

MILOVANOV, A.F.; ZHERNOVOV, I.V.; NIKITIN, V.P.

New jerboa species in Turkmenia (*Allactaga bobrinskii* Kolesn.).
Izv. AN Turk. SSR no.5:97 '58. (MIRA 11:12)

1. Turkmenkaya protivechumnaya stantsiya.
(Turkmenistan--Jerboas)

BYKOV, G.I.; MILOVANOV, A.F.

Geographical distribution of the Turkmen jerboa (*Jaculus turkmenicus*
Vinogradov et Bondar). Izv. AN Turk. SSR. Ser. biol. nauk no.4:72-
73 '61. (MIRA 14:10)

1. Turkmenskaya protivochumnaya stantsiya.
(KARA KUM—JERBOAS)

SALMANOV, G. D., MILOVANOV, A. F.

Reinforced concrete

Effect of high temperature on the resilience and plasticity of ordinary and fire-resistant concrete and on its binding quality with the metal reinforcement. Stroi prom. no. 1,1952.

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

Milovanou, A. F.

Experimental investigation of the flexure elements behavior of heat-resistant reinforced concrete at high temperatures. V. I. Murashev and A. F. Milovanov. *Beton i Zhelobeton*, 1956, No. 11, 397-400. Heat-resistant concrete was prepd. from portland cement with fire-clay slag and quartz sand. Investigated was the bending of beams with 0.08-2.7 armament ratio, under the influence of one-sided heating up to 100, 200, 300, 400, and 600°. Occurrence of cracks coincided with theoretical predictions, within $\pm 15-20\%$.
E. Ryskewitch

5-4E2c

SOV/137-59-1-63

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 8 (USSR)

AUTHOR: Milovanov. A. F.

TITLE: Some Investigations of Refractory Reinforced Concrete (Nekotoryye issledovaniya po zharoupornomu zhelezobetonu)

PERIODICAL: V sb.: Materialy Soveshchaniya po vopr. raboty pechey tsvetn. metallurgii i razvitiya pirometallurg. protsessov. Moscow, 1957, pp 510-516

ABSTRACT: The author examines the joint work of refractory concrete and reinforcement of various shapes and the bonding strength between them at elevated temperatures. Calculations and results are given of testing of refractory concrete bars with special temperature-compensating seams on the heated side for the purpose of decreasing the magnitude of the temperature stresses. Recommendations are made on the designing of refractory-concrete furnaces.

Yu. O.

Card 1/1

MILOVANOV, A.F., kand.tokhn.nauk.

Performance of bent heat-resistant reinforced concrete elements
with joints in the compression area. Stroi.prom. 35 no.6:37-40
Je '57. (MIRA 10:10)

(Reinforced concrete)

MILOVANDV, A.F., kand.tekhn.nauk, starshiy nauchnyy sotrudnik

Controlling and improving the quality of concrete. Gor.khoz.Mosk.
32 no.12:33-36 D '58. (MIRA 11:12)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona Akademii
stroitel'stva i arkhitektury SSSR.
(Concrete)

MILOYANOV, A.F., kand.tekhn.nauk; MILONOV, V.M., kand.tekhn.nauk; AL'TSHULER,
B.A., kand.tekhn.nauk

Vasilii Ivanovich Murashev. Izv.ASiA no.4:173-174 '59. (MIRA 13:6)
(Murashev, Vasilii Ivanovich, 1904-1959)

MILOVANOV, A.F., kand.tekhn.nauk

Checking methods for calculating heat resistant bent reinforced
concrete construction elements subjected to nonuniform heating.
Trudy NIIZHB no.6:87-116 '59. (MIRA 12:10)
(Girders--Testing)

VARTANOV, V.M., inzh.; KARAKASHYAN, A.A., inzh.; MILOVANOV, A.F., kand. tekhn. nauk

Chimney built of precast prestressed reinforced refractory
concrete. Nov.tekh.mont. i spets.rab. v stroi. 21 no.4:9-
11 Ap '59. (MIRA 12:5)

1. Trest Teplomontazh Ministerstva stroitel'stva RSFSR i
Laboratoriya zharopernykh konstruksiy Instituta betona
i zhelezobetona Akademii stroitel'stva i arkhitektury SSSR.
(Chimneys) (Precast concrete construction)

KUZNETSOV, G.F., inzh.; LATASH, M.M., inzh.; MILOVANOV, A.F., kand.tekhn.
nauk

Operating tunnel kilns built of heat-resistant reinforced concrete panels. Nov.tekh.mont.i spets.rab.v stroi. 21 no.11:
18-21 N '59. (MIRA 13:2)

1. Glavteplomontash, Soyuzteplostroy Ministroya RSFSR, Nauchno-
issledovatel'skiy institut betona i zhelezobetona Akademii
stroitel'stva i arkhitektury SSSR.
(Kilns) (Precast concrete construction)

82070

S/097/60/000/07/01/003

15.3200

AUTHORS: Milovanov, A.F., Candidate of Technical Sciences, Zaryanov, V.S.
Engineer

TITLE: Effect of Compression and Tension on Heat-Resistant Reinforced Concrete Elements Subject to Non-Uniform Heating

PERIODICAL: Beton i Zhelezo-Beton, 1960, No. 7, pp. 310 - 316

TEXT: The laboratory of heat-resistant and chemically stable constructions of NIIZhB ASIA has conducted experimental investigations pertaining to compression and tension of structural elements under non-uniform heating. The object of the investigation was to test the method of calculation developed by Professor V.I. Murashev, to determine rigidity and strength of heat-resistant reinforced concrete elements, as well as width of cracks, developing in the elements subject to simultaneous action of load and temperature. The article describes test beams and methods by which the tests were performed at temperatures of 150, 300, 500 and 700°C. Compression and tensile forces were raised up to 50% of breaking point. The article explains the method of measuring deflections and taking temperatures, and gives a number of formulae for determining deflection, relative height of compressed zone, coefficient of tensile force, coefficient of effect of tension on

Card 1/3

3/097/60/000/07/01/003

82070

Effect of Compression and Tension on Heat-Resistant Reinforced Concrete Elements
Subject to Non-Uniform Heating

extended concrete, and residual temperature moment; the theoretic value of carrying capacity of beams is determined by formula NITU 123-55 for central tension. The article mentions the names of V.M. Milonov and B.A. Al'tshuler Candidates of Technical Sciences. The average theoretical deflection of the reinforcement corresponds to the experimental values at all stages of temperature and loads. Experiments have established that the tensile force causes a lowering of the temperature moment brought about by non-uniform heating. The carrying capacity of the reinforced concrete elements was characterized by the attainment of the yield point of the reinforcement, while the drop of temperature did not interfere with the tensile strength. Experimental values of carrying capacity were determined by the extent of deflection corresponding to attaining the yield point of the reinforcement. The mean arithmetical value of deviation of experimental values from theoretical ones was +5%, while maximum values were +25 and -15%. From Graph 5 it can be seen that the theoretical width of cracks corresponds to experimental values. Table 1 gives the carrying capacities of beam under tension and Table 2 those of beams under compression. In calculating the carrying capacities it is

Card 2/3

82070

S/097/60/000/07/01/005

Effect of Compression and Tension on Heat-Resistant Reinforced Concrete Elements
Subject to Non-Uniform Heating

necessary to make allowance for a decrease in strength of concrete and reinforcement at rising temperature. There are 1 diagram, 2 tables, 6 graphs, 1 Soviet reference and 10 formulae.

X

Card 3/3

MILOVANOV, A.F.; ZYRYANOV, V.S.

Abrasion-resistance of heat-resistant concrete at high temperatures.
Ogneupory 25 no.5:234-237 '60. (MIRA 14:5)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona
Akademii stroitel'stva i arkhitektury SSSR.
(Concrete) (Mechanical wear)

85387

S/032/60/026/010/022/035
B016/B054

18 8200

AUTHORS: Milovanov, A. F. and Zyryanov, V. S.

TITLE: Measurement of Deformations in Structures at High
Temperatures ₂₀

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 10, p. 1151

TEXT: The authors developed a method of measuring radial and vertical deformations of the hot interior of hollow cylinders. For this purpose, they used rods (tyaga) of quartz glass with a low temperature coefficient of elongation ($0.4 \cdot 10^{-6}$) as compared with concrete and steel. Rods, 15 mm in diameter, were attached to the hot surface of the structure to be tested. The quartz glass used was tube- or rod-like, 4-20 mm in diameter, and of different lengths depending on the size of the structure. The radial deformations were measured with the aid of four rods which lay in two diameters perpendicular to each other. The inner ends of the quartz rods were curved like hooks. These hooks were attached to nichrome-band anchors. Pairs of differently long quartz tubes were used to measure

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85387

Measurement of Deformations in Structures
at High Temperatures

S/032/60/026/010/022/035
B016/B054

longitudinal deformations. The difference in length of quartz rods was used as a basis for deformation measurements. Deformations at temperatures of up to 1200°C were measured in this way. The method suggested can be used both in experiments and at the beginning of operation of heat generators working at high temperatures. ✓

ASSOCIATION: Institut betona i zhelezobetona Akademii stroitel'stva
i arkhitektury SSSR
(Institute of Concrete and Reinforced Concrete of the
Academy of Building and Architecture, USSR)

Card 2/2

MILOVANOV, A.F., kand.tekhn.nauk; ZYRYANOV, V.S., inzh.

