VASSOYEVICH, N.B.; BEZHAYEV, M.M.

Connection between sections of Upper Carboniferous flysch in the Urals. Dokl. AN SSSR 149 no.6:1393-1396 Ap '63. (MIRA 16:7)

1. Vsesoyuznyy neftyanoy nauchno-issledovatel'skiy geologorazvedochnyy institut i Ural'skiy filial AN SSSR. Predstavleno akademikom D.V.Nalivkinym.

(Ural Mountains--Flysch)

VASSOYEVICH, N.B.; BEZHAYEV, M.M.

Origin of block breccia and conglomerates in the Carboniferous flysch of the eastern slope of the Central Urals. Lit. i pol. iskop. no.6:74-82 N-D '64. (MIRA 18:3)

BEZHAYEV, M.L.

Lithological composition of continental coal-bearing sediments in the eastern slope of the Urals. Lit. i pol. iskop. no. [illegible] 162-168 Mr-Ap '6[illegible].
(MIRA [illegible])

1. Institut geologii Ural'skogo filiala AN SSSR, Sverdlovsk.

BEZHAYEV, M.M.

Flysch formation in the eastern slope of the Urals and its facies composition. Dokl. AN SSSR 161 no.5:1161-1164 Ap '65.
(MIRA 18:5)

1. Institut geologii Ural'skogo filiala AN SSSR. Submitted September 12, 1964.

YEREMENKO, Nikolay Andreyevich; BEZHAYEV, Magomet Seyfulayevich; FILIPPOVA, Ye.A., vedushchiy redaktor; POLOSINA, A.S., tekhnicheskiy redaktor

[Oil deposit water studies; based on research in Daghestan] Issledovanie vod neftianykh mestorozhdenii; na primere Dagestana. Moskva, Gos.nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1956. 80 p. (MLRA 9:8)

(Daghestan--Petroleum geology)
(Daghestan--Water, Underground)

BEZHELKOVA, Ye.F., aspirant

Fixed joints of plastic and metal parts. Izv.vys.ucheb.zav.; mashinostr. no.4:24-32 '62. (MIRA 15:7)

1. Moskovskoye vysshoye tekhnicheskoye uchilishche imeni Baumana.

(Machine-shop practice)

BEZHELUKOVA, Ye.F., inzh.; VOROB'YEV, Yu.A., kand. tekhn. nauk; VORONTSOV, L.N., kand. tekhn. nauk; ZYABREVA, N.N., kand. tekhn. nauk; LYANDON, Yu.N., kand. tekhn. nauk; TISHCHENKO, O.F., doktor tekhn. nauk, prof.; FEDOROV, A.D., kand. tekhn. nauk; YAKUSHEV, A.I., doktor tekhn. nauk, prof.; GOSTEV, V.I., inzh., retsenzent; KUBAREV, V.I., inzh., red.; GARANKINA, S.P., red.izd-va; UVAROVA, A.F., tekhn. red.

[Handbook on allowances, fits, and linear measurements for inspectors at machinery plants] Spravochnik kontrolera mashinostroitel'nykh zavodov; po dopuskam, posadkam, i lineinym izmereniiam. Pod red. A.I.IAkusheva. Leningrad, Mashgiz, 1963. 723 p. (MIRA 16:5)
(Production control) (Measuring instruments)
(Interchangeable mechanisms)

BEZHELUKOVA, Ye.F.; MIRZOYEV, R.G.

Supplements to the allowance and fit system of the All-Union Standard. Standartizatsiia 27 no.1:7-13 Ja '63. (MIRA 17:4)

VOROB'YEV, Yu.A., kand. tekhn. nauk; BEZHELUKOVA, Ye.F., kand. tekhn. nauk; KABANOV, S.D., inzh., retsenzent; [illegible] N.N., kand. tekhn.nauk, red.

[Allowances and fits of plastic parts] Dopuski i posadki detalei iz plastmass. Moskva, Mashinostroenie, [illegible] 177 p.

L 53620-65 EWT(m)/EWP(v)/EPF(c)/EWG(v)/EWA(d)/EPR/EWP(j)/T/EWP(t)/
EPA(bb)-2/EWP(b) Pc-4/Pe-5/Pr-4/Ps-4 JD/DJ/RM

ACCESSION NR: AP5016250 UR/0122/64/000/011/0050/0052

AUTHOR: Vorob'yev, Yu. A. (Candidate of technical sciences, Docent); Bezhelukova, Ye. F. (Candidate of technical sciences); Slyudikova, N. N. (Engineer)

TITLE: Effect of operating conditions and clearance on the efficiency of capron slider bearings

SOURCE: Vestnik mashinostroyeniya, no. 11, 1964, 50-52

TOPIC TAGS: antifriction bearing, antiwear additive, ketone, industrial instrument

Abstract: Samples of polycaprolactam + 20% $BaSO_4$ and polycaprolactam + 20% $BaSO_4$ + 3% CdI were tested. The samples were made in the form of sleeves with an inside diameter of d= 40 mm and a wall thickness s= 2, 3, 4 and 5 mm in the Central Laboratory of synthetic materials in the Automatic Factory imeni Likhachev by molding at a pressure of 1000 kg/cm^2 on a "Ziegler" type molding machine. The parts made of capron + 20% $BaSO_4$ were poured at 280° C while those of capron + 20% $BaSO_4$ + 3% CdI were poured at 275° C. The sleeves with wall thickness of 2, 3, 4 and 5 mm were held under pressure for 10, 15, 20 and 25 seconds respectively. The tests were made at the MVTU (Moscow Higher Technical School) on a stand which

Card 1/3

L 53620-65
ACCESSION NR: AP5016250

permitted continuous variation in the speed of rotation of the shaft and in the load. Number 20 industrial oil (number 3 spindle oil) was fed to the bearing by the drop while the tests were being made. The temperature, rate of slide, load and moment of friction in the rotating pair were recorded during the testing. The sleeves were inserted into metal rings and rotated on shafts made of grade 45 steel. For the capron + 20% $BaSO_4$, the coefficient of sliding friction has an average value of 0.009 in the clearance range from 0.15 to 1.2 mm. The shaft starts to stick at a clearance of 0.12 mm and when the clearance is increased past 1.2 mm, the coefficient of friction increases followed by sticking in connection with the reduction in contact area and the consequent increase in unit pressure which causes plastic deformations in the material of the sleeve. The maximum allowable clearance for capron without a filler is much smaller because of the lower module of elasticity in this case. Capron + 20% $BaSO_4$ shows an increase in temperature by 10-15°C when the load is increased from 3 to 10 kg/cm^2. With an increase to 25 kg/cm^2, the temperature increases by 30-35°, this load being the maximum because of the poor thermal conductivity of the plastic when the wall thickness is 4 and 5 mm. The optimum wall thickness for improvement of heat transfer conditions is given by the empirical formula

$$\delta = 1 + (0.04 - 0.05)d \text{ mm.}$$

Card 2/3

L 53620-65

ACCESSION NR: AP5016250

The coefficient of friction decreases with an increase in the load on the bearing up to a definite limit and then sharply increases. This is due to the increase in temperature which destroys the plastic bearing. The roughness of the bearing has no appreciable effect on the clearance nor on the coefficient of friction, but the roughness of the metal shaft does have a considerable effect on these quantities, the coefficient of friction becoming stable with a seventh class surface finish. The surface finish of a steel shaft is increased by one class after running for 20 hours. It was also established that the coefficient of friction was reduced and the temperature increased from 30 to 40°C with an increase from 400 to 1000 rpm and a change in the rate of slide from 0.84 to 2.1 m/sec. A further increase in the rate of slide leads to sticking of the shaft and melting of the plastic bearing. Orig. art. has 5 graphs, 1 formula, and 2 figures.

