RAT', A.A., insh.

Rated fatigue limit of steel. Prom.stroi. 38 no.6: 54-56 '60. (MIRA 13:7)
(Steel—Fatigue)

RAT', A.A.

Vibration strength of welded beams made of six different grade steels. Avtom. svar. 14 no.1:13-16 Ja '61. (MIRA 14:1)

1. Institut "Proyektstal'konstruktsiya".
(Girders--Testing) (Steel--Welding)

BRAUDE, Z.I., inzh.; BAT', A.A., kand.tekhn.nauk

The lessons of an accident. Prom. stroi. 39 no.3:45-48 '61.
(MIRA 14:4)

(Steel, Structural) (Karaganda—Metallurgical plants)

S/137/62/000/001/081/237
A052/A101

AUTHORS: Bat', A.A., Gladshteyn, L.I.

TITLE: Plastic deformations at the cold rolling of sheet steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1962, 10, abstract 1D66 (Prom str-vo, no. 7, 1961, 18 - 22)

TEXT: Sheets of Ст 3 (St 3) (killed) and 15 ГС (15GS) steel of thickness δ 20 and 30 mm were investigated. Blanks were cut out of these sheets with oxygen and subjected to bending. It was determined that the low-carbon and low-alloy sheet steel intended for constructions working under static loads at positive and negative temperatures and also for constructions subject to dynamic loads at positive temperatures could be bent in a cold state on rolls with the radius ≥12δ. At that the residual plastic deformation makes up [illegible]%. Steel intended for constructions working under dynamic loads at negative temperatures must be subjected to the heat treatment after cold bending to the radius of under 25δ.

[Abstracter's note: Complete translation] N. Yudina

Card 1/1

BAT', A.A.

The St.3kp steel for welded structures. Standartizatsiia 25 no.9:20-22 S '61. (MIRA 14:9)

(Steel, Structural)

S/028/62/000/003/004/005
D217/D302

AUTHORS: Timoshuk, L.T. and Bat', A.A.

TITLE: Recommendations for the mechanical methods of metal testing

PERIODICAL: Standartizatsiya, no. 3, 1962, 29-31

TEXT: At a conference for the coordination of the study of methods of testing the strength of metals and compounds used in metal structures, held in Moscow, in 1961, recommendations were made for unification of these methods and for treating experimental data. The first recommendation was on the shape and dimensions of test specimens, the second was on the unification of conditions of gripping specimens in the tensile test machine, and the third, on the refinement of methods of interpreting the test results.

Card 1/1

BAT', A.A.; TIMOSHUK, L.T.

Conference on the strength of metal and joints in metal constructions. Zav.lab. 28 no.3:388-390 '62. (MIRA 15:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni I.P.Bardina.
(Metals--Testing)

BAT', A.A., kand.tekhn.nauk

Calculating fatigue of aluminum alloys. Prom. stroi. 40 no.3:56-58 '62. (MIRA 15:3)

(Aluminum alloys—Fatigue)

BAT', A.A.; KOCHETOV, A.I.

Statistical methods for evaluating the results of fatigue testing of structural metals. Zav.lab. 29 no.7:838-841 '63. (MIRA 16:8)
(Metals--Fatigue)

BAT, Ch.K., agronom-entomolog

Aerosols in the orchards of Daghestan. Zashch.rast.ot vred.i bol. 4 no.3:38-39 My-Je '59. (MIRA 13:4)
(Daghestan--Fruit culture) (Aerosols)

BAT, J.

Elements of standardization and principles of definition related to roller bearings. p. 405

NORMALIZACJA Warszawa, Poland Vol. 23, no. 7, July 1955

Monthly List of East European Accessions, (EEAI) LC, Vol. 9, no. 2, Feb. 1959
Uncl.

BAT, J.

New methods of metalworking for shaping bearing inserts.

P. 486. (MECHANIK) (Warszawa, Poland) Vol. 30, no. 11, Nov. 1957

SO: Monthly Index of East European Accession (EEAI) LC Vol. 7, No. 5, 1958

BAT', G.A.

[Designs of heterogeneous reactors with a small number of moderator blocks] Raschety geterogennykh reaktorov s nebol'shim chislom blokov. Moskva, 1955. 8 p. (MIRA 14:7)
(Nuclear reactors) (Neutrons--Capture)

BAT, G. A.

"Solution of the Generalized Miln Problem," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

"Caluclations for Heterogeneous Reactors with a Small Number of Blocks," ibid.

BAT', G.A.; ZARETSKIY, D.F.

[Solution of the generalized Milne problem] Reshenie obobshchennoi zadachi Milna. Moskva, 1955. 15 p. (MIRA 14:7)
(Neutrons—Scattering) (Integral equations)

BAT' G.A.

AUTHOR KORYAKIN Yu.I., BAT' G.A. 89-5-22/22

TITLE On Popular Scientific Publications Concerning Nuclear Energy. (O nauchno-populyarney literature po atomney energii -Russian)

PERIODICAL Atomnaia Energiia, 1957, Vol 2, Nr 5, pp 487-490 (U.S.S.R.)

Received 6/1957 Reviewed 7/1957

ABSTRACT Numerous popular books and periodicals on atomic energy have recently been published in the Soviet Union, but there are only very few books that are at the same time popular, interesting and nevertheless serious from a scientific point of view.

A series of articles published by the Academy of Science of the USSR deals with various problems of the use of atomic energy in a concise manner, and also the illustrations are well chosen.

A pamphlet by A.TRIFONOV "Atomic Energy for the Use of Man" is of the character of an eye-witness account. The reader, together with the author, undertakes an interesting excursion through a number of physical laboratories.

Another publication, by P.T.ASTASHENKOV , describes the construction and the operation of nuclear reactors and their auxiliary devices.

The book by D.I.VOSKOBOYNIK gives a serious and scientifically correct account of the principles of the operation of nuclear reactors, describes the materials and devices used, as well as the structure of nuclear energetic installations. This book can hardly be classed among the popular publications proper, but is rather for the use of readers possessing some physical knowledge.

Card 1/2

On Popular Scientific Publications Concerning Nuclear Energy.