Heatproof reinforced concrete chimneys. Prom. stroi. 38
no. 12:32-35 '60. (MIRA 13:12)

1. Nauchno-issledovatel'skiy institut betona i zhelezobetona
Akademii stroitel'stva i arkhitektury SSSR.
(Chimneys)

YAKOVLEV, A.I., kand.tekhn.nauk; MILOVANOV, A.F., kand.tekhn.nauk;
BUSHEV, V.P., inzh.; FEDORENKO, V.S.

Fire resistance of thin-walled panels made of mesh-reinforced
sand concrete. Bet. i zhel.-bet. no.5:224-228 My '61.
(MIRA 14:6)

(Reinforced concrete construction)
(Fire testing)

MILOVANOV, A.F.

FRENKEL', I.M., kand. tekhn. nauk; MIRONOV, S.A., doktor tekhn. nauk, prof.; BARANOV, A.T., kand. tekhn. nauk; BUZHEVICH, G.A., kand. tekhn. nauk; MIKHAYLOV, K.V., kand. tekhn. nauk; MULIN, N.M., kand. tekhn. nauk; KHAYDUKOV, G.K., kand. tekhn. nauk; KORNEV, N.A., kand. tekhn. nauk; TESLER, P.A., kand. tekhn. nauk; BERDICHEVSKIY, G.I., kand. tekhn. nauk; VASIL'YEV, A.P., kand. tekhn. nauk; LYUDKOVSKIY, I.G., kand. tekhn. nauk; SVETOV, A.A., kand. tekhn. nauk; CHINENKOV, Yu.V., kand. tekhn. nauk; BELOBROVYY, K., inzh.; KLEVTSOV, V.A., inzh.; DOBROMYSLOV, N.S., arkh.; DESOV, A.Ye., doktor tekhn. nauk, prof.; LITVER, S.L., kand. tekhn. nauk; PISHCHIK, M.A., inzh.; SKLYAR, B L., inzh.; POPOV, A.P., kand. tekhn. nauk; NEKRASOV, K.D., doktor tekhn. nauk, prof.; MILOVANOV, A.F., kand. tekhn. nauk; TAL', K.E., kand. tekhn. nauk; KALATUROV, B.A., kand. tekhn. nauk; KARTASHOV, K.N., red.; MAKARICHEV, V.V., kand. tekhn. nauk, red.; YAKUSHEV, A.A., inzh., nauchnyy red.; BEGA, B.A., red. izd-va; NAUMOVA, G.D., tekhn. red.

[Reinforced concrete products; present state and prospects for development] Zhelezobetonnye konstruktsii; sostoyanie i perspektivy razvitiia. Pod obshchei red. K.N.Kartashova i V.V.Makaricheva. Moskva, Gosstroizdat, 1962. 279 p.
(MIRA 15:8)

(Continued on next card)

FRENKEL', I.M. --- (continued) Card 2.

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona, Perovo. 2. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Kartashov). 3. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Mironov). 4. Gosudarstvennyy institut tipovogo proyektirovaniya i tekhnicheskikh issledovaniy (for Berdichevskiy, Vasil'yev, Lyudkovskiy, Svetov, Chinenkov, Belobrovyy, Klevtsov, Dobromyslov). 4. Vsesoyuznyy gosudarstvennyy proyektno-konstruktorskiy institut (for Desov, Litver, Pishchik).

(Precast concrete)

MURASHEV, Vasilii Ivanovich, doktor tekhn. nauk, prof.[deceased];
SIGALOV, Emmanuil Yevseyevich, kand. tekhn. nauk, dots.; BAYKOV,
Vitaliy Nikolayevich, kand. tekhn.nauk, dots. ~~Prizival uchastiye~~
~~MILOVANOV, A.F.;~~ kand. tekhn. nauk; PASTERNAK, P.L., doktor tekhn.
nauk, prof., red.; TREPENENKOV, R.I., kand. tekhn. nauk, dots.,
nauchnyy red.; BEGAK, B.A., red. izd-va; MOCHALINA, Z.S., tekhn.red.
[Reinforced concrete elements] Zhelezobetonnye konstruktsii; obshchii
kurs. Pod red. P.L.Pasternaka. Moskva, Gosstroizdat, 1962. 658 p.
(MIRA 15:10)

(Precast concrete)

MILOVANOV, A.F., kand.tekhn.nauk; ZYRYANOV, V.S., inzh.

Functioning of fire-resistant reinforced concrete elements
under axial compression and uneven heating. Bet. i zhel.-bet.
8 no.7:331-333 J1 '62. (MIRA 15:7)
(Precast concrete--Testing)
(Beams and girders)

MILOVANOV, A.F., kand.tekhn.nauk; PRYADKO, V.M., inzh.

Bond of reinforcement with heat resistant concretes at high temperatures. Bet.i zhel.-bet.9 no.5:215-219 My '63.

(MIRA 16:6)

(Concrete reinforcement--Bond)

MILOVANOV, A.F., kand. tekhn nauk; CHERKINSKAYA, R.L., red. izd-va;
SHEVCHENKO, T.N., tekhn. red.

[Heat-resisting reinforced concrete] Zharostoikii zhelezobeton. Moskva, Gosstroizdat, 1963. 234 p. (MIRA 16:8)
(Refractory concrete)

MILOVANOV, A.F., kand. tekhn. nauk; PRYADKO, V.M., inzh.

Lightweight heat-resistant slag-wool concrete. Stroi. mat. 9
no.5:28-29 My '63. (MIRA 16:7)

(Mineral wool) (Lightweight concrete)

MILOVANOV, A.F., kand. tekhn. nauk, red.; TYUTYUNIK, M.S., red.izd-
va; NIKOLAYEVA, N.M., red.izd-va; MIKHEYEVA, A.A., tekhn.
red.

[Reinforced concrete under high-temperature conditions] Zhe-
lezobeton v usloviakh vysokikh temperatur. Pod red. A.F.
Milovanova. Moskva, Gosstroizdat, 1963. 261 p.

(MIRA 17:1)

1. Akademiya stroitel'stva i arkhitektury. Institut betona i
zhelezobetona. Perovo.

MILOVANOV, Anatoliy Fedorovich, kand. tekhn. nauk; PRYADKO,
Vladimir Mikhaylovich

[Calculating flexible reinforced concrete elements for
a transverse force under high-temperature conditions]
Raschet izgibaemykh zhelezobetonnykh elementov na pope-
rechnuu silu v usloviakh vozdeistviia vysokikh tempe-
ratur. Moskva, Stroiizdat, 1965. 134 p.
(MIRA 18:4)

MILQVNIYEV, M. I.

AKIMOVA, K.I.; BAZHENOV, M.F.; BAKHVALOV, G.T.; BEZALUBENKO, N.P.; BERMAN, S.I.;
BOGDANOV, Ye.S.; BODYAKO, M.N.; BOYKO, B.B.; VINOGRADOV, S.V.;
GAGEN-TORN, K.V.; GLEK, T.P.; GOREV, K.V.; GRADUSOV, P.I.; GUSHCHINA, T.N.;
YEMEL'YANOV, A.K.; YESIKOV, M.P.; ZDZYARSKIY, A.V.; ZAKHAROV, M.V.;
ZAKHAROVA, M.I.; KARGHEVSKIY, V.A.; KOMAROV, A.M.; KORZHENKO, O.T.;
LAYNER, V.I.; MAL'TSEV, M.V.; MILLER, L.Ye.; MILQVANOY, A.I.;
MIRONOV, S.S.; NIKONOROVA, N.A.; OL'KHOV, N.P.; OSIPOVA, T.V.;
OSOKIN, N.Ye.; PERLIN, I.L.; PLAKSIN, I.N.; PROKOF'YEV, A.D.;
RUMYANTSEV, M.V.; SEVERDENKO, V.P.; SEREDIN, P.I.; SMIRYAGIN, A.P.;
SPASSKIY, A.G.; TITOV, P.S.; TURKOVSKAYA, A.V.; SHAKHNAZAROV, A.K.;
SHPICHINETSIIY, Ye.S.; YURKSHTOVICH, N.A.; YUSHKOV, A.V.;
YANUSHEVICH, L.V.