ASSOCIATION: none

SUBMITTED: 00	ENCL: 00	SUB CODE: IE, MT
NO REF SOV: 002	OTHER: 000	JPRS

OR

Card 3/3

BEZHELUKOVA, Ye.F., inzh.

Effect of the geometrical parameters of plastic bushing parts produced by die casting on the degree of shrinking. Izv. vys. ucheb. zav.; mashinostr. no.8:157-161 '65. (MIRA 18:10)

L 46648-66 EWT(m)/EWP(j)/T WW/DJ/RM

ACC NR: AR6021270 SOURCE CODE: UR/0081/66/000/004/S087/S087

AUTHOR: Vorob'yev, Yu. A.; Bezhelukova, Ye. F.; Slyudikova, N. N. 61

TITLE: Effect of operating conditions and amount of clearance on efficiency of sliding bearings of polycaprolactam B

SOURCE: Ref zh. Khim, Part II, Abs. 4S564

REF SOURCE: Sb. tr. Mosk. vyssh. tekhn. uch-shcha im N. E. Baumana, v. 4, 1964, 45-54

TOPIC TAGS: organic nitrogen compound, polymer, material deformation, friction, friction coefficient, bushing, bearing material, bearing stability

ABSTRACT: The effect of the amount of clearance, of radial pressure of the slide velocity, of the roughness of the metallic shaft surfaces and of mechanical machining of filled polycaprolactam sliding bearings on their efficiency was studied. It was established that with clearances from 0.15 to 1.2 mm and radial pressures of 10 kg/sq cm the coefficient of friction of the slide is, on the average, 0.009, which assures normal operation of the joint. With clearances up to 0.12 mm and over 1.2 mm the shaft jams due to lack of compensation for thermal deformation in the

Card 1/2

ACC NR: AR6021270

first case, and an increase in specific pressure causing plastic deformation in the second. Changing the radial pressure from 3 to 10 kg/sq cm increases temperature 10 - 15°. At 25 kg/sq cm pressure the temperature increases 30 - 35°, which is the limit for bearings with 4 and 5 mm wall thickness because of poor thermal conductivity of the plastic. On increasing sliding speed from 0.84 to 2.1 m/sec the coefficient of friction decreases and temperature increases from 30 to 40°. Further increase in slide velocity leads to wedging of the shaft and melting of the bearing. The coefficient of friction is stabilized when the shaft surface roughness is within the limits from ▽ 7 class fineness and higher. The coefficient of friction decreases after machining. In testing machined plastic bushings, the coefficient of friction is more stable than for bushings without machining; at the same time machining impairs the wear resistance of the surface of the piece and increases the change in the dimensions of the piece from water absorption. Z. Ivanova. [Translation of abstract].

SUB CODE: 11, 13

Card 2/2

BEZHEN, A.

At the sources of great deeds. Sov.profsoiuzy 7 no.4:14-15 Fe '59. (MIRA 12:5)

1. Predsedatel' tsekhkoma domennogo, tsekha Serovskogo metallurgicheskogo kombinata.
(Serov--Iron industry)

BEZHENOV, Mikhail Ivanovic; FEDININ, Vasiliy Kuz'mich; KANTER, A.I., red.; RAKITIN, I.T., tekhn. red.

[The standard-bearers of communism] Znamenostsy kommunizma. Moskva, Izd-vo "Znanie," 1963. 55 p. (Narodnyi universitet kul'tury. Tekhniko-ekonomicheskii fakul'tet, no.11)
(MIRA 17:1)

BEZHENTSEV, M.K., inzhener; VORONIN, N.M., inzhener, nauchnyy redaktor; BEKETOVA, Ye.M., redaktor; DAKHNOV, V.S., tekhnicheskiy redaktor

[Economics, organization and planning in the construction industry] Ekonomika, organizatsiia i planirovanie stroitel'stva. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture. Pt.3. [Building materials industries] Proizvodstvennye predpriiatiia. 1953. 150 p. [Microfilm] (Building materials industry) (MIRA 8:2)

Determination of iodine numbers in mixtures of saturated and unsaturated amines prepared from acids derived from stearin. O. K. Smirnov and V. M. Bezhentseva. *Zavodskaya Lab.* 21, 414(1955).—The usual detn. of iodine no. in unsatd. amines is unsatisfactory since replacement of H atoms on N by halogen occurs. To avoid this, the sample is treated with 8–10% HCl in EtOH-$CHCl_3$ to convert the amines into their HCl salts, after which the usual analysis is run. The salts are not subject to the halogen error mentioned above. Analyses of "stearyl" amine samples were satisfactorily run in this way. G. M. Kosolapoff

L 24862-66 EWT(m)/EWP(j)/T/EPC(m)-6 IJP(c) WW/DJ/GS/RM

ACC NR: AT6008951 (A) SOURCE CODE: UR/0000/65/000/000/0113/0122

52
51
Bt1

AUTHORS: Vorob'yev, Yu. A.; Bezhelukova, Ye. F.

ORG: none

TITLE: The effect of operating conditions and clearance on the efficiency of polyamide slip bearings

SOURCE: Moscow. Institut mashinovedeniya. Plastmassy v podshipnikakh skol'zheniya; issledovaniya, opyt primeneniya (Plastics in friction bearings; research and experiment in application). Moscow, Izd-vo Nauka, 1965, 113-122

TOPIC TAGS: friction coefficient, antifriction material, antifriction bearing, polyamide, lubricating oil, static load test, temperature

ABSTRACT: The effects of the rate of slip, pressure, lubrication, clearance between shaft and bearing, diameter and wall thickness and length of bushing, roughness of metal surface and of plastic surface, and the physicomechanical properties of the polyamides on efficiency are studied. It is found that the size of the clearance affects temperature, but that the temperature has a stable value for a definite speed and pressure within a certain range of clearances (see Fig. 1). With an increase in bearing length, the carrying power increases and then decreases (see Fig. 2). It is noted that functional fillers can considerably change the

Card 1/3

L 24862-66

ACC NR: AT6008951

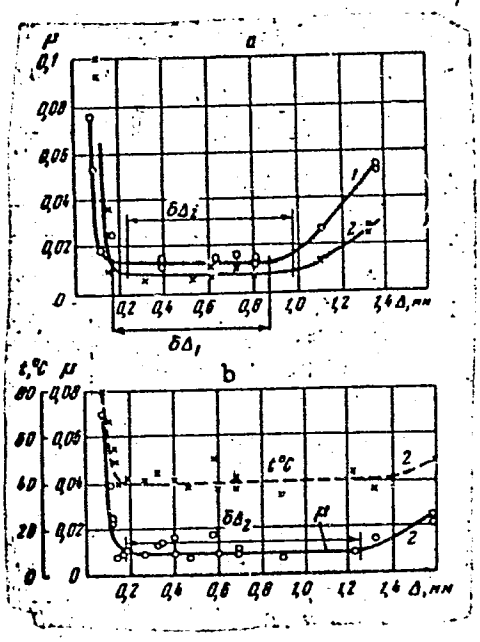


Fig. 1. Friction coefficient and temperature versus clearance. Bushing - initial caprone (a); initial caprone + 20% $BaSO_4$ (b) (S = 3 mm); shaft - steel 45 (▽ 7, HRC = 50—55, ℓ = d = 40 mm). Slip speed v = 0.84 m/sec. Lubricant - spindle oil (drops); 1 - p = 3 kg/cm^2; 2 - p = 10 kg/cm^2.