89-5-22/22

However, the overwhelming majority of popular books and pamphlets on nuclear energy is not able to give satisfaction. This applies also to such publications as are published by "Znaniye", "DOSAAF", "Moskovskiy Rabochiy" (=Moscow worker",) the military publishing house, the State publishing house for medical works, and by several local publishers. The authors point out some deficiencies on the basis of concrete examples and make some suggestions as to how the qualities of these publications could be improved.
(No illustrations)

ASSOCIATION
PRESENTED BY
SUBMITTED
AVAILABLE Library of Congress
Card 2/2

AUTHORS: Bat', G.A., Kudrin, L.P. 89-7-3/32

TITLE: On the Angular Distributions and the Energy Distributions of Fission Neutrons (Uglovyye i energeticheskiye raspredeleniya neytronov deleniya)

PERIODICAL: Atomnaya Energiya, 1957, Vol. 3, Nr 7, pp. 15-22 (USSR)

ABSTRACT: The present paper solves the problem of the angular distributions of the fission neutrons on the basis of the statistical nuclear model by taking account of the anisotropy of the angular distribution of the fission fragments. The rules governing the neutron emission from the fragments can be described by means of the thermodynamic (statistical) nuclear model. Here the following is assumed: The kinetic energy ε_0 of the inciding neutrons is wholly absorbed in the additional excitation of the fragments and not in the increase of kinetic energies. The energy of the excitation is distributed evenly over the fragments, independent of the ratio of their masses. For the temperature of the fragment corresponding to these conditions a formula is given. The angular distribution of the fragments is not isotropic and can be approximated by means of the expression $X(\alpha) = 1 + k \cos^2\alpha$, $k = k(\varepsilon_0)$. Here ε_0 denotes the energy of the

Card 1/2

inciding neutron and α the angle between the direction of motion of the fragment. The coefficient k can be determined from a previously found experimental curve. For the energy spectrum of the fission neutrons (for the remaining energies of the neutrons causing the fission) a formula is derived. The energy spectra of the fission neutrons are sensitive with respect to the inciding neutrons but the difference from various ε_o is slight. At low excitations of the fragment the applicability of the statistical model is doubtful. In conclusion a mathematical appendic is given. There are 3 figures, 4 tables, and 10 references, 1 of which is Slavic.

SUBMITTED: December 8, 1956

AVAILABLE: Library of Congress

1. Fission neutrons - Distribution - Mathematical analysis
2. Fission neutrons - Energy - Mathematical analysis
3. Fission neutrons - Scattering - Mathematical analysis

AUTHORS: Bat', G.A., Zaretskiy, D.F. SOV/89-4-6-2/30

TITLE: The Effective Boundary Value Conditions in the Diffusion Theory of Neutrons (Survey) (Effektivnyye granichnyye usloviya v teorii diffuzii neytronov (Obzor))

PERIODICAL: Atomnaya energiya, 1958, Vol 4, Nr 6, pp. 510-519 (USSR)

ABSTRACT: In the course of a survey the methods are described by means of which the effective boundary value conditions can be determined which bring about agreement within the asymptotic range between the solution of the neutron diffusion equation and the solution of the corresponding kinetic equation.
The boundary values are described for monoenergetic neutrons; some of them are computed, and, especially, the occurring coefficients are registered in tables for the following cases:
1.) For an infinitely thin "black" rod in a medium, in which sources are uniformly distributed.
2.) For a plane boundary between medium and vacuum by means of the exact analytical method developed by Wiener and Hopf.
3.) For a "black" round cylinder. The following methods of solving are mentioned for this purpose:

Card 1/2

a) The balance method developed by Brudno (1951)
b) The variation method developed by Zaretskiy (Ref 6)
c) The method of spherical harmonics by Galanin
d) Solution of Peierl's (Payerl's) equations for great and small r_0 according to the method developed by Davison.

4.) For a "black" rod of any cross section by the method of approximation developed by Hurwitz (Gurvits) and Roe (Ref 8).
5.) For a "gray" rod (only possible by approximation). If it is intended to take the neutron spectrum into account in connection with the boundary value conditions, this is possible only for some simple border cases.

(A body is described as being either black or gray according to whether the neutrons impinging upon its surface are fully or only partly absorbed). There are 2 figures, 5 tables and 10 references, 4 of which are Soviet.

SUBMITTED: October 4, 1957

1. Neutrons--Diffrusion 2. Diffusion--Theory 3. Mathematics --Applications

BAT', G. A.; MEKHINA, G. V.; PARFANOVICH, D. M.

"Compensation of large changes in the reactivity by deformation of the core lattice."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

BAT', G. A.; GRIGOR'YEVA, Ye. A.; LEBEDEV, V. N.

"Calculation of thermal neutrons utilization coefficient in cells with complex fuel elements."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

BAT, Jakub, mgr inz.

Load distribution in ball and roller bearings. Przegl mech 21 no.1:9-14 10 Ja '62.

1. Przedsiebiorstwo Projektow i Dostaw Inwestycyjnych, Warszawa.

BAT, Jakub

Production organization and planning in factories of the machine industry. Problemy proj hut maszyn 12 no.1:1-7 Ja '64.

1. Bepes, Warszawa.

BAT', M.I.

(3) Mech Des

Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

Bat', M. I. On the determination of the solutions for the forces of operating linkage mechanisms depending upon the velocities and positions of the given links. Akad. Nauk SSSR. Trudy Sem. Teorii Mašin i Mehanizmov 9, no. 34, 53–66 (1950). (Russian)

The general differential equations, similar to those used in electrical circuits, are derived giving the relations between the masses, moments of inertia, positions and forces of periodic mechanisms. These are applied to a Scotch yoke mechanism. Numerical coefficients in an expansion solution are evaluated. *M. Goldberg* (Washington, D. C.).

L.T', V.I.

"Equati ns for the motion of a plane rodmechanism with an intermediate resilient link." Trudy sem. teor. mash. 11 no. 44, 1952.

BAT', Moisey Iosifovich; DZHANELIDZE, Georgiy Yustinovich; KEL'ZON, Anatoliy Saulovich; MARKUZON, I.A., red.; AKHLAMOV, S.N., tekhn. red.

[Analytic mechanics in exercises and problems] Teoreticheskaia mekhanika v primerakh i zadachakh. Pod red. G.IU.Dzhanelidze. Moskva, Gos. izd-vo fiziko-matem. lit-ry. Vol.2. [Dynamics] Dinamika, 1961. 616 p. (MIRA 15:1)
(Dynamics--Problems, exercises, etc.)

BAT', Moisey Iosifovich; DZHANELIDZE, Georgiy Yustinovich; KEL'ZON, Anatoliy Saulovich; MARKUZON, I.A., red.; SHKLYAR, S.Ya., tekhn. red.

[Theoretical mechanics in examples and problems] Teoreticheskaia mekhanika v primerakh i zadachakh. Izd.2., ispr. Moskva, Fizmatgiz. Vol.1.[Statics and kinematics] Statika i kinematika. 1963. 483 p. (MIRA 16:12)
(Statics) (Kinematics)

BAT', M.I.

Flywheel calculations. Trudy Sem. po teor.mash. 14 no.55:5-19 '54.
(Flywheels) (MLRA 8:1)

BAT', Moisey Iosifovich; KEL'ZON, Anatoliy Saulovich; SOROKOV, Solomon Abramovich; LEVANTOVSKIY, V.I., red.; AKHLAMOV, S.N., tekhn.red.

[Collection of problems in theoretical mechanics; for technical schools] Sbornik zadach po teoreticheskoi mekhanike; dlia tekhnikumov. Pod red. A.S.Kel'zona. Moskva, Gos.izd-vo fiziko-matem.lit-ry, 1958. 320 p. (MIRA 12:2)
(Mechanics--Problems, exercises, etc.)

BAT', M.I.