Sergei Ivanovich Gubkin. TSvet.met. 28 no.6:60-61 N-D '55. (MIRA 10:11)
(Gubkin, Sergei Ivanovich, 1898-1955)

S/081/61/000/020/016/089
B101/B147

AUTHORS: Shchennikova, M. K., Shushunov, V. A., Milovanov, A. I.

TITLE: Catalytic decomposition of organic peroxide compounds. 9.
Influence of the length of the hydrocarbon chain of some
salts of fatty acids on their catalytic activity during
decomposition of cumene hydroperoxide

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 58 - 59,
abstract 20B442 (Tr. po khimii i khim. tekhnol. (Gor'kiy),
no. 2, 1960, 165 - 170)

TEXT: A study has been made of the decomposition of cumene hydroperoxide
(I), catalyzed with cobalt salts of fatty acids in an equimolecular mixture
of chlorobenzene and acetic acid. In particular, the effect of catalyst,
temperature, and concentration of I on the reaction rate was investigated. ✓
The increase in reaction rate and the decrease in activation energy with
increasing length of the carbon chains of cobalt-salt anions of monobasic
fatty acids were found to follow certain rules. No such rule could be
established for the cobalt salts of dibasic fatty acids. For Report VIII,
Card 1/2

Catalytic decomposition of organic...

S/081/61/000/020/016/089
B101/B147

see RZhKhim, 1961, abstract 14Zh131. [Abstracter's note: Complete translation.]



Card 2/2

MILOVANOV, A.P.

The task of chemical industry in supplying agriculture with mineral fertilizers, insecticides, and fungicides. Soob.o nauch.rab.chl.

VJHO no.2:1-7 '55.

(MIRA 10:10)

(Fertilizers and manures) (Insecticides) (Fungicides)

MILOVANOV, A. P.

Noncaking ammonium nitrate. A. P. Milovanov, M. Mbley, L. Z. Novikov, A. Il' yasov, A. A. Vishnyakova, A. G. Lobachev, and V. S. Gavrilov. U.S.S.R. 103,991, June 25, 1987. Caking in storage is prevented by adding a suitable substance, such as an ext. obtained in the decompn. of phosphorite with HNO₃. This is added to the soln. of NH₄NO₃ to obtain C. 5-2.5% P₂O₅. The soln. is then neutralized with NH₃, vaporized, crystd., and dried as usual.

M. Horsch

for
MT

BELIK, S.A., inzhener; MILOVANOV, A.S. inzhener.

Experience in laying pipes by the push-through method. Transp.stroi.
6 no.11:31 N '56. (MIRA 10:1)
(Pipelines)

SUKHANOVSKIY, S.I.; MILOVANOV, A.V.; SHMAROV, V.A.

Manufacturing ligno-fiberboards with the machine of the firm "Defibrator".
Der. prom. ll no.9:12-13 S '62. (MIRA 17:2)

1. Gosudarstvenny nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spiritovoy promyshlennosti (for Sukhanovskiy, Milovanov).
2. Segezhskiy domstroitel'nyy kombinat (for Shmarov).

SUKHANOVSKIY, S.I.; AKHMINA, Ye.I.; MILOVANOV, A.V.

Granulated coal from the hydrolysis lignin of cottonseed hulls.
Gidroliz. i lesokhim. prom. 16 no.5:24-26 '63. (MIRA 17:2)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidroliznoy
i sul'fitno-spirtovoy promyshlennosti.

LAVROV, V.N., inzh.; MILOVANOV, A.Ye.

Accelerated unloading and delivery of mineral fertilizers.
Zhel. dor. transp. 46 no.5:77-78 My '64. (MIRA 18:2)

1. Zamestitel' nachal'nika stantsii kostroma-Novaya, Severnoy
dorogi (for Lavrov). 2. Nachal'nik Kostromskogo otdeleniya
"Sel'khoztekhniki" (for Milovanov).

MILOVANOV, B. A.

ZHDANOV, B.V.; MILOVANOV, B.A., inzhener, retsentsent; FEDOTOV, B.N.,
inzhener, redaktor; POPOVA, S.M., tekhnicheskii redaktor

[Installation and operation of electric crane equipment]
Montazh i ekspluatatsiia kranovogo elektrooborudovaniia. Moskva,
Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952. 250 p.
(Electric cranes) (MLRA 7:8)

MILOVANOV, D.

MILOVANOV, D. The Danube-Tisza-Danube water system. p. 160-161.
Draft statute of the Union of Civil Engineers and Technicians of Yugoslavia.
p. 160-161.

Vol. 11, No. 11, 1956.

TEHNIKA
TECHNOLOGY
Beograd, Yugoslavia

So: East European Accession, Vol. 6, No. 2, February 1957

L 32085-66

ACC NR: AT6016432 (N)

SOURCE CODE: UR/2648/65/000/021/0003/0015

AUTHOR: Milovanov, D. A.

ORG: Central Asian Scientific Research Hydrometeorological Institute (Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut)

TITLE: Ice phenomena in the Amu-Dar'ya River according to aerial reconnaissance data

SOURCE: Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy, no. 21(36), 1965. voprosy gidrologii (Problems in hydrology), 3-15

TOPIC TAGS: river ice, hydrology, aerial reconnaissance

ABSTRACT: Eleven years of observations of ice processes in the Amu-Dar'ya River, carried out with the aid of aerial reconnaissance, are correlated. Many qualitative and quantitative characteristics of the river-ice process from Tyuyamuyun to the river's mouth are presented. Orig. art. has: 6 figures and 5 tables. [Based on author's abstract] [NT]

SUB CODE: 08/ SUBM DATE: none/ ORIG REF: 006

Card 1/1 *BLG*

MILOVANOV, D.I., kand.tekhn.nauk

Use of shield casings in vertical shaft sinking is fully
adequate. Shakht.stroi. no.10:4-9 0 '59. (MIRA 13:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut podzem-
shkhtostroy.

(Shaft sinking)

(Mining engineering--Safety measures)

MILOVANOV, F. N.

52. Refractometer "RL" Simplifies Determinations of Serum Albumin and Globulins

"Method of Determining Protein Fraction of Blood Serum With the Soviet 'RL' Type Refractometer," by F. N. Milovanov, Nauchnyye Zapisi Belotserkovskogo Sel'skokhozyaystvennogo Instituta, 1956, Vol 4, pp 195-201 (from Referativnyy Zhurnal--Kimiya, Biologicheskaya Khimiya, No 7, 10 Apr 57, Abstract No 6887)

Belotserkovskiy

Methods of determining albumin and globulin content of blood serum by using the "RL" refractometer are described in detail. The determination is based on reading results from two previously prepared tables for albumin and globulin contents of blood serum. (U)

1
Sym 14/54

Name: MILOVANOV, Fedor Nikiforovich

Dissertation: On regulation of the state of the
blood of growing and adult Peking ducks
under the influence of various con-
ditions of the external medium

Degree: Doc Biol Sci

Affiliation: Belotserkov' Agr Inst

Defense Date, Place: 16 Dec 55, Council of Moscow Vet Acad

Certification Date: 16 Nov 57

Source: BMVO 24/57

USSR/Farm Animals. Domestic Birds

Q-5

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 50083

Author : ~~Milovanov E.N.~~

Inst : Belaya Tserkov' Farm Institute

Title : The Role of the Nervous System in Regulating Protein Levels
in the Blood Serum of Water Birds as Related to Their Pro-
ductivity.

Orig Pub : Nauchn. zap. Belotserkovsk. s.-kh. in-ta, 1957, 6, 91-96

Abstract : The highest amount of protein in the blood serum (BS) of adult ducks was observed during spring (March-May, 5.46 percent to 5.70 percent). During June and July, the average BS protein content decreased to 3.87-4.04 percent, and remained on this level throughout the following months until March of next year. During the intensive egg laying period in spring, an increase of the albumin (A) and a decrease of the globulin (G) contents took place. By studying the correlation of BS protein fractions in ducks, it was possible to establish presence or absence of the birds' egg laying capacity.