Card 2/3

L 24862-66

ACC NR: AT6008951

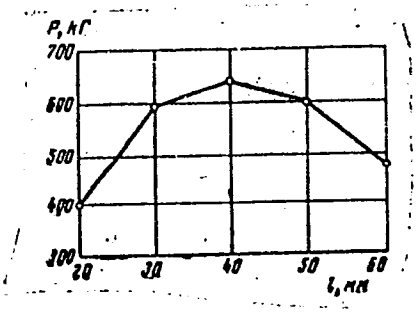


Fig. 2. Carrying power (radial load) of bearing versus length of coupling. Bushing - initial caprone + 20% $BaSO_4$ (S = 3 mm); shaft - steel 45 (▽ 7, HRC = 50--55, $\ell = d = 40$ mm, $\Delta = 0.25$ mm); slip speed v = 0.84 m/sec. Lubricant - spindle oil (drops).

physicomechanical properties of caprone and may improve its efficiency as a bearing material. Orig. art. has: 9 graphs and 3 tables.

SUB CODE: 11/ SUBM DATE: 31Jul65

Card 3/3 dda

BEZHENUTSA, V.I. (Ivano-Frankovsk [illegible])

Pathological reconstruction of bones caused by [illegible] stress. Ortop., travm. i protez. 26 no.2:23-30 F '65. (MIRA 18:5)

1. Iz ortopedo-travmatologicheskogo otdeleniya (zav. - A.S. Sakharets') Ivano-Frankovskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach - V.Ye. Khokhryakov).

GORSKIY, B., kand.tekhn.nauk;BEZHENUTSA, L., kand.tekhn.nauk

Technology of manufacturing synthetic resin tiles for floors and walls.
Stroi. mat. 4 no.8:9-11 Ag '58. (MIRA 11:9)
(Tiles) (Gums and resins, Synthetic)

GORSKIY, B.Z. [Hors'kyi, B.Z.], kand.tekhn.nauk; BEZHENUTSA, L.P., kand. tekhn.nauk

The use of plastic materials in building. Nauka i zhyttia 8 no.11:11-15 N '58. (MIRA 13:5)
(Plastics) (Building materials)

BEZHENUTSA, L. P., Cand of Tech Sci — (diss) "Asbestos tiles for floors (a study)."

Kiev, 1957, 16 pp (Kiev Engineering Construction Institute), 100 copies (KL,29-57,90)

GORSKIY, Boris Zakharovich; BEZHENUTSA, Larisa Pavlovna; KOLESNIK, N.S., red.; NARINSKAYA, A.L., tekhn. red.

[Plastics in the construction industry; manufacture and use] Plastmassy v stroitel'stve; proizvodstvo i primenenie. Kiev, Gos. izd-vo lit-ry po stroit. i arkhit. USSR, 1961. 315 p. (MIRA 14:8)
(Plastics) (Building materials)

[redacted], V. I.

Extrication of Wounded From a Tank Through the Hatch. Voyenno-Meditsinskiy Zhurnal, No 1, p 69, 1955.

BEZHENUTSA, V.I., kapitan meditsinskoy sluzhby

Field operating table for treating wounds and burns. Voen.-med. zhur. no.5:82-83 My '56. (MLRA 9:9)
(SURGICAL INSTRUMENTS AND APPARATUS)

BEZHENUTSA, V.I.

Two operations for acute appendicitis withcarcinoids. Khirurgiia 32 no.2:76 F '56. (MLRA 9:7)
(APPENDIX--TUMORS)

BEZHENUTSA, V.I., kapitan meditsinskoy sluzhby

Field operating table. Voen.med.zhur. no.5:88-89 My '59.
(MIRA 12:8)

(OPERATING ROOMS,
field operating table (Rus))

15-57-10-14901

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 10, p 259 (USSR)

AUTHOR: Bezhetskiy, A. Ye.

TITLE: A Study of Surface Deformation During Excavation of Thick Steeply Dipping Strata Using Waste-Packing Methods as Found in the Prokop'yevsko-Kiselevskiy Region (Issledovaniye deformatsiy poverkhnosti pri vyyemke moshchnykh krutopadayushchikh plastov s zakladkoy v usloviyakh Prokop'yevsko-Kiselevskogo rayona)

PERIODICAL: Materialy 1-y obl. nauch.-tekhn. konferentsii ugol'shchikov po okhrane nedr Kuzbassa, 1954 g., Kemerovo, Knigoizdat, 1955, pp 55-72

ABSTRACT: The author gives information on the modern practice of maintaining several objectives on the surface of certain mines in the Prokop'yevsko-Kiselevskiy region. He gives data on the effect that mining excavations have on the surface, on buildings above ore pillars and during removal of the pillars. He also proposes measures for

Card 1/2

A Study of Surface Deformation (Cont.)

preventing loss due to material left in the ore pillars. It is noted that surface deformation, determined by the amount of greatest displacement, depends on the ratio of maximum vertical displacement to the thickness of a bed (q). It is established that during excavation of individual beds with hydraulic packing of waste q = 0.08; by dry, pneumatic, and gravity-flow packing of waste q = 0.15. The zones on the surface situated over mine workings were subjected to minor fluid deformations. The value of this deformation did not exceed the norms for protecting structures of category III. On the basis of these data, the legally required reserves were successfully removed under some structures at the Stalin and "Chernaya Gora" mines. On the basis of the positive experiment of removing these ore pillars, the author advances the possibility of working out the ore pillars under other similar buildings. He proposes a classification for the preservation of buildings. He brings up the question of the experimental working out of the pillar material by consecutive removal of the pillars.

Card 2/2

V. V. Zhukov

BEZHETSKIY, A.Ye., gornyy inzhener

About the article "Losses of coal chippings in mines."
Ugol' 30 no.6:43 Je '55. (MIRA 8:8)

1. Sibirskiy filial Vsesoyuznogo nauchno-issledovatel'skogo Markscheyderskogo instituta.
(Coal mines and mining)

BEZHETSKIY, A.Ye., gornyy inzh.

Leaving protective pillars under approches, ravines and small rivers in the Kuznetsk Basin. Ugol' 33 no.5:19-24 My '58.
(MIRA 11:5)

1.Sibirskiy opornyy punkt Vsesoyuznogo nauchno-issledovatel'skogo marksheyderskogo instituta.
(Kuznetsk Basin--Mining engineering)

BELOV, A.A.; BELOV, Yu.D.; BEZHETSKIY, A.Ye.; KUNYAYEV, Ye.V.;
LYALIKOV, G.I.; PETROV, N.S.; SLAVOROSOV, A.Kh.;
BOLDYREVA, Z.A., tekhn. red.

[Concise mine surveyors' reference book]Kratkii spravochnik
marksheidera shakhty. Moskva, Gosgortekhizdat, 1962. 416 p.
(MIRA 15:9)

(Mine surveying)

BEZHETSKIY, A.Ye., gornyy inzh.