Steady operating conditions for a flat multiple-link mechanism in case of an arbitrary law of changes in given forces. Trudy LPI no.211:27-36 '60. (MIRA 13:11)
(Mechanical movements)

BAT', Moisey Iosifovich; DZHANELIDZE, Georgiy Yustinovich; KEL'ZON, Anatoliy Saulovich; MARKUZON, I.A., red.; AKHLAMOV, S.N., tekhn. red.

[Theoretical mechanics in exercises and problems] Teoreticheskaia mekhanika v primerakh i zadachakh. Moskva, Gos. izd-vo fiziko-matem. lit-ry. Vol.1. [Statics and kinematics] Statika i kinematika. Pod red. G.IU.Dzhanelidze. 1961. 472 p. (MIRA 14:8)
(Statics) (Kinematics)

BAT', M. M.

Some data on oogenesis in eels. Nauch. dokl. vys. shkoly; biol. nauki no.3:35-38 '62. (MIRA 15:7)

1. Rekomendovana kafedroy rybovodstva Kaliningradskogo rybnogo instituta.

(EELS) (OOGENESIS)

BAT', S.; BUDENNYY, A.P.

Transistor radio receiver circuits. Trudy MEI no.49:125-129 '63. (MIRA 17:3)

BUDENNYY, A., inzh.; BAT', S., inzh.; VISHNYAKOV, A.

Portable transistorized superheterodyne. Radio no.5:43-44 My '65.
(MIRA 18:5)

ALEKSANDROV, P.A.; DOLZHENKOV, F.Ye.; VORONTSOV, N.M.; BAT', Yu. I.; TSUKANOV, G.E.; SAZONENKO, V.P.; CHEPELEV, P.M.; KRUGLYAK, P.F.

Working out the grooving of rolls and auxillary equipment for the rolling of Z-shaped pile planks. Trudy Ukr. nauch.-issl. inst. met. no.6:133-156 '60. (MIRA 14:3)
(Rolls(Iron mills))(Rolling(Metalwork))

S/137/61/000/012/081/149
A006/A101

AUTHORS: Trishevskiy, I. S., Kuritskiy, M. A., Bat', Yu. I., Skokov, F. I., Podol'skiy, I. Ts.

TITLE: An experimental industrial profile-bending machine of the Ukrainian Institute of Metals

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 10, abstract 12D63 ("Sb. tr. Ukr. n.-i. in-t metallov", 1961, no. 7, 178-195)

TEXT: A technology was developed for the production of bent profiles and an experimental industrial profile-bending machine was designed for the shaping of up to 8 mm thick and up to 300 - 400 mm wide sheet metal. The type of the idle-stand mill is continuous > 10 with guiding rolls. The rated shaping speed is 18 - 20 m/min. A schematic diagram of the mill is presented and its components are described in detail. The strength of working rolls and stage of the roughing stands are calculated. The power of the mill motor is determined. In 1959 the manufacture of some bent profiles was tested on this mill.

N. Yudina

[Abstracter's note: Complete translation]

Card 1/1

S/137/62/000/002/021/144
A006/A101

AUTHORS: Sladkoshteyev, V. T., Potanin, R. V., Akhtyrskiy, V. I., Kuritskiy, M. A., Bat', Yu. I.

TITLE: Experimental industrial unit for the continuous teeming of steel

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 47, abstract 2V282 ("Sb. tr. Ukr. n.-i. in-t metallov", 1961, no. 7, 143-150)

TEXT: The authors describe an experimental industrial continuous steel-teeming unit constructed at the Ukrainian Institute of Metals. The design of this unit provides for the casting of round and square blanks, 60 - 200 mm in diameter. On the teeming platform located at 11.5 m height from the shop floor, there are: an assembled water-cooled Cu-crystallizer with a mechanism for its reciprocal displacement, and an intermediate teeming device without a stopper and with a metering zirconium nozzle of 14 - 19 mm in diameter. Directly underneath the crystallizer on a 3 m long section there are the secondary cooling sprayer unit and the guide rolls. To pull the blanks an electric-driven drawing stand is used, which makes it possible to regulate the speed of drawing the blanks within a wide range. The roll pressure on the blank may also vary from 1.0 to

Card 1/2

Experimental industrial unit ...

5.0 tons by adjusting the springs. Below the drawing stand there is the gas-cutting cabin, which moves during the blank cutting process along vertical guides at 3.2 m pace. The cut-off blank pieces drop into the collecting device pocket where they are accumulated. The metal intended to be teemed on the unit is cast in a 1.0-ton electric furnace and is supplied to the unit in a ladle without a stopper. The ladle is lifted to the unit with the aid of a telpher line. The unit is controlled from a desk located on the teeming platform; the gas cutter and the collecting device are controlled from a second desk located in the gas cutting cabin. The unit is equipped with a control-measuring mechanism. There is a templet shop near the unit.

I. Granat

[Abstracter's note: Complete translation]

Card 2/2

TRISHEVSKIY, I.S., kand.tekhn.nauk; KURITSKIY, M.A., inzh.; BAT', Yu.I., inzh.; SKOKOV, F.I., inzh.; PODOL'SKIY, I.TS., inzh.

Pilot plant shape bending mill at the Ukrainian Institute of Metals. Trudy Ukr. nauch.-issl. inst. met. no.7:178-195 '61. (MIRA 14:11)
(Ukraine--Rolling mills)

L 61026-65 EWT(m)/EWP(w)/EWP(t)/EPF(n)-2/EWG(m)/EWA(d)/T/EWP(t)/EWP(b) Ps-4/Pu-4
IJP(c) JD/JG

ACCESSION NR: AR5017425 UR/0137/65/000/006/D006/D006

SOURCE: Ref. zh. Metallurgiya, Abs. 6D39

AUTHOR: Mal'tsev, M. V.; Dolzhenkov, F. Ye.; Sigalov, Yu. M.; Volchek, F. R.; Bat', Yu. I.

TITLE: Investigation of a process for rolling columbium in a vacuum

CITED SOURCE: Sb. tr. Ukr. n.-i. in-t metallov, vyp. 10, 1964, 181-188

TOPIC TAGS: columbium, metal rolling, hot rolling, temperature dependence, vacuum

TRANSLATION: A study was made of the basic parameters of a process for rolling columbium in a vacuum and in air (spread, forward flow, friction coefficient, specific pressure, etc) over a wide range of temperatures from 300 to 1300C. It was established that the spread, friction coefficient, and specific pressure during rolling of columbium in a vacuum are slightly higher than during rolling in an air medium. The spread basically occurs as a result of barrel formation and of transition of the metal from the lateral faces to the contact faces. Specific

Card 1/2

L 61026-65
ACCESSION NR: AR5017425

pressure is only slightly dependent on temperature in the interval investigated.
A. Leont'yev

SUB CODE: MM ENCL: 00

Rolling in vacuum

Card 2/2

DOLZHENKOV, F.Ye.; KRIVONOSOV, Yu.I.; PIRYAZEV, D.I.; BAT', Yu.I.; VOLCHEK, F.R.