Card : 1/3

USSR/Farm Animals. Domestic Birds

Q-5

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 50083

Subsequent tests demonstrated the importance of visual analyzers in regulating egg laying capacity and the blood's protein content. Although their surgical removal brought about some increase of the overall BS protein content, it did not induce egg laying, and resulted at the same time in a decrease of A and in an increase of G contents. Lengthening of the daylight period artificially by intensive illumination (150 volt electric bulbs) at first produced a stimulating effect upon the nervous system which resulted in an increase of the blood's protein content and a rise in the egg productivity. Prolonged application of such stimulating procedures, however, caused inhibition of sex centers, a fact which is probably responsible for cessation of egg laying during June and July. It is easy to produce a conditioned reflex in ducks, such as a change of the A and G correlations (considerable increases), by placing them into premises at a temperature of 42° (C). After a complete or partial removal of the cerebral cortex of both hemispheres,

Card : 2/3

USSR/Farm Animals. Domestic Birds

2-5

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 50083

the acquired reflexes disappeared wither completely or partly. These test results prove that egg productivity and high ES protein content are supported by lengthening of daylight at optimal illumination, by sun radiation, and by certain environmental temperatures. In regulating the ES protein content the activity of the cerebral cortex of both hemispheres plays a decisive role.--Kh.F. Kushner

Card : 3/3

62

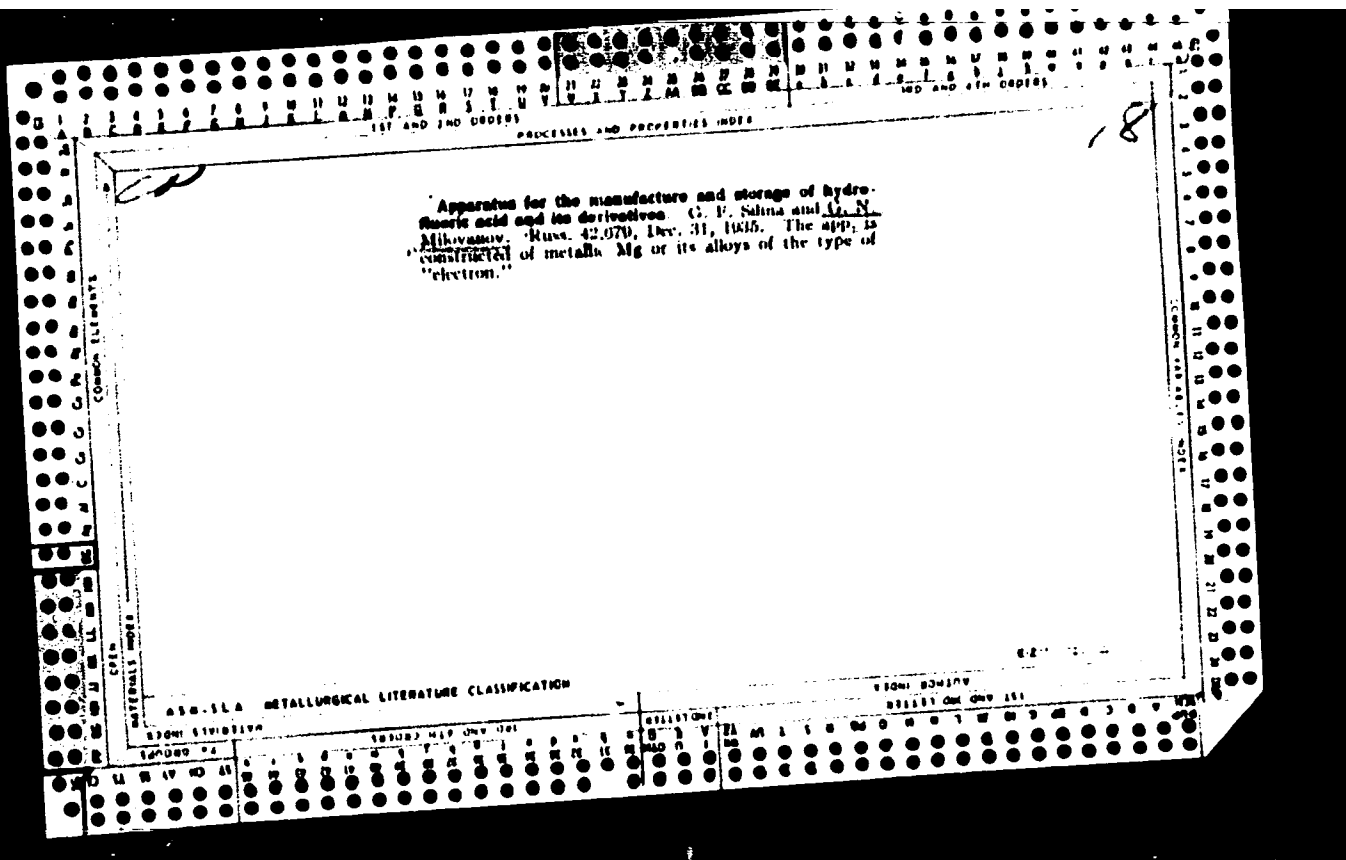
MILOVANOY, G.A.

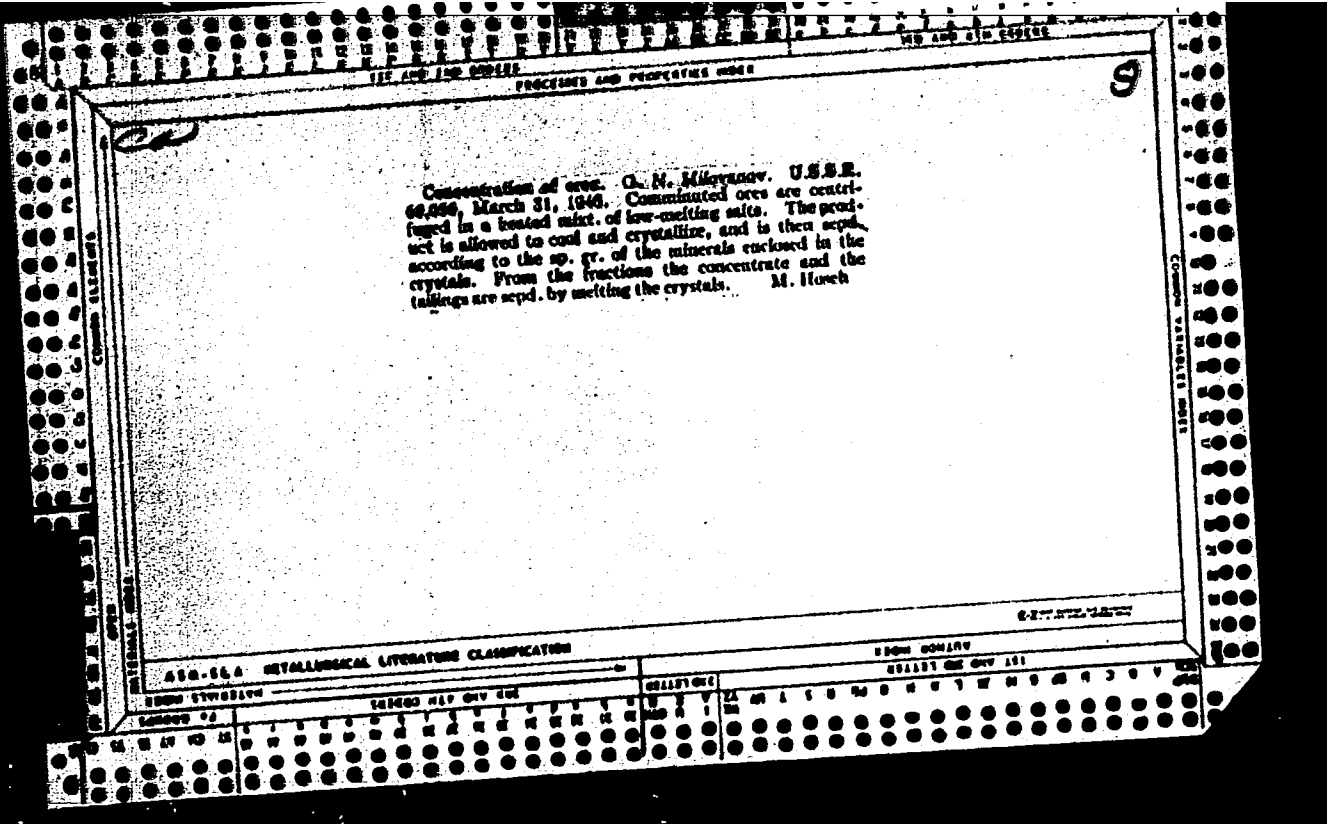
Experimental study and experience in the use of potentialized
anesthesia in surgical stomatology. Stomatologiya 42 no.3:
42-46 My-Je' 63 (MIRA 17:1)

1. Iz kafedry propedevtiki khirurgicheskoy stomatologii (zav.-
prof. G.A. Vasil'yev) Moskovskogo meditsinskogo stomatologicheskogo
instituta.

MILOVANOV, Georgiy Ivanovich; GADZHIYEV, A.S., red.; GELLER, E.S.,
tekhn. red.