Improving the measures for the prevention and extinction of spontaneous mine fires. Ugol' 37 no.11:46-48 N '62. (MIRA 15:10)

1. Sibirskiy filial Vsesoyuznogo nauchno-issledovatel'skogo marksheyderskogo instituta.
(Coal mines and mining—Fires and fire prevention)

ANDRIANOV, S.M.; BARYUTIN, B.S.; BEZHETSKIY, M.I.; BOGDANOV, M.N.; GOLOVANOV, S.V.; IOFE, N.S.; KAPLAN, N.M.; KIREYEV, A.V.; KOLOBOV, G.M.; KOROLEVA, M.A.; KURIN, A.I.; MINAYEV, M.S.; POZDNYAKOVA, T.A.; PROKOPOVICH, V.M.; SOLOV'YEV, S.N.; TRET'YAKOV, N.P.; CHEKOV, A.M.; FILIMONOV, N.D.

Petr Fedorovich Lel'kov; obituary. Ptitsevodstvo 9 no.8:48 Ag '59. (MIRA 12:12)
(Lel'kov, Petr Fedorovich, 1905?--1959)

BEZHEVETS, A.I., inzhener.

Examples of planning and erecting steel buildings in the Czechoslovak Republic. Stroi.prom. 32 no.8:37-40 Ag '54. (MLRA 7:8)
(Czechoslovakia--Building, Iron and steel) (Building, Iron and steel--Czechoslovakia)

BEZHIN, P.

An early fulfillment of the plan. Mast. ugl. 5 no.8:10 Ag '56. (MLRA 9:11)

1. Nachal'nik smeny ugleobogatitel'noy fabriki shakhty "Koksovaya" kombinata Kuzbassugol'.
(Kuznets Basin--Coal mines and mining)

BEZHINA, Vera Fedorovna, svinarka; OSADCHIY, P.G., red.; GONCHAROVA, Ye., tekhn.red.

[Five farrows in two years] Piat' oporosov za dva goda. Belgorod, Belgorodskoe knizhnoe izd-vo, 1960. 10 p. (MIRA 14:1)

1. Kolkhoz imeni Lenina Skorodnyanskogo rayona (for Bezhina).
(Swine breeding)

BEZINGER, E.N.; CHIGIREV, V.S.; [illegible], R.N.

Lipoamino acid compounds of chloroplasts. [illegible] 158 no.6:1424-1426 O '64. (MIRA 17:12)

1. Institut biokhimii im. A.N. Bakha AN [illegible].

GUNDINOVICH, A., podpolkovnik, voyennyy letchik pervogo klassa;
BEZHKO, N., mayor, voyennyy shturman pervogo klassa

What do you suggest? Av. i kosm. 45 no.6:76 '62.
(MIRA 15:10)

(Technical education)

BEZHKOVICH, A.

"Map of the peoples of the U.S.S.R." Reviewed by A. Bezhkovich. Sov.etn. no.2:235-237 '53. (MLRA 6:6)
(Ethnology--Maps)

BEKHKOVICH, A.S.

Ethnographic drawings of Vl.Plotnikov depicting the life of the Kazakhs. Sov.etn. no.4:113-119 '53. (MLRA 6:12)
(Kazakhs--Social life and customs) (Plotnikov, Vladimir)

BEZHKOVICH, A.S.

Dmitrii Konstantinovich Zelenin; 1878-1954. Izv.Vses.geog.ob-va 87 no.4:367-369 Jl-Ag'55. (MLRA 8:10)
(Zelenin, Dmitrii Konstantinovich, 1878-1954)

BEZHNANYAN, Z. S.

BABAYAN, A. A., KIRAKOSYAN, A. V., and BEZHNANYAN, Z. S. "Contribution to the Study of Cotton Gummosis and its Control in the Transcaucasian SFSR," Scientific Series, no. 46, Transcaucasian Scientific-Research Institute of Cotton, Tiflis, 1935, 96 pp. 72.9 G15

SO: SIRA, SI 90-53, 15 Dec. 1953

AGOSTON, Attila; BEZI, Istvan

Antifreeze control. Auto motor 17 no.2:13 21 Ja '64.

1. Magyar Tudomanyos Akademia Automatizalasi Kutato Laboratorium.

L 17665-66

ACC NR: AP6009379 SOURCE CODE: HU/0012/65/013/001/0007/0013

AUTHOR: Bezi, Istvan (Staff scientist); Sas, Gabor--Shash, G. (Staff scientist) 41

ORG: Research Institute for Automation, Hungarian Academy of Sciences (Magyar Tudomanyos Akademia Automatizalasi Kutato Intezet) B

TITLE: Control system for the distribution of load in technological units operating in parallel 21

SOURCE: Meres es automatika, v. 13, no. 1, 1965, 7-13

TOPIC TAGS: automatic control design, automatic control system, electric power engineering, electric distribution equipment

ABSTRACT: Means for designing a control unit that enables the distribution of load between technological units coupled in parallel so that the proportion of load is appropriate and consistent during the period of operation were discussed. Several methods were theoretically explored by considering the control algorithms involved. This was followed by a detailed description of a control system found optimum on the basis of the preliminary considerations. A schematic diagram was presented for this unit and its operation and performance were discussed. Orig. art. has: 7 figures and 21 formulas. [JPRS]

UDC: 621.016.3.062.1:621.316.728 2

Card 1/2

L 17665-66

ACC NR: AP6009379

SUB CODE: 13, 09 / SUBM DATE: 220ct64

O

FW

Card 2/2

BEZIAK, A.

Chem. Abs V48
1-25-54
General & Physical
Chemistry

Chem

B. J. C. van der Hoeven

The vector-algebraic method for the interpretation of the Patterson synthesis. A. Beziak (Univ. Zagreb). *Acta Cryst.* 6, 748-9(1953).—A modification and further development of the method of Lindqvist (cf. *C.A.* 46, 10996b) for the interpretation of Patterson synthesis of centrosym. structures.

W. Nowacki

(2)

6

7-19-54 LL

BERIC, D.

"Steam engine or electric engine?" p. 45. (ELEKTRONIKA, Vol. 2, [illegible] 2, Feb. 1953, Beograd.)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress August, 1953, Uncl.

BEZIC, D.

Impedance in direct current of telecommunication lines along an eletric railroad and its removal. p. 121. ZELENICE. Vol. 11, No. 4, April, 1955. Belgrad.

SOURCE: East European Accessions List, (EEAL) Library of Congress, Vol. 4, No. 12, Dec. 1955.

BEZIC, Dusan, ing. (Zagreb, Krasova 42)

Why to electrify railroads. Elektrotehnika Hrv 1 no.1-2:94-97 '58.

1. Savjetnik Direkcije Jugoslavenskih zeljeznica, Zagreb; urednik strucne rubrike "Elektrocna vuca", "Elektrotehnika"

BEZIC, Dusan, inz. (Zagreb, Krasova 24)

Electrification of the Yugoslav railroads. Elektrotehnika Hrv 5 no.3:77-79 '62.

BEZIC, J.

Partizanska pesem (Partisan Songs) edited by Radoslav Hrovatin; a book review. p. 283.
(Slovenski Etnograf. Vol. 9, 1956, Yugoslavia)

SO: Monthly List of East European Accessions (EEAL) LS, Vol. 6, no. 7, July 1957, Uncl.

YUGOSLAVIA/Nuclear Physics - Penetration of Charged Neutral Particles Through Matter. C

Abs Jour : Ref Zhur Fizika, No 2, 1960, 3066

Author : Vakselj, M., Bezic, N.
Inst : -
Title : Energy-Angle Distribution of Bremsstrahlung Spectrum

Orig Pub : Repts "J. Stefan" Inst., 1958, 5, 9-11

Abstract : The differential cross section of bremsstrahlung, after Bethe and Heitler, was integrated over the electron recoil angles in order to obtain the energy-angle distribution of the bremsstrahlung gamma quanta. For this purpose, the field of the atom is represented in a form which is an analytical approximation of the Hartree-Fock method, which gives a better agreement than the Thomas-Fermi model, particularly at small values of the function q.