Obtaining bimetal joints by rolling in vacuum. Sbor.trud. UNIIM no.11:183-196 '65. (MIRA 18:11)

L 12044-66 EWT(d)/EWT(m)/EWP(w)/EWP(k)/EWP(t)/ETI IJP(c) JD/HW/EM

ACC NR: AR6009956 SOURCE CODE: UR/0137/65/000/012/D009/D010

AUTHOR: Dolzhenkov, F. Ye.; Krivonosov, Y. I.; Piryazev, D. I.; Bat', Yu. I.; Volchek, F. R.

TITLE: Production of bimetal compounds by vacuum rolling

47
B

SOURCE: Ref. zh. Metallurgiya, Abs. 12D75

REF SOURCE: Sb. tr. Ukr. n.-i. in-t metallov, vyp. 1, 1965, 183-196

TOPIC TAGS: bimetal, metal rolling, titanium, low carbon steel

ABSTRACT: The optimal temperature for commencing the vacuum rolling (R) of Ti-steel bimetal is 1000°C. At higher temperatures liquid phase may form. It is desirable to terminate R at 800°C, since a decrease in temperature leads to a sharp rise in specific pressures as well as to the occurrence of considerable internal stresses in the bimetal layers. A high C content of steel adversely affects the cohesion to Ti, and hence it is desirable to use a steel with a lower C content as the base-layer Me. Reduction in R temperature and increase in reduction of area contribute to the decrease of the transition zone of the steel-Ti bimetal. During R of two-layer and sandwich packs with the P-plates positioned outermost, the difference in

Card 1/2 UDC: 621.771.001

ACC NR: AP6035924 SOURCE CODE: UR/0413/66/000/020/0184/0185

INVENTOR: Krivonosov, Yu. I.; Zakharov, L. A.; Dolzhenkov, F. Ye.; Bat', Yu. I.; Volchek, F. R.

ORG: none

TITLE: Method of manufacture composite metal articles. Class 49, No. 187496

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 184-185

TOPIC TAGS: composite metal, ~~clad metal composite metal production~~ METAL ROLLING, COMPOSITE MATERIAL

ABSTRACT: This Author Certificate introduces a method for manufacturing two-layer or multilayer metal articles according to Author Certificate No. 111925. To simplify the manufacture of large articles, vacuum rolling of the pack is done only to obtain a sufficient bonding with a reduction of 5—15%. The rest of the rolling is done in air.

SUB CODE: 13/ SUBM DATE: 18Jul63/

Card 1/1 UDC: 621.771.8-419.5

RAT'-GERSHTEYN, I.S.

The problem of synovioma. Khirurgiia 33 no.4:151-152 Ap '57.
(MLRA 10:7)

1. Iz khirurgicheskogo otdeleniya oblastnogo onkologicheskogo dispansera g.Molotova.
(SYNOVIOMA, in inf. and child
femur)
(FEMUR, neoplasms
synovioma in child)

BAT-ERDENE, T., CAND AGR SCI, "BIOLOGICAL AND ECONOMIC QUALITIES OF THE MONGOLIAN YAK AND ITS HYBRIDS." MOSCOW, 1961. (MOSCOW ORDER OF LENIN AGR ACAD IM K. A. TIMIRYAZEV). (KL, 3-61, 224).

OL'SHANOVA, K., prof.; KOPYLOVA, V., kand.khim.nauk; BAT-OCHIR, A., inzh.

Chromotographic method for determining chloride content in meat.
Mias. ind. SSSR 29 no.5:51-53 '58. (MIRA 11:10)

1. Moskovskiy tekhnologicheskiy institut myasnoy i molochnoy promyshlennosti.
(Meat--Analysis) (Chlorides--Analysis)

SAHOVIC, K.; ORESCANIN, B; BATA, A.; MIHAILOVIC, L.; DRASKOCI, M; DIMITRIJEVIC, K; STOJANOVIC, B.

Observations on the bahavior of cardiovascular system and respiration in animals in hypothermia, with special reference to the functional variations during exsanguination and consecutive transfusion. Glas Srpske akad. nauka, odelj. med. no.8:31-52 1953.

1. Institut za patolosku fiziologiju Medicinskog fakulteta u Beogradu; primljeno na VII skupu Odeljenja Medicinskih nauka 14.V.1953 g.

(HEMORRHAGE, exper.
*eff. on cardiovasc. system & resp. in animals in hypothermia, eff. of consecutive transfusion)
(CARDIOVASCULAR SYSTEM, physiol.
*eff. of exper. exsanguination & consecutive blood transfusion in hypothermia in dogs)
(RESPIRATION, physiol.
*eff. of exper. exsanguination & consecutive blood transfusion in hypothermia in dogs)
(BODY TEMPERATURE
*hypothermia, exper., eff. of exper. exsanguination & consecutive blood transfusion on cardiovasc. & resp. system in dogs)
(BLOOD TRANSFUSION, exper.
*eff. on cardiovasc. & resp. system after exper. exsanguination in hypothermia in dogs)

SAHOVIC, K.; ORESCANIN, B.; MIHAILOVIC, L.; BATA, A.; DIMITRIJEVIC, K.; STOJANOVIC, B.; DRASKOCI, M.

Biochemical changes and variations of the blood picture in animals in hypothermia; effect of exsanguination and consecutive transfusion. Glas Srpske akad. nauka, odelj. med. no.8:153-182 1953.

1. Institut za patolosku fiziologiju Medicinskog fakulteta u Beogradu; primljeno na X skupu Odeljenja medicinskih nauka 24.IX.1953 god.

(BLOOD TRANSFUSION, exper.
*eff. on biochem. changes & blood picture in hypothermia in rats)
(BODY TEMPERATURE,
*hypothermia, exper., eff. on blood picture & biochem. changes after exsanguination & consecutive blood transfusion in rats)
(HEMORRHAGE, exper.
*eff. on blood picture & biochem. changes in rats in hypothermia, eff. of consecutive blood transfusion)
(BLOOD
*picture, eff. of exsanguination & consecutive blood transfusion in hypothermia in rats)

BATA, A.

Calcium, potassium and magnesium levels in the blood in rabbits in anaphylactic shock. Glas srpske akad. nauka, odelj med. 211 no.7: 47-68 1953.

1. Primljeno na XVIII skupu Odeljenja med. nauka 18 XII 1952 god.

(ALLERGY, exper.
eff. on calcium, potassium & magnesium in blood in anaphylactic shock in rabbits)
(CALCIUM, in blood
eff. of anaphylactic shock in rabbits)
(POTASSIUM, in blood
eff. of anaphylactic shock in rabbits)
(BLOOD
potassium, magnesium & calcium, eff. of anaphylactic shock in rabbits)
(MAGNESIUM, in blood
eff. of anaphylactic shock in rabbits)

COUNTRY : Yugoslavia
CATEGORY : General Problems of Pathology. Allergy.

ABS. JOUR. : RZhBiol., No. 23 1958, No. 106940

AUTHOR : Sahovic,K.; Bata,A.
INST. :
TITLE : Anaphylactic Shock in Guinea Pigs Under Conditions of Intense Exhaustion.