[Outline history of the formation and development of the
working class in Daghestan (from the 90's of the 19th
century to June 1941)] Ocherk formirovaniia i razvitia ra-
bochego klassa v Dagestane (90-e gg. XIX v. - iun' 1941 goda)
Makhachkala, Dagestanskii filial AN SSSR, 1963. 210 p.
(MIRA 17:3)





MILOVANOV, G. N.

137-58-5-11096

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 313 (USSR)

AUTHORS: Milovanov, G.N., Vladimirova, V.M., Notkina, M.A.

TITLE: The Seventh Conference on Laboratory Methods for the Investigation of the Ores and Minerals of Rare and Dispersed Elements (Leningrad, June 11-20, 1957) [VII soveshchaniye po laboratornym metodam issledovaniya rud i mineralov redkikh i rasseyannykh elementov (Leningrad, 11-20 iyunya 1957 g.)]

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 17. pp 26-27

ABSTRACT: Bibliographic entry. Ref. RzhMet, 1958, Nr 3, abstract 6224

1. Laboratories--USSR 2. Ores--Analysis 3. Minerals--Analysis

Card 1/1

MILOVANOV, G. N.

137-58-4-6756

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4. p 65 (USSR)

AUTHOR: Milovanov, G.N.

TITLE: The History of the Founding, and the Course of Development of the Rare Metals Industry (Istoriya sozdaniya i puti razvitiya promyshlennosti redkikh metallov)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 19-20, pp 79-82

ABSTRACT: Bibliographic entry

1. Rare metals industry--Development--USSR

Card 1/1

MILOVANOV, G.N.

136-8-16/21

AUTHOR: Milovanov, G.N.

TITLE: Seventh Conference on Laboratory Methods of Investigating Ores and Minerals of Rare and Scattered Elements (VII Soveshchaniye po laboratornym metodam issledovaniya rud i mineralov redkikh i rasseyannykh elementov)

PERIODICAL: Tsvetnye Metally, 1957,⁵⁰ Nr 8, pp.78-79 (USSR)

ABSTRACT: The author outlines proceedings at a conference convened by the Ministry of Geology and Preservation of Mineral Resources of the USSR (Ministerstvo geologii i okhrany nedr SSSR) in Leningrad in June 1957. Over 700 rare-metals experts participated, including seven from China. Over 160 reports from 45 organisations were presented at the plenary and section (chemical analysis, spectroscopic analysis, technology and mineralogy) session. The author notes the high standard of the conference. In the chemical analysis section he names the following organisations as participants: Giredmet, Ukgiredmet, VIMS, IONKh AN Ukrainian SSR, GYeOKhI AN USSR, AN Gruzinskaya SSR and the Ural polytechnic institute (Ural'skiy politekhnicheskiy institut). Arrangements for practical demonstrations of the chemical and spectroscopic methods described at the conference were made. In the

Card 1/2

136-8-16/21

Seventh Conference on Laboratory Methods of Investigating Ores and Minerals of Rare and Scattered Elements.

technological section the beneficiation of beryllium ores was considered in a report by VIMS, of pyrochloric ores in one by Mintsvetmetzoloto and of steam coals in one by the coal beneficiation Institute (Institut obogashcheniya ugley). Developments in the extraction of niobium, tantalum, zirconium and hafnium were reported by Giredmet. The UFAN, Kirovgrad copper-smelting works (Kirovgradskiy medeplavil'nyy zavod), VNII Tsvetmet and other organisations reported on the production of rare and scattered metals as by-products of non-ferrous metal-treatment. New methods of obtaining pure rare-metal compounds were described in reports by Gipronikel' and Ukgiredmet organisations and the Ural polytechnic institute. The conference noted the insufficient liaison between workers in the rare metals field and recommended the re-starting of the journal "Redkiye Metally" which ceased publication in 1935.

AVAILABLE: Library of Congress.

Card 2/2

SOV/136-58-11-18/21

AUTHOR: ~~Milovanov, G.~~
TITLE: Reviews and Bibliography
PERIODICAL: Tsvetnyye Metally, 1958, Nr 11, pp 85-88 (USSR)
ABSTRACT: The following book is reviewed: I.P.Kislyakov
"Metallurgy of Rare Metals", Metallurgizdat, 1957.

Card 1/1

MILOVANOV, G.N.

"Rare earth metals; collection of articles." TSvet.met. 31
no.1:89-90 Ja '58. (MIRA 11:2)
(Rare earth metals)

~~MILOVANOV, G.N.~~; CHERNOSVITOV, Yu.L.; GINZBURG, A.I., nauchnyy red.;
YERSHOV, A.D., glavnyy red.; ZVEREV, L.V., red.; ZUBAREV, N.N., red.;
KREYTER, V.M., red.; MOKHOUSOV, V.A., red.; SOLOV'YEV, D.V., red.;
KHRUSHCHOV, M.A., red.; SEMANENKOV, I.V., red.; IZRAILEVA, G.A.,
red.izd-va; IVANOVA, A.G., tekhn.red.

[Industry's requirements as to the quality of mineral raw material;
handbook for geologists] Trebovaniia promyshlennosti k kachestvu
mineral'nogo syr'ia; spravochnik dlia geologov. Moskva, Gos.nauchno-
tekhn.izd-vo lit-ry po geol. i okhrane neдр. No.51. [Rare earth
elements] Redkozemel'nye elementy. Izd.2., perer. 1959. 58 p.
(MIRA 12:12)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'-
nogo syr'ya.

(Rare earths)

SOV/136-59-2-22/24

AUTHOR: Milovanov, G.N.

TITLE: Reviews and Bibliography (Retsenzii i Bibliografiya)

PERIODICAL: Tsvetnyye Metally, 1959, Nr 2, pp 88-89 (USSR)

ABSTRACT: The following book is reviewed: "Skandiya" (Scandium),
IL, 1958, a collection of translations edited by
L.N. Komissarova, Candidate of Technical Sciences.

Card 1/1

MILOVANOV, G.N.

State Institute of Rare Metals; collected scientific works.
Vols. 1 and 2. Reviewed by G.N.Milovanov. TSvet.net. 33 no.1:
89-91 Ja '60. (MIRA 13:5)
(Metals, Rare and minor)

MILOVANOV, G.N.

"Economic notes on rare earths" by B.I.Kogan. Reviewed by G. N.
Milovanov. TSvet. met. 35 no.5:92-93 My '62. (MIRA 16:5)
(Rare earths)
(Kogan, V.I.)

DMITRIYEV, S.I., gornyy inzh.; MILOVANOVA, I.B., gornyy inzh.; KHVOSHCHESKIY,
N.M., gornyy inzh.

Using hydraulic mining methods and flexible roof support in the
experimental working of the "Moshchnyi" seam in the "Ziminka" Mine
no.3-4. Ugol' 35 no.9:6-9 S '60. (MIRA 13:10)

1. Kuznetskiy nauchno-issledovatel'skiy ugol'nyy institut i Vsesoyuznyy
nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut dobychi
uglya gidravlicheskim sposobom. (Mine timbering)
(Kuznetsk Basin--Hydraulic mining)

BATKOV, A.; BILAZOV, I.; DIMOV, D.; MILOVANOV, K.

Possibilities and economic aspects in the construction
of small hydroelectric power plants at certain irrigation
canals and smaller dams. Izv Inst energ BAN 5:263-290 '63.

BATKOV, Anastas, inzh.; MILCVANOV, Kiril, inzh.

Possibilities of using solar radiation energy for electric power
production. Priroda Bulg 13 no.6:46-51 H-D '64.

MILCVANOV, L. V., Engineer

"Use of Ash and Cinder for Purifying Industrial Waste Waters." Sub 29 Dec 51,
All-Union Sci Res Inst Water Supply, Sewerage, Hydraulic Structures and
Engineering Hydrogeology (VCDGEO)

Dissertations presented for science and engineering degrees in
Moscow during 1951.

SO: Sum. No. 480, 9 May 55

Milovanov, L.V.

AUTHOR: Milovanov, L.V., Krasnov, B.P. and Korreyeva, V.S. ^{136-2-1/22}
TITLE: Experience in the Removal of Cyanide Compounds from Waste Water from Lead-Zinc Beneficiation Plant with Bleaching Powder. (Opyt ochistki stochnykh vod svintsovo-tsinkovykh obogatitel'nykh fabrik ot tsianistykh soedineniy khlornoy izvestyu)

PERIODICAL: Tsvetnyye Metally, 1957, No.2, pp. 1-5 (USSR)

ABSTRACT: Cyanides are used in flotation as depressors and this article deals with their removal. As well as general information experiments at a beneficiation plant in which, in common with conditions at some other plants (tabulated), the cyanides are contained mainly in the effluent from copper concentrate thickeners and three examples show the corresponding values of waste water per ton of treated ore of 0.06, 0.35 and 0.42 m³. The three existing methods of effecting the purification are critically discussed: treatment with bleaching powder; treatment with ferrous sulphate and lime; and removal as HCN on acidification of these. The first is shown to be the best and the operation of a plant using it is described. For the tests a combined discharge from the copper and lead concentrate thickeners was used. Active chlorine consumption was found from the difference between the amount introduced and that

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136-58-3-1/ 21

AUTHORS: Milovanov, L.V. Candidate of Technical Sciences and Krasnov, B.P.,
Engineer.