Card 1/1

BEZIC, Niko

Magnetic spectrometers for charged particles. Obz mat fiz 7 no.2: 55-61 '60. (EEAI 9:12)

1. Nuklearni institut J.Stefan.
(Spectrometer) (Particles) (Magnetic instruments)

BEZIC, Niko

Magnetic mirrors for charged particles. Obz mat fiz 8 no.1:16-19 My '61.

1. Nuklearni institut "Jozef Stefan".

BEZIKOVICH, A.

Guiding plan for action. NTO 5 no.5:53 My '63. (MIRA 16:7)
(Technical societies)

BEZIKOVICH, A.Ya.

Error of rectifying devices caused by the distortion of the alternating current curve and methods for determining this error. Trudy VNIIM no.14:134-152 '53. (MIRA 11:6)
(Electric currents, Alternating--Measurements)

BEZIKOVICH, A.Ya.

Thermoelectric method for checking normal and higher frequency a.c. wattmeters. Trudy VNIIM no.24:57-71 '54. (MIRA 10:12)
(Wattmeter)

SOV/112-57-6-12560

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1957, Nr 6, p 135 (USSR)

AUTHOR: Bezikovich, A. Ya., Zorin, D. I.

TITLE: Outfit for Checking A-C Ammeters, and Voltmeters at Commercial and Higher Frequencies (Ustanovka dlya poverki vattmetrov, ampermetrov i vol'tmetrov na peremennom toke normal'noy i povyshennoy chastoty)

PERIODICAL: Tr. Vses. n.-i. in-ta metrologii, 1956, Nr 28, pp 20-35

ABSTRACT: A description is given of the type UV outfit developed by Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii (VNIIM) (All-Union Research Institute of Metrology, VNIIM), im. D. I. Medeleyev and built by the "Etalon" Plant (Leningrad). The output depends for its operation on a thermoelectric method of comparing AC in a wide frequency range with DC. A thermoelectric power comparator (TEKM) is the fundamental component of the outfit. Results of investigations of individual subassemblies are presented. The upper limits of the measuring range of the UV outfit are 10 amp and 300 v. Basic errors of

Card 1/2

Outfit for Checking Wattmeters, Ammeters, and Voltmeters at Commercial . . . .

power measurements at frequencies up to 10,000 cps do not exceed 0.2% at a unity power factor and 0.3% at a 0.5 power factor; they do not exceed 0.1% when currents and voltages are varied within the frequency range up to 20,000 cps.

M.Kh.Sh.

APPROVED FOR RELEASE: 06/08/2000 CIA-RDP86-00513R000205210003-8"

BEZIKOVICH, A.Ya.

24(0); 5(4); 6(2) PHASE I BOOK EXPLOITATION SOV/2215

Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni D.I. Mendeleyeva

Referaty nauchno-issledovatel'skikh rabot; sbornik No.2 (Scientific Research Abstracts; Collection of Articles, Nr 2) Moscow, Standartgiz, 1958. 139 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Komitet standartov, mer i izmeritel'nykh priborov.

Ed.: S. V. Reshetina; Tech. Ed.: M. A. Kondrat'yeva.

PURPOSE: These reports are intended for scientists, researchers, and engineers engaged in developing standards, measures, and gages for the various industries.

COVERAGE: The volume contains 128 reports on standards of measurement and control. The reports were prepared by scientists of institutes of the Komitet standartov, mer i izmeritel'nykh priborov pri Sovete Ministrov SSSR (Commission on Standards, Measures, and Measuring Instruments under the USSR Council of Ministers). The participating institutes are: VNIIM - Vsesoyuznyy nauchno-issledovatel'skiy metrologicheskiy institut imeni D.I. Mendeleyeva (All-Union Scientific Research Institute of Metrology Imeni D.I. Mendeleyev) in Leningrad; Sverdlovsk branch of this institute; VNIIK - Vsesoyuznyy nauchno-issledovatel'skiy institut Komiteta standartov, mer i izmeritel'nykh priborov (All-Union Scientific Research Institute of the Commission on Standards, Measures, and Measuring Instruments); created from MOIMIP - Moskovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Moscow State Institute of Measures and Measuring Instruments) October 1, 1955; VNIIFTRI - Vsesoyuznyy nauchno-issledovatel'skiy institut fiziko-tekhnicheskikh i radiotekhnicheskikh izmereniy (All-Union Scientific Research Institute of Physicotechnical and Radio-engineering Measurements) in Moscow; KhGIMIP - Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments); and NGIMIP - Novosibirskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Novosibirsk State Institute of Measures and Measuring Instruments). No personalities are mentioned. There are no references.

Bezikovich, A. Ya. (VNIIM). Errors of Electrodynamic Wattmeters at High Frequencies

BEZIKOVICH, A.Ya.; ZORIN, D.I.; KAYANDER, M.S.

Frequency errors in wattmeters. Trudy VNIIM no.38:103-109 '59. (MIRA 13:4)

(Wattmeter)

BEZIKOVICH, A. Ya.; ZORIN, D.I.

Multilimit high-precision thermoelectric devices for operation in the audio frequency band. Trudy inst. Kom. stand., mer i izm. prib. no. 39:119-129 '60. (MIRA 14:3)
(Electric meters)

BEZIKOVICH, A. Ya.; POPOV, V.S.

Methods and apparatus for checking wattmeters in the audio frequency band. Trudy inst. Kom. stand., mer i izm. prib. no.39:130-142 '60.
(MIRA 14:3)

(Wattmeter—Testing)

S/194/61/000/008/007/092
D201/D304

AUTHORS: Bezikovich, A.Ya., Zorin, D.I. and Kayander, M.S.

TITLE: Frequency errors of wattmeters

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 8, 1961, 10, abstract 8 A65 (V sb. Vopr. obshch. elektropriborostr., Kiyev, AN USSR, 1960, 53-61)

TEXT: A method and equipment has been designed at the VNIIM im. D.I. Mendeleyev for calibrating ammeters, volt and wattmeters at the frequency range of up to 20,000 c/s. The designed equipment is based on the thermo-electrical comparison method. The calibration accuracy of a.c. at frequencies up to 20,000 c/s is about 0.1 to 0.2%. The instruments produced for mains frequencies have been tested over a wide range of frequencies and for some types additional frequency correction have been determined. Formulae are given of frequency error terms resulting from inductance, mutual inductance and eddy currents. Calibrating frequency curves are

Card 1/2

Frequency errors of wattmeters

S/194/61/000/008/007/092
D201/D304

given for several types of instruments. Some types of wattmeters, designed for 50 c/s operation, may be used at up to 500 c/s provided that additional errors do not exceed the value expressing the class of accuracy of the instrument. Recommendations are given on the means of decreasing the frequency errors of small power factor wattmeters. [Abstracter's note: Complete translation]

Card 2/2

BEZIKOVICH, A.Ya.; ZORIN, D.I.

Thermoelectric class 0.1 power measuring device. Trudy inst. Kom. stand. mer i izm. prib. no.67:39-49 '62. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii imeni Mendeleyeva.

BEZIKOVICH, A.Ya.; ZORIN, D.I.