ORIG. PUB. : Arhiv biol.nauka,1954,6,No.3-4,193-199

ABSTRACT : Intense physical exhaustion was produced in guinea pigs sensitized with horse serum. Anaphylactic shock (A S) in such animals developed weakly, not one guinea pig perished. A S failed to develop following secondary injection of the exhausted animal with antigen.

CARD: 1/1

SAHOVIC, K.; BATA, A.

Modification of blood pressure in peptone shock in hypothermia in animals. Glas.Srpske akad.nauka, odelj.med. 215 no.9:73-77 1955.

1. Institut de Physiopathologie de la Faculte de Medicine de Beograd.

(BLOOD PRESSURE, physiology,
eff. of peptone shock in hypothermia in animals)
(BODY TEMPERATURE,
hypothermia, eff. of peptone shock on blood pressure in hypothermia in animals)
(SHOCK, experimental,
eff. on blood pressure in hypothermia in animals of peptone shock)

SAHOVIC, K.; BATA, A.; MILUTINOVIC, P.

Utilization of glucose by individual organs in various stages of hypothermia. Glas Srpske akad. nauka, odelj. med. 217 no. 10:29-50 1956.

1. Institut za medicinska instrazivanja Srpske akademije nauka. Odeljenje za klinicku i eksperimentalnu patologiju i Institut za patolosku fiziologiju Medicinskog fakulteta.

(HYPOTHERMIA, experimental,
blood sugar levels in various organs in various stages of hypothermia (Ser))
(BLOOD SUGAR,
eff. of exper. hypothermia on blood sugar in various organs (Ser))

SPUZIC, V.; BATA, A.; CVETOJEVIC, M.

Reactions of the pleura and of the peritoneum of sensitized guinea-pigs to repeated applications of horser serum. I. Glas Srpske akad. nauka, odelj. med. 217 no.10:65-78 1956.

1. Rad sa Patoloskog instituta i Instituta za patolsku fiziologiju Medicinskog fakulteta u Beogradu.

(IMMUNE SERUMS, effects,
horse serum on pleura & peritoneum of sensitized guinea pigs (Ser))
(PLEURA, effect of drugs on,
horse serum in sensitized guinea pigs (Ser))
(PERITONEUM, effect of drugs on,
same)

BATA, A.; KRZALIC, Ljiljana

Chromatographic determination of the amino acid concentration in the blood serum after intravenous administration in dogs. Glas. srpske akad. nauk.[Med] no.15:9-17 '60.

(AMINO ACIDS blood)

S

BATA, A.; MILUTINOVIC, P.; DIMITRIJEVIC, Katarina; CVETOJEVIC, Milica

Contribution to the study of lipid metabolism. III. Functional and morphological changes in various organs during massive dietary lipid intake. Glas. srpske akad. nauk.[Med] no.15:43-49 '60.

(LIPIDS nutrition and diets)

BATA, A.; DIMITRIJEVIC, Katarina; JOVANOVIC, B.

Contribution to the study of lipid metabolism. IV. Cholesterol metabolism in nephrectomized animals maintained by peritoneal dialysis. Glas. Srpska akad. nauk [Med.] 17 no.257:213-223 '64.

Bii. abs BATA, F

BJ 1-B. Materials Handling.

Fitting of [illegible] gas meters by means of S-shaped connecting pieces. K. Strejček and F. Bata (Paliva, 1960, 40, 142—144).—An S-shaped connecting piece introduced by the Central Moravian Gas Works permits of the fitting of meters to pipes of different sizes more economically than do the usual methods. R. Truscoe.

BATA, G

Regulation of the Slankamen sector of the Danube River; a preliminary hydraulic and testing investigation. p.17

BELGRADE Hidrotehnicki institut "Inzenjer Jaroslav Cerni." SAOPSTENJA. TRANSACTIONS. Beograd, Yugoslavia

No. 2, 1955

SOURCE: East European List (EEAL) Library of Congress, Vol. 6, No. 1, January 1957

28(0) 14(10)
10(4) 14(6)

YUG/3-59-1-2/26

AUTHOR: Bata, Geza, Engineer, Chief of the Hydraulics Department

TITLE: Review of the Ten-Year Activity of the Hydraulics Department in the Laboratory at the Foot of Avala Hill (Pregled desetogodišnje delatnosti Odeljenja za hidrauliku u laboratoriji pod Avalom)

PERIODICAL: Elektroprivreda, 1959, Nr 1, pp 2 - 7 (YUG)

ABSTRACT: The laboratory for testing hydraulic models, located at the foot of Avala Hill occupies 4.2 hectares, including three interconnected buildings which cover about 3,200 sq m, and an outdoor area of about 3 hectares. There are two outdoor testing centers, as well as two static and several dynamic indoor water supply systems for models. The laboratory has 14 low-pressure pumps, total capacity 1,050 liters per second, and a medium-pressure reservoir, with a head of 15 m. There is also a 2.0 x 1.7 x

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Review of the Ten-Year Activity of the Hydraulics Department in the Laboratory at the Foot of Avala Hill

110.0 m canal used for calibrating hydraulic current-meters, as well as a precision-mechanics shop. More than one hundred persons are employed there, including 15 engineers, 25 technicians and draftsmen, 15 laboratory workers, 40 workers, and 5 administrative employees. The Hydraulic Department is divided into six sections: marine, river, agricultural, industrial and underground water hydraulics, and hydraulic structures; the electronics section is also included in the department. The department tests models of various structures for which computations are difficult, or even impossible. A brief description of various structures and problems which have been studied during the past 10 years is given. In the field of hydropower plants these studies included: cofferdams (Zvornik, Jajce II, Radoinja and Bajina Bašta), aprons and apron walls (Lokvarka, Jajce II, Mavrovo, Kokin Brod, Fužine, etc), standard types of spillways [Ref 2 and 3] (Bajina

Review of the Ten-Year Activity of the Hydraulics Department in the Laboratory at the Foot of Avala Hill

Bašta, Lipkovo, Globočica, Radoinja, Krupac and Lokvarka), bark-type spillways [Ref 4], high-speed channels [Ref 5] (Lipkovo, Liverovići, Radoinja, Krupac and Kokin Brod), absorption of air by turbulent flow in open channels, outlet and diversion tunnels (Radoinja and Globočica), cavitation siphons [Ref 6] (Radoinja), various types of intake works [Ref 7] (Vrla I, Mavrovo, Marina Glavica, Vrla II, Medjuvršje, Zvornik, Jablanica, Ovčar Banja), silting basins (Jelovska Reka in the Mavrovo Complex and Jablanica), surgetanks [Ref 9 and 10] (Ovčar Banja, Vrla III, Jajce II, Jablanica, Jajce I, Bistrica, Mavrovo, Slap Zete, Bistrica, Perućica, Kokin Brod) which included also tangential channeling of an additional stream into a surgetank (Jelovska Reka and Vlasina), uneven flow in open channels [Ref 11, 12, 13 and 14] (Vrla II and Perućica), silting in storage lakes and by various structures (Grošnica, Treska, Vrla II, Zvornik, Djerdap),

seepage in earth dams (Mavrovo, Kokin Brod) and under or beside the dams (Globočica, weir on the Tisa River, Djerdap, Hydro-Complex Danube-Tisza-Danube), as well as seepage in the karst areas. In the other fields of water engineering, river regulation [Ref 16] including several parts of the Danube river, maintaining a low underground water level in the area of Novi Beograd, artificial spraying of public squares, water circulation in the projected Beogradsko jezero (Beograd Lake), erosion around the bridge-pier in Novi Sad, protection against silting in the ports of Ulcinj and Ohrid, protection against waves and currents in the seaports Bar, Ulcinj, Lora, Pašman, and stability of breakwaters in the ports of Sušak and Bar have been studied. There

