code combination. This is utilised by placing a mask in front of the collector. In the mask are m small windows. The code combinations can be separated by either spatial division or amplitude division. In the former, behind each window in the mask there is a separate collector; in the latter, each window has a different "opacity" and therefore each detected combination produces a different amplitude-modulated pulse-train on the collector. Whenever a code combination corresponding to a dictionary symbol is established, the symbol is recorded and the sweep generators are reset, ready for the next code combination. Block diagrams for the different systems are given and

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SOV/106-59-5-1/13

Methods of Detection of Irregular Binary Codes

described. Professor A.A.Kharkevich advised in this work. There are 9 figures 2 tables and 4 references 3 of which are Soviet and 1 English.

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S/106/62/000/004/003/[illegible]
A055/A101

6.9500

AUTHOR: Novik, D.A.

TITLE: Possible methods of efficient coding of binary sequencies

PERIODICAL: Elektrosvyaz', no. 4, 1962, 64 - 69

TEXT: Various methods of efficient coding of binary sequencies are examined in this article. The author refers particularly to the works of Shannon (A mathematical theory of communication. BSTJ, 1948, v. 27, no. 3), Oliver (Efficient coding. BSTJ, 1952, v. 31, no. 4) and Huffman (A method for the construction of minimum-redundancy codes. Proc. IRE, 1952, v. 40, no. 9). In the first part of his article the author considers the efficient coding system where the elements of the binary sequence are preliminary grouped by n elements and the thus obtained signal of the alphabet $m = 2^n$ is then coded by the optimum nonuniform code corresponding to the distribution p (i), where $\sum^{m} p(i) = 1$. In the second part of the article the author examines some properties of the optimum nonuniform codes (only binary codes being taken into consideration). He reproduces the three conditions established by Huffman. He considers particularly two classes of optimum nonuniform codes: 1) Equivalent (from the information point

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of view) codes, i.e., two codes for which: $A[p(i)] = A[p(j)]$, (11) for all $i = j$ from m, where $\sum^{m} p(i) = \sum^{m} p(j) = 1$, and $B[p(i)] \neq B[p(j)]$ (12) for at least one $i = j$ from m. 2) Different (from the information point of view) codes, i.e., codes for which: $A[p(i)] \neq A[p(j)]$ (13) for a certain $i = j$ from m, where $\sum^{m} p(i) = \sum^{m} p(j) = 1$. (In the above expressions, A [illegible] are the durations of code combinations of the optimum nonuniform code corresponding to p (i), and B [p (i)] is the order-number.) The author introduces also the concept of the completeness of the code. By a complete binary code he understands a binary code with the aid of which it is possible to decode any binary sequence with a rest $A_{rest} < A[p(m)]$. In the last part of the article, the author speaks of the run length coding and considers it as a particular case of the nonuniform grouping with the aid of an optimum nonuniform code. At the end of the article, the author expresses his thanks to A.M. Khalfin, L.M. Fink and V.I. Mandrazhi. The Soviet personality mentioned in the article is: E.L. Blokh. There are 3 tables and 7 references: 4 Soviet-bloc and 3 non-Soviet-bloc.

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39470
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A055/A101

6.7500

AUTHOR: Novik, D.A.

TITLE: Efficient system for transmission of images

PERIODICAL: Elektrosvyaz', no. 8, 1962, 50 - 58

TEXT: In this article is examined a system for transmitting, by optimum nonuniform codes, two-gradiation facsimile images. After some general considerations on the codes to be used, the author describes the system (Fig. 2), where the image is carried by the film 3. To start the system, a trigger pulse 18 of duration $\Delta t = 1/2 f$ (f being the frequency of transmission of code symbols into the communication channel), is applied to the generator 11 of analysis cadence-pulses. The trailing edge of this pulse starts the generator of cadence pulses 12 of frequency f. Generator 11 delivers during the time Δt a batch of n pulses, n being the number of the preliminary grouped elements of the binary signal. This batch of pulses enters the line-scanning generator - storing scaler 6. Driven by the step-voltage of the step-sweep generator, the scanning beam sweeps the first n elements of the image. A code combination of n "0 and 1" emerges at