Multilimit thermoelectric device for measuring current, voltage and power. Izm.tekh. no.2:29-32 F '63. (MIRA 16:2)
(Electric instruments)

L 17547-65 EWT(d)/EEC(k)-2/EEC-4 Po-4/Pq-4/Pg-4/Pk-4/Pl-4 ASD(a)-5/SSD/
AFWL

ACCESSION NR: AR4049281 S/0272/64/000/008/0119/0119

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika. Otd. vy*p., Abs. 8.32.812

AUTHOR: Bezikovich, A. Ya., Zorin, D.I.

TITLE: A volt-, ampere- and wattmeter for sonic and ultrasonic frequencies

CITED SOURCE: Tr. in-tov Kom-ta standartov mer i izmerit. priborov pri Sov. Min. SSR, vy*p. 74(134), 1963, 50-66

TOPIC TAGS: voltmeter, ammeter, wattmeter, ultrasonic frequency, sonic frequency

TRANSLATION: The article describes a thermoelectric instrument designed to measure amperage, voltage and strength of direct and alternating currents in the sonic and ultrasonic frequency ranges. A basis is established for the feasibility of designing a universal volt, ampere and wattmeter with an improved accuracy. The improvement in accuracy is attained by controlling instrument indications during its operation. Such control is based on induced compensation for changes in heat converter parameters resulting from various causes. The compensation is effected by a regulating resistance in the thermocouple circuit. The authors present calculations for instrument elements and an analysis

Card 1/2

L 17547-65
ACCESSION NR: AR4049281

of the accuracy of the instrument. They determined the frequency error of the wattmeter, the angular error of the voltmeter and the reduced instrumental error factor. Results are given for instruments tested on direct and alternating current. Ammeter and volt meter error range did not exceed 0.1% for direct current. The supplemental frequency error of the combined instrument in the voltmeter and ammeter circuits was commensurate with the accuracy of the given measurement method and was negligibly small in the range up to 20 kcps. Bibl. with 6 titles.

ASSOCIATION: none

SUB CODE: EE ENCL: 00

Card 2/2

BEZIKOVICH, A.Ya.; ZORIN, D.I.

Voltage-ampere-ohm meter for audio and ultrasonic frequencies. Trudy inst. Kom. stand., mer. i izm. prib. no.74:50-66 '63. (MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut metrologii im. D.I.Mendeleyeva.

BEZIKOVICH, A.Ya.; ZORIN, D.I.

Errors of transformations in thermowattmeters. Nov. nauch.-issl. rab. po metr. VNIIM no.6:16-17 '64. (MIRA 18:3)

L 14025-66 EWI(1)/EEC(k)-2/EWA(h)
ACC NR: AP6000029 SOURCE CODE: UR/0115/65/000/010/0008/0011

AUTHOR: Bezikovich, A. Ya.; Belyayeva, M. S.; Zorin, D. I.; Eskin, S. P. 35 B

ORG: none

TITLE: Universal high-accuracy outfit for checking ammeters, voltmeters, and wattmeters at acoustic frequencies 25

SOURCE: Izmeritel'naya tekhnika, no. 10, 1965, 8-11

TOPIC TAGS: acoustic frequency, measuring instrument

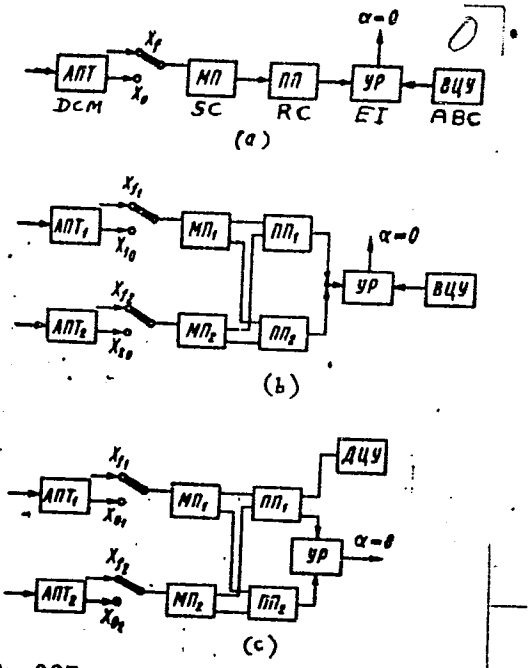
ABSTRACT: New equal-quantity comparators are described in which the a-c measurand and the corresponding d-c quantity are applied to a receiving converter (RC, see fig. below). Three block diagrams of comparators are shown: (a) for current and voltage; (b) for power with a square-law control of converters, and (c) for power with a low power factor using the method of equal temperatures. The measurand X_1 (or X_{f1} X_{f2} for power) is compared with its equivalent d-c value X_0 (or X_{01} X_{02}) by means of RC and SC (scale converters). Full equilibrium is attained by an auxiliary balance circuit (ABC). A d-c meter (DCM) serves to measure the d-c

Card 1/2 UDC: 621.317.714.089.6 + 621.317.725.089.6 + 621.317.784.089.6

2

L 14025-66
ACC NR: AP6000029

equivalent. An equilibrium indicator (EI) or balance detector is represented by a microvoltmeter and an amplifier. This outfit permits checking 0.1%-error instruments at 0.05—2.5 kc, 0.2%-error instruments at 2.5—20 kc, and low-power-factor wattmeters having 1.5% error at 0.05—10 kc. Orig. art. has: 2 figures.



SUB CODE: 09 / SUBM DATE: none / ORIG REF: 007

Card 2/2

ACC NR: AR7000829 SOURCE CODE: UR/0272/66/000/010/0112/0112

AUTHOR: Bezikovich, A. Ya.; Gravin, O. N.

TITLE: Investigation of multielement thermoelectric converters

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika, Abs. 10.32.798

REF SOURCE: Tr. in-tov Gos. kom-ta standartov, mer i izmerit. priborov SSSR, vyp. 82(142), 1965, 112-116

TOPIC TAGS: thermoelectric converter, extreme low frequency, multielement converter

ABSTRACT: The results of new experimental investigations of multielement thermal converters are discussed. Relationships are derived by means of which it is possible to determine the frequency error of thermoelectric devices in the extreme l-f range on the basis of volt-ampere characteristics and time constants of the converter. A bibliography of 5 titles is included. P. Agaletskiy. [Translation of abstract] [DW]

SUB CODE: 09/

Card 1/1 UDC: 621.36.001.4

BEZIKOVICH, YA. S.

Priblizhennyye vychisleniya. L., GTTI (1930)
Une methode pour accroitre le nombre des decimales d'une table.
IAN, ser. Fiz.-matem. (1932), 1229-1234.
O formulakh mekhanicheskikh kvadratur s n opdinatami, vernykh dlya mnogochlenov stepeni ne vyshe 2n-2i 2n-3. L., TRUDY industr. in-ta, raadel fiz.-matem., 4:2 (1937), 9-18.

SO: Mathematics in the USSR, 1917-1947
edited by Kurosh, A.G.,
Markushevich, A.K.,
Rashevskiy, P.K.
Moscow-Leningrad, 1948

BEZIKOVICH, Ya. S.

"The Calculus of Finite Differences," Leningrad State U. Publ. House, 1939

BOCHKAREV, B.I., kand. sel'skokhoz. nauk; BEZIN, A.S.

The KZK-3 universal automotive grain combine harvester. Biul.-tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. 16 no.7:49-51 '63. (MIRA 16:8)
(Combines (Agricultural machinery))

BEZIN, G.I.