YUG/3-59-1-2/26

Review of the Ten-Year Activity of the Hydraulics Department in the Laboratory at the Foot of Avala Hill

are 5 photos and 16 Yugoslavian references.

ASSOCIATION: Hidrotehnički Institut "Inž. Jaroslav Černi" ("Inž. Jaroslav Černi" Hydro-Engineering Institute), Beograd.

Card 5/5

BATA, Geza, ing.

Friction losses on the surfaces of two liquid currents of different density. Vodoprivreda Jug 2 no.7/8:9-13 '59. (EEAI 10:1)

1. Institut za vodoprivredu Ing. Jaroslav Cerni, Beograd.
(Liquids) (Friction) (Reynolds number)
(Irrigation)

BATA, Geza, ing.; TODOROVIC, Vukadin, eth.

Erosion of the Novi Sad Bridge pier. Vodoprivreda Jug 2 no.7/8: 59-67 '59. (EEAI 10:1)

1. Institut za vodoprivredu "Jaroslav Cerni," Beograd.
(Vojvodina--Bridges) (Erosion) (Rivers)

HUNGARY

MESTYAN, Gyula, Dr, JARAI, Istvan, Dr, BATA, Geza, Dr, FEKETE, Miklos, Dr; Medical University of Pecs, Pediatric Clinic (director: KERPEL-FRONIUS, Odon, Dr) (Pecsi Orvostudomanyi Egyetem, Gyermekklinika).

"The Importance of Skin Temperature in Chemical Thermoregulation of Hypothermic, Immature Infants."

Budapest, Orvosi Hetilap, Vol 107, No 17, 24 Apr 66, pages 775-779.

Abstract: [Authors' Hungarian summary] The changes in and relationship between O_2 consumption and the temperature of the colon, abdomen, skin and forehead were studied at different environmental temperatures in 15 hypothermic, immature infants 1-14 days of age who weighed 1200-1700 g at birth. The observations led to the following conclusions: 1) Under the experimental conditions used, the hypothermic basal temperature is not a decisive factor in the elicitation and maintenance of chemical thermoregulation. 2) In the hypothermic immature infant, chemical thermoregulation proceeds at a considerably lower skin temperature level than in the normothermic newborn. It can be assumed that this change in regulation is produced by the hypothermy itself through functional changes either in the peripheral or in the central mechanism of thermoreception. 1 Hungarian, 3 Western references.
1/1

Med

7522. Sexual behaviour and its effect on the conditioned alimentary reflex activity. E. Endröczi, G. Bata, and K. Lissák *Acta physiol. Acad. Sci. hung.*, 1956, 9, 153—161 (Physiol. Inst., Med., Univ., Pécs, Hungary).—In cats of both sexes, but mostly female, a conditioned feeding response involving running and jumping to a container was built up prior to the studies of sexual behaviour. The conditioned stimulus was a sound of a 100/min. metronome. Differential threshold was found to be on an average below 120/min., in exceptional cats 108/min. Sexual behaviour was elicited by different dilutions of valeric or norvaleric acid applied either as a spray, or the animal was made to smell a solution or the solution was painted on the fur around the tail. Kymographic and cinematographic records were taken. Experiments with fatty acids containing a variable number of carbon atoms showed that C4—5 fatty acids elicit by olfactory stimuli the sexual behaviour in both sexes. Application of the smell stimulus, after a latency period of a few minutes, blocks conditioned alimentary response and elicits partial sexual behaviour. Progesterone (5 mg. for 5 days) did not have an effect on valeric acid-induced sexual behaviour while œstradiol propionate markedly increased it. Mild stimulation of the erotogenic zone elicits complete sexual behaviour with all signs of orgasm. The phenomenon lasts for 10—15 min. and can be evoked repeatedly. Folliculin alone—without the olfactory stimulus—has no effect. The conditioned alimentary reflex behaviour including differentiation is not influenced by valeric acid in ovariectomised animals. Progesterone treatment had no effect in ovariectomised animals, œstradiol propionate (5 mg. for 5 days) on the other hand was highly potent in restoring normal sexual responses both to valeric acid and erotogenic zone stimulation as well as in blocking alimentary conditioned reflexes. The olfactory stimulus is considered not to be a structure-bound conditioned stimulus (Pavlov), but it is suggested that humoral conditioning of the nervous system makes possible the building up of an integrated complex motor act around the olfactory stimulus. Circular processes between diencephalon and archicortex integrate this behaviour.

A. B. L. Bezsák.

BATA, G.

MARTIN, J.; BATA, G.; ENROCZI, E.; MOLL, A.

Utilization of cortisone and hydrocortisone on the basis of experiments in vivo and in vitro. Acta physiol. hung. 11 no.3-4:385-391 1957.

1. Institute of Physiolog, Medical University, Pecs.
(CORTISONE, metab.
comparison with hydrocortisone metab. in various tissues in vivo & in vitro.)
(HYDROCORTISONE, metab.
comparison with cortisone metab. in various tissues in vivo & in vitro.)

BATA, Geza; ENDROCZI, Elemer; MARTIN, Janos

Studies on the secretion of adrenal cortex hormones. Kiserletes orvostud. 10 no.1:84-91 Feb 58.

1. Pecsi Orvostudomanyegyetem Elettani Intezete.

(ADRENAL CORTEX, physiol.
hormone secretion in exper. animals under various stress cond. (Hun))
(STRESS, exper.
eff. of various stress cond. on secretion of adrenal cortex hormones in animals (Hun))

MARTIN, J.; ENDROCZI, E.; BATA, G.

Effect of the removal of amygdalic nuclei on the secretion of adrenal cortical hormones. Acta physiol. hung. 14 no.2:131-134 1958.

1. Institute of Physiology, Medical University, Pecs.
(BASAL GANGLIA, physiol.
eff. of removal of amygdaloid nuclei on adrenal cortical hormone secretion in exper. animals)
(ADRENAL CORTEX, physiol.
eff. of removal of amygdaloid nuclei on hormone secretion in exper. animals)

HORVATH, Mihaly, dr.; BATA, Geza, dr.