TITLE: Purification of Waste Water formed in tin production (Ochistka
stocknykh vod obrazuyushchikhsya pri proizvodstve olova)

PERIODICAL: Tsvetnyye Metally, 1958, Nr.3. pp. 19 - 24 (USSR)

ABSTRACT: In tin production from cassiterite-containing polymetallic ores
waste waters are produced at various stages contaminated with flotation-
reagents, heavy-metal ions, acids, arsenic etc. In view of the decree
of the Council of Ministers of the U.S.S.R. on the protection of water
resources and regulations almost all the waste water from tin
production is purified. The authors describe the chemical compositions
of various waters and methods of purifying used. Table 1 shows the
composition of mine waters: these are relatively pure, but the authors
mention ways of dealing with turbidity and state that a high salt
content (up to 330 mg/litre dry residue) depending on potassium
sulphate concentration does not need special purification. Water in
gravitational-concentration tailings are said to be contaminated
only with solids (table 2): satisfactory results are obtained using
aluminium sulphate (table 3) or slated lime (table 4) for coagulation,
with storage in the latter case for enabling the pH to fall to a safe
level. Next the authors consider water found in the final concentration
of tin concentrates by flotation (table 6) and show that 350 mg of
active O_2 per litre of water and 3.3-fold dilution make it safe for

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Purification of waste water formed in tin production.

136-58-3-4/21

disposal. For water from the hydrometallurgical treatment of tin concentrate (with 27-% sulphuric acid)(composition of water in table 8) neutralization with lime to give pH 8.5-9 (1800 mg CaO/litre) and 4-fold dilution is satisfactory, the heavy-metals being converted to insoluble compounds thereby. Cooling water from pyrometallurgical works (table 10) is sufficiently pure for disposal without treatment. There are 1 figure, 10 tables and 6 Slavic references.

AVAILABLE: Library of Congress.

1. Water-Purification
2. Water-Purification-Equipment

Card 2/2

SOV/136-59-3-3/21
AUTHORS: Krasnov, B.P., Milovanov, L.V. and Gutman, A.I.
TITLE: Purification of Waste Water Formed in Antimony Production
(Ochistka stochnykh vod, obrazuyushchikhsya pri
poluchenii sur'my)
PERIODICAL: Tsvetnyye Metally, 1959, Nr 3, pp 8 - 12 (USSR)
ABSTRACT: In antimony production waste water arises in the
following stages: ore flotation, leaching of antimony
sulphide from the concentrate with sodium sulphide and
electrolysis (spent electrolyte). The flotation tailings
water contains (Table 1) relatively coarse solids,
flotation reagents and is somewhat toxic. The authors
point out that slaked lime cannot be used as a coagulant,
since it will dissolve antimony sulphide from the tailing
waste and make the water more toxic and recommend
aluminium sulphate. Non-phenolic frothing agents should
be used because of the difficulties of phenol removal.
The water from the re-pulping of the cake (composition
shown in Table 2) is very toxic and difficult to purify
because of the simultaneous presence of large quantities
of sulphides, sulphites, arsenic and coarse particles.

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SOV/136-59-3-3/21

Purification of Waste Water Formed in Antimony Production

The authors recommend that mechanical methods should be adopted for removing the cake, thus avoiding the formation of this waste water. The spent electrolyte purification is based on the dissociation of antimony-sulphide salts to form sulphide-ion; by adding iron ions (as FeSO_4)

the sulphide is combined as the hardly-soluble FeS and the equilibrium is favourably displaced. The authors found that arsenic is removed simultaneously, the Na_3AsS_3 being converted to the insoluble As_2S_3 . Their experiments were carried out on industrial waste waters and it was found that for complete purification enough ferrous sulphate must be added to precipitate both sulphides and hydroxyl ions. The authors propose a flowsheet (figure) with regeneration of antimony (by leaching the antimony sulphide - iron sulphide precipitate with return electrolyte and electrolysis) and production of sulphur and iron hydroxide by aerial oxidation of iron sulphide. This has been tested in the laboratory. For hot climates evaporation of spent electrolyte with dumping of the solid

Card2/3

Purification of Waste Water Formed in Antimony Production ^{SOV/136-59-3-3/21}

under special conditions is possible.

There are 1 figure, 3 tables and 9 references, 8 of which are Soviet and 1 English.

Card 3/3

MILOVANOV, L.V.

Conference on waste-water purification organized by the British
Institut of Sewage Purification in 1958. Vod. i san. tekhn. no.6:
40-41 Je '59. (MIRA 12:8)
(Southport, England--Sewage--Congresses)

ANTIPOVA, P.S.; RYBNIKOVA, A.I.; MILOVANOV, L.V.

Purification of industrial waste waters from nickel salts. Tsvet.
met. 34 no.1:66-71 Ja '61. (MIRA 17:3)

MILOVANOV, L.V.; BELEVTSEV, A.N.; SHCHUKINA, G.A.

Purification of plating plants' waste water containing cyanide.
Ochis. stoeh. vod. no.3:4-16 '62. (MIRA 16:5)
(Cyanides) (Industrial wastes--Purification)

BELEVTSEV, A.N.; MILOVANOV, L.V.; SHCHUKINA, G.A.

Purification of plating plants' waste water containing chromium.
Ochis. stoch. vod. no.3:17-38 '62. (MIRA 16:5)
(Chromium) (Industrial wastes—Purification)

MILOVANOV, L.V.; VERIGO, K.N., red.

[Waste waters from enterprises of nonferrous metallurgy and methods of their purification] Stochnye vody predpriatii tsvetnoi metallurgii i metody ikh ochistki. Moskva, 1963. 15 p. (MIRA 16:9)

1. Moscow. Tsentral'nyy institut informatsii tsvetnoy metallurgii.

(Industrial wastes--Purification)

(Nonferrous metal industries--Water supply)

MILOVANOV, N.S.

The formation of 9-chloroacridones from diphenylamine-2-carboxylic acids and phosphorus oxychloride. A. M. Grigorovskii and N. S. Milovanov (S. Ordzhonikidze Chem. Pharm. Inst., Moscow). *Zhur. Priklad. Khim.* 23, 192-9 (1950); *J. Applied Chem. U.S.S.R.* 23, 197-204 (1950) (Engl. translation). The impurity present in tech. 2-methoxy-6,9-dichloroacridine (I), prepd. from POCl₃ and methoxy-6,9-dichlorodiphenylamine, has been identified as 4'-methoxy-5-chlorodiphenylamine-2-methoxy-6-chloro-9(10H)-acridone (II). The general formation of 9-chloroacridones from diphenylamine-2-carboxylic acids and POCl₃ cannot explain this by-product if the chlorides of the acids are the intermediates. The new scheme for these reactions is formation of acid anhydrides of the acids, followed by rearrangement to *N*-(*N*-phenylanthranoyl)-*N*-phenylanthranilic acids, and a double cyclization of the latter to the acridylacridone by-products. The main, normal product apparently forms at first a dichlorophosphate deriv., RHP₂O₂Cl₂, the exact constitution of which is not clear. Leaching 100 g. tech. I with 2 l. hot (CH₂Cl)₂, followed by 100 ml. 10% aq. KOH, gave 4.9 g. insol. matter, identified as II, m. 350-2° (from 2,4-Cl₂C₆H₃Me). Its constitution is shown by synthesis: a soln. of 4'-methoxy-5-chlorodiphenylamine-2-carboxylic acid (III), m. 213-14° (from MePh), in 10% warm Na₂CO₃, freed of excess alkali by addn. of free acid and evapn., yields the Na salt; this (20 g.) in 120 ml. Me₂CO is treated with 10 g. of the corresponding chloride, m. 110-11° (from petr. ether) (from the free acid and PCl₅), and after 1 hr. the insol. ppt. is washed with MeOH, yielding 19.5 g. acid anhydride (IV), m. 140-1° (from Me₂C₂). This (10 g.) refluxed 1 hr. in AcOH, then cooled and treated with H₂O, gave 8.5 g. *N*-(*N*-(6-methoxyphenyl)-6-chloroanthranoyl)-*N*-(6-methoxy-

phenyl)-6-chloroanthranilic acid (V), m. 187-8° (from MePh). Fusion of 30 g. (I), m. 162-3°, and 30 g. 2-methoxy-6-chloroacridine in 12-g. portions for 1 hr. at 250-70°, followed by boiling 40% NaOH-MeOH, then 40% NaOH-BuOH, by boiling 40% NaOH-MeOH, then 40% NaOH-BuOH, and finally hot pyridine, gave 4 g. insol. II, identical with that described above. Heating 10 g. III with 70 g. POCl₃ 3.5 hrs. at 95-100°, then treating with ice water and warming with dil. NH₄OH until it gave a stable color with phenolphthalein, followed by extrn. of the insol. matter with (CH₂Cl)₂, gave 0.48 g. crude, 0.3 g. pure II, m. 162-3°. Similar POCl₃ treatment was performed with 10-g. samples of the suspected intermediates in the reaction, with the following results. The Na salt of III gave results identical with those from the free acid; the chloride on heating alone gave 8.7 g. 2-methoxy-6-chloro-9(10H)-acridone (VI), m. 361-6°. The anhydride (IV) or the acid (V) both gave 0.1 g. I and 0.26 g. II. The chloride of III or VI gave only 0.1-0.5 g. I.