Changes in blood gases in dogs following polonium injury. Voen.-med. zhur. no.8:60-66 Ag '59. (MIRA 12:12)
(BLOOD radiation eff.)
(POLONIUM eff. inj.)

BEZIN, G. I., Cand. Med. Sci., — (diss), "Condition of the respiratory function of blood in dogs injured with polonium (po-210)," Moscow, 1961, 10 pp (Academy of Medical Sciences), 250 copies (KL-Supp 9-61, 188)

BEZIN, G.I.

Curves of oxygen and carbon monoxide binding by the blood in dogs injured by Po210. Med.rad. 6 no.4:69-72 '61.
(MIRA 14:12)

(BLOOD—OXYGEN CONTENT) (CARBON MONOXIDE)
(POLONIUM—PHYSIOLOGICAL EFFECT)

MOROZ, B.B.; BEZIN, G.I.; VASIL'YEVSKAYA, V.G.; GROZDOV, [illegible];
LEBEDEV, B.I.; PONOMAR'KOV, V.[illegible]; PELOMOVSKIY, L.[illegible];
FEDOTOV, V.P.

Experimental chronic radiation sickness induced by Po^{210}.
Med. rad. 10 no.10:57-61 O '65. (MIRA 18:12)

1. Submitted August 25, 1964.

FEDOTOV, V.P.; BEZIN, G.I.

Mechanism of gas exchange disturbance in dogs with radiation sickness caused by Po^{210}. Radiobiologiia 5 no.4:522-524 '65. (MIRA 18:9)

L 24235-66 EWT(m)
ACC NR: AP6014671 SOURCE CODE: UR/0241/65/010/010/0057/0061

AUTHOR: Moroz, B. B.; Bezin, G. I.; Grozdov, S. P.; Lebedev, B. I.; Vasil'yevskaya, V. G.--Vasilievskaya, V. V.; Ponomar'kov, V. I.--Ponomarkov, V. I.; Fedorovskiy, L. L.--Fedorovsky, L. L.; Fedotov, V. P.

ORG: none

TITLE: Experimental Po sup 210 - induced chronic radiation sickness

SOURCE: Meditsinskaya radiologiya, v. 10, no. 10, 1965, 57-61

TOPIC TAGS: polonium, radiation sickness, dog, alpha radiation, radiology

ABSTRACT: The article describes the features of the clinical course and variation of certain functions in dogs with chronic radiation sickness caused by a single subcutaneous injection of Po^{210} (0.003 microcuries per kg body weight). A prolonged initial period of relative clinical well-being was observed, with a developed picture of radiation sickness setting in only after some 3 months and with the dogs dying off individually after a period of from 128 to 310 days. The distribution of Po^{210} throughout the tissues and organs, which resulted in a constant local alpha-irradiation of the latter, evidently played a major role in the genesis of these disturbances, with gradual increment in the tissue dose, which after 6-9 months reached 1,100-1,400 rads. During the period of distinct radiation sickness the dogs displayed lethargy, lack of appetite, periodic diarrhea, and thirst, along with spontaneous bleeding of the oral mucosa and spontaneous hemorrhages of the rectum and

Card 1/2 UDC: 617-001.28-008.939.65

L 24235-66
ACC NR: AP6014671

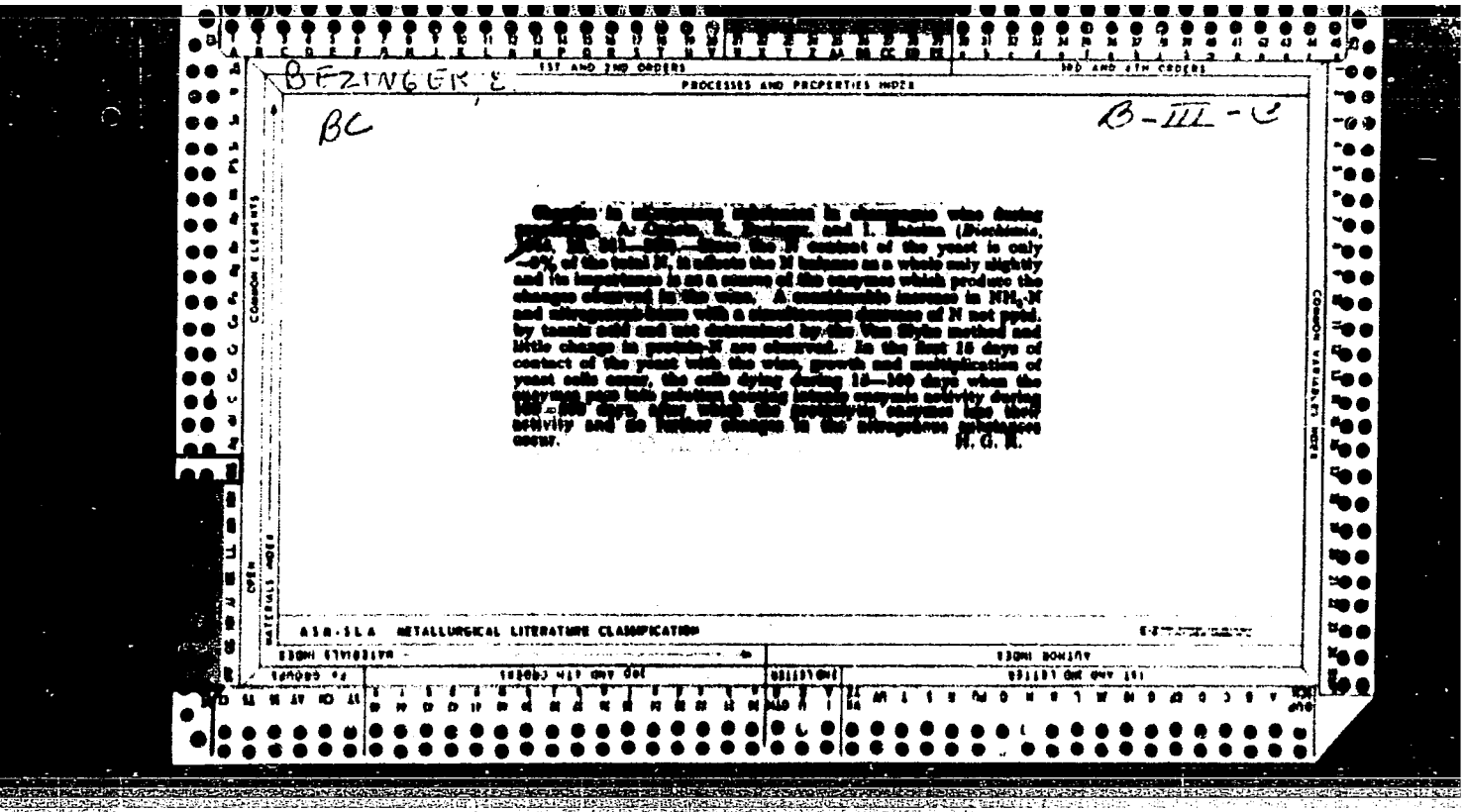
urinary tract. Shortly before death, the state of the dogs sharply deteriorated; they moved with difficulty, refused food, and vomitted bile and blood. Rectal temperature rose; the pulse was quick, arrhythmic, and arterial pressure fell. With these symptoms, the dogs died. It was accompanied by deep trophic disturbances due to a combination of mechanisms, each of which by itself may cause trophic changes: disturbances in neuroendocrine regulations with insufficiency of the adrenal cortex; metabolic disorders, hemodynamic disorders, and chronic hypoxia, as well as the constant direct local effect of the alpha-emitter on the tissues. Anatomo-pathological dissection revealed that state of general dystrophy which is so characteristic of polonium poisoning and is not encountered when other radioactive isotopes pervade the organism. Orig. art. has: 4 tables. [JPRS].