Data on adrenal function in thyrotoxicosis. Magy.belorv.arch. 12 no.5:136-139 O '59.

1. A Pecsi Orvostudomanyi Egyetem I. Belklinikaja (igazgato: Angyan Janos, egyetemi tanar) es Elettani Intezete (igazgato: Lissak Kalman akademikus) kozlemenye.
(HYPERTHYROIDISM physiol)
(ADRENAL CORTEX funct tests)

EXCERPTA MEDICA Sec 3 Vol 14/4 Endocrinology Apr 60

718. THE EFFECT OF THYROIDECTOMY AND OF ADMINISTRATION OF METHYLTHIOURACIL ON THE HORMONE PRODUCTION OF THE ADRENAL CORTEX - Die Wirkung der Schilddrüsen-Entfernung und Methylthiouracilbehandlung auf die Hormonsekretion der Nebennierenrinde -

Bata G., Endröczi E. and Jonec V. Physiol. Inst., Med. Univ. Pécs, Ung.; Akad. Endokrinol. Inst., Bratislava - ENDOKRINOLOGIE 1959, 37/5-6 (264-269) Tables 3

In young and in adult dogs subjected to thyroidectomy, and in animals treated with thiouracil the adrenocortical secretion is normal or increased. A correlation was found between the increase of adrenal hormone secretion and the duration of the hypothyroid state. An increase of the hydrocortisone/corticosterone ratio was observed. It is possible that in the hypothyroid state the sensitivity of the adrenal cortex to ACTH is enhanced as the consequence of the alterations occurring in the enzymatic systems.

KERPEL-FRONIUS, E.; VARGA, F.; MESTYAN, G.; BATA, G.

Comparative study of somatic stability in severe malnutrition and prematurity. Acta Pediat. Acad. Sci. Hung. 2 no.4:367-376 '61.

1. Department of Paediatrics (Director: Prof. E. Kerpel-Fronius), University Medical School, Pecs.
(INFANT NUTRITION DISORDERS)
(INFANT, PREMATURE nutrition & diet)

FULOP, Tibor, dr.; BATA, Geza, dr.

Diffuse acute gangrene in childhood. Orv. hetil. 102 no.45:2124-2128 5 N '61.

1. Pecsi Orvostudomanyi Egyetem, Gyermekklinika.

(GANGRENE in inf & child)

SZOLLOSSY, Laszlo, dr.; BATA, Geza, dr.

Neonatal tension pneumomediastinum. Orv. hetil. 105 no.17: 800-802 26 Ap'64

1. Pecsi Orvostudomanyi Egyetem, Gyermekklinika.

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L 16914-65 EWG(j)/EWT(m)/EPF(c)/EPR/EWP(j)/EWP(t)/EWP(b) Pc-4/Pr-4/Pad/Ps-4
IJP(c) JD/HW/JG/RM

ACCESSION NR: AP4047836 S/0195/64/005/005/0842/0848

AUTHOR: Bata, I.; Shol'moshi, F.; Sabo, Z. G. (H)

TITLE: The effect of the formation of spinels on the catalytic and electrical properties of a nickel oxide - chromium oxide system

SOURCE: Kinetika i kataliz, v. 5, no. 5, 1964, 842-848

TOPIC TAGS: nickel oxide, chromium oxide, spinel formation, catalytic activity, electrical conductivity, formic acid breakdown

ABSTRACT: After discussing a previous study of a magnesium oxide - chromium oxide system in connection with the problem of the transient phases which arise during spinel formation, the authors point out that in their investigation of the catalytic activity of this system on the basis of the model reaction of formic acid decomposition, they were unable to detect any particularly active state preceding the formation of the spinel. Optimal electrical conductivity was observed at the beginning of the spinel formation process as a consequence of the large quantity of defects which develop at that time. In the present article, data were obtained regarding the catalytic activity of a system of nickel and chromium oxides at various stages of a heat treatment process. Since the technical literature con-

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ACCESSION NR: AP4047836

tains but little information on the properties of this system and on the process of spinel formation, the authors also studied the characteristic peculiarities of the reaction of nickel and chromium oxides in the solid phase. An investigation was made of the magnetic, electrical and catalytic properties of a mixture of nickel and chromium oxides, heated at different temperatures, in the air and after treatment with formic acid. The measurement of initial speed rates revealed no particularly active state for the decomposition of the formic acid. The catalytic decomposition of HCOOH on metallic nickel applied to the surface of nickel and chromium oxides was then studied as a function of the temperature to which the carriers had been heated. Minimal activation energy was discovered in the case of nickel which had been applied to a carrier heated at 800C. In the opinion of the authors, this result, along with the data derived from the study of the electrical properties of the oxide mixture, points to a special feature of the state which develops during the formation of spinel. Orig. art. has: 7 figures and 1 table.

ASSOCIATION: Institut neorganicheskoy i analiticheskoy khimii Universiteta g. Seged (Institute for Inorganic and Analytical Chemistry of the University of Szeged, Hungary)

SUBMITTED: 23Oct62 ENCL: 00 SUB CODE: MM, IC

Card 2/2 NO REF SOV: 000 OTHER: 011

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203920007-8"

BATA, J.; ZVACEK, O.; VINTIKA, J.

New trends in the evaluation of malt barley. p. 26. (Kvasny Prumysl, Vol. 3, No. 2, Feb 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accession (EEAL) LC, Vol. 6, No. 8, Aug 1957, Uncl.

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

Abs Jour : Ref Zhur - Fizika, No 7, 1959, 15018

Author : Adam, Andras; Bata, Lajos
Inst : -
Title : Measurement of Diffusion Length and Slowing-Down Length in Water.

Orig Pub : Magyar tud. akad. Kozp. fiz. kutato int. kozl., 1958, 6, No 1-2, 3-13

Abstract : The authors have determined the values of the diffusion length and the slowing-down length in water. The following data are obtained: for the diffusion length L = 2.81 ± 0.09 cm, and for the slowing-down length, referred to the thermal energy, τ_S = 7.93 ± 0.08 cm. The relaxation length in water for a Po-Be source of neutrons is $\lambda(E_0)$ = 11.16 ± 0.01 cm.

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BATA, L.

Science

"A MAGYAR TUDOMANYSO AKADEMIA KOZPONTI FIZIKAI KUTATO INTEZETENEK KOZLEMENYEI"

Measurements on diffusion and slowing-down lengths in water. p. 14

Vol. 6, No. 1/2, Jan./April 1958

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 4, April 1959
Unclas.

BATA, L.; PAL, L.; KISS, I.

Investigations of the moderating parameters of the Dowtherm A at different temperatures. p. 207.

Budapest. Kosponti Fizikai Kutato Intezet. A MAGYAR TUDOMANYOS AKEDEMIA KOZPONTI FIZIKAI KUTATO INTEZETENEK KOSLEMENYEI, Budapest, Hungary, Vol. 6, No. 4, July/Aug. 1958

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959
UNCL

BATA, L.; ADAM, A.