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the output of the amplifier 7 and is transmitted to the uniform-code decoder 9, which is the device for the grouping of the elements of the initial binary signal. As a result of the "insertion" of the code combination of n binary symbols into the shift register of 9, a voltage emerges on the corresponding i-th horizontal bus of the encoder 8 and of the controlling encoder 10 (the diagrams of 8 and 10 are reproduced in the article). Both 8 and 10 contain a matrix with $m = 2^n$ horizontal buses and $A[P(m)]$ vertical buses, $A[P(m)]$ being the maximum duration of the code combination of the used optimum nonuniform code. Each vertical bus is loaded on a load resistance R_N, $N = 1, 2, \ldots A[P(m)]$. The i-th combination of the optimum nonuniform code is "recorded" by diodes on the i-th bus. The controlling encoder is an indicator of the duration of the code combination. The voltages from resistances R_N are applied to "resolving" coincide circuits, to which is also applied a "resolving" voltage from a digital commutator. With every new (N) cadence pulse, the N-th coincidence circuit opens, and the voltages from R_N are applied to the corresponding summator. When, as a result of the first image elements, the digital commutator receives the first cadence pulse, a voltage emerges on the i-th bus of 9. The code symbols from 8 (up to the last but one of the i-th combination) will pass through the anti-coincidence circuits 13 and 14, and then into the communication channel 17 through the de-

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laying device 16. At the last A [P (i)]-th symbol of the i-th combination, a controlling pulse emerges at the output of 10 and enters 14. During the time $\Delta t_d = 1/2$ f, nothing emerges from the output of the delay line 15. During the first half-time of the transmission of the last code-symbol of the combination, the controlling pulse will therefore pass through 14 and reach the input of 15. When Δt_d elapses, 14 will not permit the passage of the controlling pulse through it during the second half-time of the transmission of the last code-symbol. The working controlling pulse of duration $\Delta t_d = 1/2$ f, that emerges then at the output of 15, is applied: 1) to 14; 2) to 13 (forbidding the passage through it of the last symbol of the i-th combination); 3) to 11 (where is being prepared, during that time, the next batch of n cadence pulses); 4) to the digital commutator, bringing it back to zero. The system is now ready for the transmission of the next (j-th) code combination. In the last part of the article, the author discusses some variants of the system and the possibilities offered by it. He expresses his thanks to A.M. Khalfin and A.I. Korchmar'. The Soviet personality mentioned in the article is: A.I. Kitov. There are 5 figures and 1 table.

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MANDRAZHI, V.P.; NOVIK, D.A.

Some features of digital television systems with variable horizontal frequency and frame repetition rate. Radiotekhnika 17 no.10:35-44 O '62. (MIRA 15:9)

1. Deystvitel'nyye chleny Nauchno-tekhnicheskogo obshchestva radiotekhniki i elektrosvyazi imeni Popova.
(Television)

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L 48805-65 EWT(1)/EWA(h) Peb

ACCESSION NR: AP5007252 S/0230/65/000/001/0065/0071

AUTHOR: Novik, D. A. (Leningrad)

7

B

TITLE: Technical realization of the optimal two-stage search

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 1, 1965, 65-71

TOPIC TAGS: search process optimization

ABSTRACT: The principles and features of Edward C. Posner's two-stage optimal search procedure (IEEE Trans., 1963, v. IT-9, no. 3, 157) are discussed. The requirements for the device ordering the results of a preliminary scanning are examined in detail. A new serial procedure of ordering is suggested which envisages the isolation of only the largest code combination (not ordering all n responses). The new procedure is claimed to require simpler equipment for same search time. The optimal procedure is seen as a combination of a serial-parallel wide-beam prescanning with a final local narrow-beam scanning. Orig. art. has: 4 figures and 7 formulas.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

L 08620-67 EWT(d)
ACC NR: AP7019452 Monograph

Novik, Dmitriy Aleksandrovich

Effective coding (Effektivnoye kodirovaniye) Moscow, Izd-vo "Energiya", 65. 0234 p. illus., biblio. 9,000 copies printed.

TOPIC TAGS: communication coding, communication decoding, information theory, interference reduction, analog digital conversion, image converter

PURPOSE AND COVERAGE: This book presents problems in the theory and procedure for systems of statically effective coding by optimal test of various communications using static redundancy during their transmission and storage. Construction methods and the theory of effective codes are given, and also included are different methods for decorrelating signals and various systems of effective coding. Means for technical realization of systems of effective coding are described. The book gives problems related to the specific effect of interference in communication systems used for effective coding as well as methods for increasing noiseproof features of these systems. This book is recommended for a wide range of specialists in technology of transmission and storage of information. It can also be useful as a text for courses on the theory of information and coding.

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"APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001137420006-7

NOVIK, F.

Rangefinding equipment of cameras. Sov.foto 17 no.6 [illegible]-57 Je '57. (MRA 10:8)

(Cameras)

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