SUB CODE: 06 / SUBM DATE: 25Aug64 / ORIG REF: 009

Card 2/2 dda

BEZIN, N.I.

Commodity production during the period of transition from capitalism to socialism in the U.S.S.R. Trudy KAI 50:3-36 '59. (MIRA 14:5)
(Economics)



BESINGER E.N.

OPARIN, A.I.; KURSANOV, A.L.; SAYENKO, N.F.; BESINGER, E.N.

Biochemical processes in champagne during bottle aging [in Russian with English summary]. Biokhim.vin. no.1:134-157 '47. (MLRA 7:10)

1. Kafedra biokhimii rastenii Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.
(Champagne (Wine))

B-III

80

Nitrogenous substances in wine. I. High-molecular nitrogenous substances in champagne. A. I. Oparin and E. N. Bezinger (*Biochimia*, 1940, **16**, 291–301).—Champagne was concentrated *in vac* at 35°. The dialysed concentrate was then precipitated with alcohol The ppt. contained 1·6% of N (corresponding to 9·4 mg. of N per l.). It is negative to Millon's, xanthoproteic, and biuret tests. Amino-N is present (~0·17%) but this is not increased by digestion with pan-creatic enzyme. Carbohydrate is present and reducing substances (calculated as glucose) formed 4·7%, and, after 3-hr. hydrolysis with 20% HCl on a boiling water-bath, formed 35%. The possible origin of these substances is discussed.

D. H. SMYTH.

Chair Plant Biochemistry, Moscow State U.

BR

16

Separation and determination of amino acids in wine by the methods of (partition) distribution chromatography on paper. N. M. Sisakyan and K. N. Heninger. *Doklady Akad. Nauk S.S.S.R.* 69, 573–6(1949).—Examn. of Georgian Kakhetin wines by means of partition paper chromatography (Consden, *et al.*, *C.A.* 39, 537⁸) showed the presence of: glutamic acid, alanine, valine, and proline; very small amts. of aspartic acid, serine, and threonine were detected, and phenylalanine might be possibly present. G. M. K.

Inst. Viticulture and Vinicultre, AS GeoSSR

Inst. Biochem. im. A.N. Bakh, AS USSR

1951

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

31

ELELMEZESI IPAR — FOOD INDUSTRY
VOL. IV. — 1950
No. 10, Oct.

M. M. Sisakyan and I. N. Bezinger
GAV21001 t
Determination and separation of amino acids in wine by paper chromatography (translated from the Russian) pp. [illegible]

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

11A

Amino acid composition of plastid proteins. N. M. Sisakyan, R. N. Bezinger, and E. B. Kuvaeva (A. N. Bakh Biochem. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 74, 987-90(1950).—Sugar-beet plastid protein (isolated by pptn. with HCl at pH 4.4 from 0.3% NaOH in 60% EtOH) analyzed by partition chromatography after 24-hr. hydrolysis with *N* HCl gave the following compn. of amino acids: aspartic and glutamic acids, glycine, alanine, valine, leucine, serine, threonine, hydroxyproline, proline, tyrosine, phenylalanine, histidine, lysine, arginine, and cystine.
G. M. Kosolapoff

SISAKYAN, N.M.:BEZINGER, Ye.N.:KUBAYEVA, Ye.B.

Excretion of protein from plastids and its characteristics. Doklady Akad. nauk SSSR 87 no. 1:113-116 1 Nov 1952. (CIML 23:5)

1. Presented by Academician A. I. Oparin 31 July 1952.

USSR.

Changes of amino acids and peptides during formation and aging of wine. G. I. Beridze, E. N. Bezinger, M. G. Sirbiladze, and E. B. Kuvaeva. *Biokhim. Vinodeliya, Akad. Nauk S.S.S.R., Sbornik* 4, 187–210(1953).—The changes of nitrogenous substances were compared during manufg. of Kakhetia wines by 3 different technological methods. Total N (I), amino N (II) (van Slyke), free amino acid N (III) (ninhydrin method), peptide N (IV) (detd. by the difference of III before and after hydrolysis of a wine sample with 20% H_2SO_4), proline N (V) (detd. by the difference between III and II), and individual amino acids (by using a 2-way paper-chromatography technique with water-satd. phenol and a collidine-α-picoline mixt. as the 1st and 2nd solvent, resp.) were detd. in grape musts during alc. fermentation and in wine up to 385 days aging. Fermentation was done with and without the presence of grape seeds and peels. Some of the results (which refer to 2 grape crops grown under different climatic conditions with the resulting sugar concn. of the grapes 16.0 and 21.9%, resp.) represent paper-chromatographic seprns. of amino acids present in the wine before and after its hydrolysis. The amts. of II and III originally present in must (160.7–237.8 and 124.5–232.0 mg./l., resp.) rapidly decrease during the fermentation (12.4–70.2 and 65.8–146.1 mg./l., resp.), reaching these min. after 1–2 or 4–6 days of the fermentation depending on the technological method used. During this time the amts. of sugar decrease to 2.5–3%; of the free amino acids, only proline is present in a detectable amt. after 3–5 days. As the fermentation proceeds, other amino acids are found: γ-aminobutyric acid, alanine, and later on (when an increase of III is taking place), aspartic acid, glutamic acid, proline, valine, and leucine; beside these, addn. spots are present at the places where aspartic acid, glutamic acid, serine, and glycine and lysine are located. After hydrolysis the lysine spot disappears (characteristic for all wine samples analyzed); other spots disappear also, followed usually by a more intense ninhydrin color of the neighboring spots. This indicates the presence of peptides. The amt. of IV decreases during the

G. I. BERIDZE

first 4–6 days of the alc. fermentation (from 31.9 to 0 mg./l.) owing to the growth of the wine yeasts; during weak fermentation and progressive loss of the yeast cells the amt. of IV again increases, reaching in some cases the value of 84.5 mg./l. (at the 26th day). To the end of an active fermentation (4th day) wines contain as much as 97.8–121.2 mg. V/l.; however, the amt. of V rapidly decreases on wine aging, and, after 385 days, it can be as low as 3.8–11.3 mg./l. Different wines produced in Georgia to the time of consumption contain I 105.8–374, II 32–96, and III 52.2–112.2 mg./l., resp.

E. Wierbicki

BEZINGER, E.N.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
The Fermentation Industries

Changes in the amino acid composition of wine in the primary fermentation period. N. M. Sisakyan and E. N. Bezinger (Bakh Inst. Biochem., Acad. Sci. U.S.S.R., Moscow). *Biokhimiya* 18, 412-22(1953).—*Saccharomyces ellipsoideus* was the fermenting agent. Test samples were taken from the mid layers of the fermenting must consisting of the pure grape juice. Samples were filtered through asbestos and heated in boiling water for 25-30 min. Microscopic examn. indicated freedom from yeast cells. Filtration and heating did not affect amino acids and peptides. Quant., chem. and partition paper chromatographic tests were employed. The yeasts manifested a selective assimilation of amino acids, making little use of proline in the early days of the fermentation. Amino acids and their derivs., other than those originally present, were formed later from the N substances of the yeast cells which liberate aspartic, glutamic and α-amino fatty acids, alanine, valine, leucine, glycine, serine, and threonine. Combined amino acids and their free homologs were found in the wine simultaneously.

B. S. Levine