G. M. Kowaloff

Milovanov, O.S.

USSR/Nuclear Physics - Instruments and Installations
Methods of Measurement and Investigation.

C-2

Abs Jour : Referat Zhur - Fizika, No 1, 1958, 235
Author : Zorin, D.M., Milovanov, O.S., Shal'nov, A.V.
Inst : -
Title : Linearly-Cyclical Accelerator
Orig Pub : Atomn. energiya, 1957, 2, No 6, 552-553

Abstract : In 1954, O.A. Waldner proposed a linearly-cyclical accelerator (elutron) operating, like the microtron, on the principle of multiple resonance. The elutron consists of two linear accelerators, a system of rotating magnetic mirrors, and injecting linear accelerator, and a deflector that guides the injected electrons to the orbit. The magnetic system consists of four magnetic mirrors, each of which turns the beam by 90°. A uniform static magnetic field is perpendicular to the plane of the orbit, and the trajectories of the particles are directed towards the edge of the

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USSR/Nuclear Physics - Instruments and Installations.
Methods of Measurement and Investigation.

C-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 235

magnetic mirror at an angle of 45° . Particles of different energies leave in a wide beam from the first mirror. The second magnetic mirror, aimed at an angle of 45° to the axis of this beam, deflects the beams by 90° and collects particles of different energies into a narrow beam. Using a second analogous system of magnetic mirrors, the particles of various energies can be set into motion in closed orbits with general portions of the trajectory, located along the axes of the linear accelerators. For successful acceleration of the electrons, it is necessary to satisfy the following relation: $\Delta E = em \lambda H / (2\pi - 2)$, where ΔE is the increment in energy per revolution, m is an integer, and λ is the wavelength of the high frequency oscillations. Calculation of the motion of the particles has shown that stable motion of the particles in this magnetic system can be obtained by using

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USSR/Nuclear Physics - Instruments and Installations.
Methods of Measurement and Investigation.

C-2

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 235

the focusing properties of the scattering fields of the
magnetic mirrors and four quadrupole magnetic lenses,
set at the input and output of linear accelerators.

Card 3/3

MILONANOV, O.S.

AUTHORS: Val'dner, O.A., Milovanov, O.S., Tyagunov, G.A., 89-7-7/32.
Shal'nov, A.V.

TITLE: A Linear Electron Accelerator for 4.5 MeV (Lincynnyy elektronnnyy uskoritel' na 4.5 Mev)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 7, pp. 41-44 (USSR)

ABSTRACT: The accelerator discussed here has two divided sections for the purpose of being used as elements of a cyclical accelerator. The first section serves as an injector and the second as an accelerating element. The main nodes of the linear accelerator are shown in a schematical drawing. Furthermore, compensation of the defocusing forces is discussed in short. The technical computation of the wave conductor with diaphragm deals with two main problems: with the determination of the geometrical dimensions and with the dynamic of the motion of the electrons in the accelerated system. The initial data for the computation are given. The dynamic of the particles in the accelerated system is computed here by means of Slater's method. The geometrical dimensions were precisely determined with the help of experimentally determined dispersion curves. Experimental Results: Some preliminary operations took place before starting the linear accelerator: The section was tuned to a

Card 1/2

A Linear Electron Accelerator for 4.5 MeV

89-7-7/32

low level of efficiency by means of a measuring generator. After tuning-in of the highfrequency section, injection and focusing of the electron beam was investigated. The coil was adjusted by two methods: provisionally by means of the ray of a centrifuge in the case of a lacking accelerated field, and finally with the help of a ray of accelerated electrons. Next, the parameters of this accelerator were investigated. The energy of the accelerated electrons and their spectrum was determined by means of a spectroscopic analyzer. The spectra recorded by this analyzer are shown in a diagram. The ratio E/E_0 amounts to 6% and 8% for the first and second sectors respectively. The investigation of the dependence of the energy of the accelerated electrons in the first section upon the length of the wave produced by the magnetron is also of great interest. Also this dependence is shown in form of a diagram. The accelerator described here was constructed for laboratory use. The results obtained will permit the construction of a more perfect accelerator model. There are 5 figures and 7 references, 0 of which are Slavic.

SUBMITTED:

November 9, 1956

AVAILABLE:

Library of Congress

Card 2/2

1. Electron accelerators-Design
2. Electron accelerators Test results
3. Electron accelerators-Equipment

21(9)

SOV/112-59-2-3683

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 207 (USSR)

AUTHOR: Val'dner, O. A., Milovanov, O. S., Tyagunov, G. A., and
Shal'nov, A. V.

TITLE: Linear Electron Accelerator 6 Mev
(Lineynyy elektronnyy uskoritel' na 6 mev)

PERIODICAL: Izv. vyssh. uchebn. zavedeniy. Radiotekhnika, 1958, Nr 2,
pp 222-230

ABSTRACT: The Chair of Electrophysical Outfits, Moscow Engineering-Physics Institute, designed a linear traveling-wave electron accelerator that comprises two sections: the bunching section (accelerating the electrons from 0.4 to 0.97 of the velocity of light), and the accelerating section (bringing the velocity closely to that of light). The sections are connected by a slyphon passing the electrons and by a waveguide matching unit. Ultrahigh-frequency oscillations are derived from a magnetron which is fed by 2.5-microsec pulses with a

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SOV/112-59-2-3683

Linear Electron Accelerator 6 Mev

repetition frequency of 400 cps. Phase shifters are provided at the inputs of both sections. The first section consists of a copper tube (also serving as a vacuumtight envelope) of 90-mm internal diameter; copper diaphragms are secured by the heat-fit method (by liquid-nitrogen cooling). The focusing coil is slipped over the copper tube. The second section consists of rings held together by longitudinal pins; it has a separate vacuumtight enclosure. The accelerator operates with continuous pumping (seven TsLV-100 pumps, liquid-nitrogen traps). Its current is up to 30 ma; the energy at the first section output is 3.5Mev, and at the second section output, 6.5 Mev. Methods of design, experimental characteristics, and possible applications are indicated. Bibliography: 9 items.

P.K.S.

Card 2/2

MILOVANOV O. S.

89-3-9/30

AUTHORS: Val'dner, O. A. , Milovanov, O. S. , Tyagunov, G. A. ,
Shal'nov, A. V.

TITLE: A 6 MeV Linear Accelerator for Electrons (Lineynyy elektronnyy
uskoritel' na 6 MeV)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 3, pp. 285 - 285 (USSR)

ABSTRACT: The accelerators earlier described (reference 1) were improved
so that they can now supply 6 MeV electrons without having
made it necessary to increase the high-frequency input power.
The improvement was obtained by a redesign of the second sec-
tion of the accelerator where the velocity of wave propaga-
tion is equal to the velocity of light. In this section the
radius a of the shutter was decreased so much that $a/\lambda = 0,13$
(earlier it was $0,17$). This made possible an increase of the
electric field strength along the axis of up to 30 kV/cm.
A widening of the spectrum of energy of the accelerated
particles was observed as a consequence of the increase of
energy (10 % compared with earlier 8 %). There is 1 reference,

Card 1/2

89-3-9/35

A 6 MeV Linear Accelerator for Electrons

1 of which is Slavic.

SUBMITTED: November 18, 1957

AVAILABLE: Library of Congress

1. Electron accelerators-Redesign

Card 2/2

MILOVANOV, S.A., slesar', chlen brigady kommunisticheskogo truda (Tula)

At the touris headquarters of the factory. Zdorov'e 6 no.6:27
Je '60. (MIRA 13:7)

(OKA VALLEY--VACATIONS, EMPLOYEE)

S/759/62/000/003/008/021

AUTHORS: Gavrilov, N. M., Lomnev, S. P., Milovanov, O. S., Pyatnov, Ye. G.
Tyagunov, G. A., Shal'nov, A. V.

TITLE: Output parameters and operating characteristics of linear electron accelerators

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli. no.3. 1962. 78-82

TEXT Tentative figures and plots of the output parameters and operating characteristics are presented for several linear accelerators developed at the Moscow Engineering-Physics Institute. The computations were made with the BESM electronic computers. The output parameters evaluated were the energy of the accelerated electrons, the width of the energy spectrum, and the phase width of the electron clusters. The input parameters were the injection energy, the injection current, and the power and frequency of the high-frequency supply. The energy was expressed in terms of its effective action (or thermal action if calorimetry is employed). The operating characteristics were determined in terms of dependence on the injection, the current, the power, and the frequency. Each dependence could in turn pertain to the energy, phase, and spectrum. Data are

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presented for the 2, 3, 5.5, and 26 MeV accelerators, and it is pointed out that changes in the waveguide structure will modify all the figures presented. There are 10 figures.

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AUTHORS: Gavrilova, R. K., Milovanov, O. S. and Sobenin, N. P.

TITLE: Experimental data on the frequency response characteristic of a circular diaphragm-type waveguide with a constant phase velocity

SOURCE: Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 12-19, Moscow

TEXT: A method is given for the assembly of sections of a circular waveguide which ensures the best frequency characteristic in a linear electron accelerator. The waveguide used in this work had the following parameters: $a/\lambda = 0.155$, $a/b = 0.383$, $B = 0.998$; here a is the radius of the apertures in the diaphragms (corrugations), b is the inner radius of the waveguide itself, B is the phase velocity and λ is the wavelength. The sections consisted each of one ring (internal diameter tolerances of -20 to $+50 \mu$, thickness tolerances of -10 to -150μ) and one annular diaphragm (aperture diameter tolerances of -10 to -40μ). It is shown that

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the best frequency characteristic is obtained by assembling these sections according to increasing or decreasing frequency g of $\pi/2$ modes in them. The frequency f need not be known: only the deviations Δf from the calculated value of f must be measured. In this way a good frequency characteristic can be obtained for 1 or 2 m long waveguides working at $\lambda = 3$ cm or less. For example, the energies of electrons obtained from an accelerator γ^{-12} (U-12) were altered by less than 2% for $\Delta f = 2$ Mc/s of the sections assembled according to increasing or decreasing f . There are 7 figures.

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AUTHORS: Gavrilova, R. K., Milovanov, O. S., Sobenin, N. P. and Shchedrin, I. S.

TITLE: Frequency response characteristic of a waveguide buncher for a linear electron accelerator

SOURCE: Inzhenerno-fizicheskiy institut. Moscow. Uskoriteli, no. 4, 1962, 20-28

TEXT: It is shown that a 120 cm long buncher for a 3 MeV accelerator of γ -10 (U-10) type must have a microwave reflection coefficient not greater than 0.07 at + (6-8) Mc/s from the working frequency. The buncher considered is of the corrugated (diaphragm) type and suffers from (1) relatively high wave admittance in the first sections producing considerable reflections, and (2) inaccuracies in the section dimensions giving rise to further reflections. The effect (1) can be reduced by using thinner diaphragms. This does not alter the electron-beam parameters since the accelerating field intensity does not vary strongly with the diaphragm thick-

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ness and the resultant phase velocity changes can be compensated by varying the inner diameter of the waveguide itself in the first sections. The effect (2) can be reduced by a suitable selection of rings and diaphragms forming the buncher sections: three identical rings, two half-rings and two pairs of diaphragms are used. The success of this arrangement is demonstrated by almost complete similarity of the transmission band of the input-waveguide transformer and the same transformer coupled to the buncher, indicating a transformer/buncher reflection coefficient of 0.1 in the + 15 Mc/s range on both sides of the working frequency. There are 7 figures.

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AUTHOR: Milovanov, O. S.

TITLE: Frequency response characteristic of the high-frequency channel of a linear electron accelerator

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 78-85

TEXT: In matching a linear accelerator to its microwave source (a magnetron) it is necessary to know the frequency response of the accelerator as a whole. For this purpose the author derives an equivalent circuit for an accelerator consisting of the following components, connected in series: (1) a magnetron, (2) a phase shifter, (3) an input waveguide transformer, (4) a corrugated waveguide, (5) an output waveguide transformer, (6) a water load for absorption of unused microwave power and a terminating section. In the equivalent circuit the components (1) and (2) are replaced by a uniform transmission line, (3) and (5) by quadripoles, (4) by a transmission line with continuously varying parameters, and (6) by a lumped im-

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pedance. Using this circuit, the frequency of the whole accelerator is obtained: it shows that the waveguide transformers are the main sources of reflections and therefore their matching governs the response of the whole channel. Calculations of the frequency response of some systems done in this way agreed satisfactorily with experiment for bands of ± 10 Mc/s width. The experimental response spectra of linear electron accelerators were provided by R.K. Gavrilova and N. P. Sobenin. There are 5 figures.

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MILSWANOV, O.S.; SHAL'NOV, A.V.

Determining the stability of a magnetron with a frequency-dependent load of the type of a high-frequency channel in a linear electron accelerator. Uskoriteli no. 4:86-94 '62.

Frequency drift of a magnetron loaded with a high-frequency channel in a linear electron accelerator. Ibid.:95-100
(MIRA 17:5)

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AUTHORS: Milovanov, O. S. and Shal'nov, A. V.

TITLE: Frequency drift of a magnetron loaded with the high-frequency channel of a linear electron accelerator

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Uskoriteli, no. 4, 1962, 95-100

TEXT: The following causes of the frequency drift of a magnetron in linear accelerator are considered: (1) changes of the load temperature which alter the load input impedance, (2) mains voltage fluctuations which alter the injected electron beam parameters (and thus the load impedance) as well as the operating conditions of the magnetron itself, (3) changes of temperature of the cooling water circulating around the magnetron. It is shown that for a 3 MeV accelerator fed from a $\lambda = 10$ cm magnetron the maximum frequency drift does not exceed ≈ 0.1 Mc/s for 1% change in the mains voltage or 1°C change in the load temperature. This drift has to be allowed for only in accelerators with a strong depen-

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dence of the phase velocity in the load on the magnetron operating frequency. There is 1 figure.

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MILQVANOY, O. S.

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AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inzhenerno-fizicheskogo instituta (Scientific Conference of the Moscow Engineering Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400 delegates participating. A review is given of these lectures that are assumed to be of interest for the readers of Atomnaya energiya. They are following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev, design of accelerators for superhigh energies; I. Ya. Pomeranchuk, analyticity, unitarity, and asymptotic behavior of strong interactions at high energies; A. B. Migdal, phenomenological theory for the many-body problem; Yu. D. Fivovskiy, deceleration of medium-energy antiprotons in matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect; M. I. Ryazanov, theory of ionisation losses in nonhomogeneous medium; Yu. B. Ivanov, A. A. Rukhadse, h-f conductivity of subcritical plasma;

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Nauchnaya konferentsiya...

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design of 30-Mev electron linear accelerator; Ye. G. Pyatnov, A. A. Glashov, V. G. Lopato, A. I. Finogenov, G. M. Skepskiy, V. D. Selesnev, experimental characteristics of low-energy electron linear accelerators; G. A. Zeytlenk, V. M. Levin, S. I. Piskunov, V. L. Smirnov, V. K. Khokhlov, radiocircuit parameters of ЛУЭ (LUE)-type accelerators; G. A. Tyagunov, O. A. Val'dner, B. M. Gokhberg, S. I. Korshunov, Y. I. Kotov, Ye. M. Moros, accelerator classification and terminology; O. S. Milovanov, V. B. Varaksin, P. E. Zenkevich, theoretical analysis of magnetron operation; A. G. Tragov, P. E. Zenkevich, calculation of attenuation in a diaphragmated waveguide; Yu. P. Lazarenko, A. V. Ryabtshev, optimum attenuation length for linear accelerator; A. A. Zhigarev, E. Ye. Yeliseyev, review on trajectographs; I. G. Morosova, G. A. Tyagunov, review on more than 500 ion sources; M. A. Abroyan, V. L. Komarov, duoplasmatron-type source; V. S. Kuznetsov, A. I. Solnyshkov, calculation and production of intense ion beams; V. M. Rybin (Ye. V. Arsenkiy), inductive current transmitters of high sensitivity; V. I. Korosa, G. A. Tyagunov, kinetic description of linear acceleration of relativistic electrons; A. D. Vlasov, phase oscillations in linear accelerators; E. L. Burdakov, G. V. Voskresenskiy, beam field effects in the waveguide of an electron linear accelerator; E. S. Bobovikov,

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