Measuring diffusion and slowing length in water. p. 669

ENERGIA ES ATOMTECHNIKA. (Energiagazdalkodasi Tudomanyos Egyesulet)
Budapest, Hungary
Vol. 11, no.11/12, Nov./Dec. 1958

Monthly List of East European Accessions (EEAI) LC., Vol. 8, no.7, July 1959
Uncl.

BATA, L.

Distr: 4E3c 2 cys/4E3d/4E2b(v)

Moderating parameters of Dowtherm A at different temperatures. L. Pál, L. Bata, and I. Kiss (Central Research Inst. Phys., Budapest). *Acta Phys. Acad. Sci. Hung.* 10, 173-84(1959)(in English).—Moderating parameters (for nuclear reactors) of a medium of 26.81% biphenyl and 73.19% diphenyl oxide were tested at different temps. The temp. dependence of the diffusion length is $L_D = 4.002$ exp (0.0014 T), the slowing-down length $L_s = 11.24 \pm 0.06$ cm. at 36°. L_s increases considerably at higher temps.

R. M. Loebl

19 all /// gt

5 Y-RS 4

BATA, L.; PAL, L.; KISS, I.

Investigation of the parameters of the Dowtherm A moderator at various temperatures. p.225.

ENERGIA ES ATOMTECHNIKA. Budapest, Hungary. Vol. 12, no. 4, Apr. 1959.

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

PAL, L.; SZABO, F.; GYIMESI, Z.; BATA, L.; TURI, L.

Investigation of the SR-1 heterogeneous subcritical assembly. Acta phys Hung 12 no.3:205-219 '60. (KEAI 10:5)

1. TSentral'nyy issledovatel'skiy institut fiziki AN Vengrii, Budapesht. Predstavleno L.Janoshi.
(Uranium) (Neutrons) (Nuclear reactors)

81758
H/008/60/013/07/07/009
B009/B056

21.1330

AUTHOR: Bata, Lajos

TITLE: The Measurement of Neutron Flux in Nuclear Reactors

PERIODICAL: Energia és Atomtechnika, 1960, Vol. 13, No. 7, pp. 326-333

TEXT: Solely on the basis of articles, published in Nucleonics, Nuclear Energy, and Zeitschrift fuer Physik the theory and the measurement of neutron flux in a medium-energy Soviet VVRS test reactor, which is available at the Central Physics Research Institute, is described. There exist three fundamental measuring methods, of which the measurement of the activity of radio-active foils, the so-called activation method, was used, which is most frequently applied to the measurement of absolute flux, thermal and epithermal neutrons. The demands made on the material are enumerated and a formula for the saturation activity N_0 is derived, whereupon the neutron flux $\Phi(E)$ may be determined for 2 measurement types (isotropic flux and collimated neutron beam of the intensity I). Thermal and resonance neutrons are separated with cadmium filters and indium foils, on which occasion the Cd-correction factor is used for the

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The Measurement of Neutron Flux in Nuclear Reactors

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B009/B056

purpose of calculating the resonance neutron activity. The influence exerted by disturbances and the self-screening of the foils is also taken into account. When the foils are irradiated in the neutron field and then taken out, the following nuclear reactions occurs

$$In^{115} + n \rightarrow In^{116} \rightarrow Sn^{116} + \beta$$

Absolute flux is measured in β-γ coincidence arrangement. The detection instrument and carrying out of the measurement of neutron density in radial and vertical direction is described. Vertical and 9 horizontal channels protrude from the reactor channel. In channel 8 the absolute flux was measured with a gold foil. When the reactor operates with a power of 2 MW, the flux amounts to $3.10^8 n/cm^2 sec$, and in the other horizontal channels it is the 0.9-2-fold this amount. In channel 4 the flux was measured as a function of the distance from the reactor edge. There are 16 figures and 8 non-Soviet references.

ASSOCIATION: Központi Fizikai Kutató Intézet (Central Research Institute of Physics)

Card 2/2

H/008/60/000/010-11/001/003
B009/B057

AUTHOR: Bata, Lajos

TITLE: Measurement of Reactor Parameters I.

PERIODICAL: Energia és Atomtechnika, 1960, Vol. 13, No. 10-11, pp. 490-494

TEXT: This paper, the first of a series of articles, bears the subtitle: Measurement of Slowing-down and Migration Lengths in Heterogeneous Systems. 1) Measurement of the slowing-down lengths of fission neutrons in a uranium-water system: The method applied by the author is used to measure a quantity proportional to the density of neutrons of energy E, presented by H. Kouts and co-workers to the Geneva International Conference on the Peaceful Uses of Atomic Energy, 1955 (Ref. 4). Experimental values of the slowing-down length, $\tau_{exp.}$, and of its corrected value $\tau_{corr.}$ (excluding the multiplication of epithermal neutrons) are plotted in diagrams versus the volume ratio V_{H_2O}/V_{total}.

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Measurement of Reactor Parameters I. H/008/60/000/010-11/001/003
B009/B057

A Table lists values of the multiplication factor k_∞ and of $\tau_{1.46ev}$ as functions of V_{H_2O}/V_U. In reality, the length of slowing down to thermal energy, $\tau_{0.025ev}$ is required, for which the migration length must be known. 2) Measurement of the migration length in water-uranium systems: Two methods are employed: a) boron-poisoning: Graphs of the functions $B^2(f)$ and $B^2(\ln f)$ are plotted in Fig. 2 and 3, respectively, where B^2 is the geometric buckling, f the thermal efficiency, and M^2 the square of migration length. b) The (U^{235}) "enrichment method": Values of M^2 and k_∞ are expressed from both the one-group and the age equation, and are tabulated against V_{H_2O}/V_U. Application of the one-group theory along with the enrichment method did not yield values equivalent to those attained by method a). c) Measurement of the migration length along with adjustment of the water column in the moderator: At every height of water, the rate of the change of reactivity $\partial\rho/\partial h$ was measured (Fig. 4), from which the relation M^2/k_∞ was derived. From the criticality condition $k_\infty = M^2B_c^2$, values of M^2 and k_∞ were computed and tabulated. Results of

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Measurement of Reactor Parameters I.

H/008/60/000/010-11/001/003
B009/B057

the different measurements are plotted in Fig. 5. Summing up: The value of the slowing-down length found under 1), $\tau_{1.46ev}$, is 1-2 cm^2 less than the length of slowing down to thermal energy, $\tau_{0.025ev}$. These results are inconsistent with the results of measurement of the migration length. The multiplication of epithermal neutrons does not explain this, because its influence is small according to the measurements. The differences are rather due to the poor slowing-down power of substances present in the grid structure. It may be due also to the questionability of precise determination of M^2 from the criticality equation. There are 5 figures, 4 tables, and 5 non-Soviet references: 3 Hungarian, 1 Dutch, and 1 Swiss.

ASSOCIATION: Központi Fizikai Kutató Intézet (Central Research Institute of Physics)

Card 3/3

87429
H/008/61/014/001/004/005
B009/B057

26.2241

AUTHOR: Bata, Lajos

TITLE: Measurement of Reactor Parameters II.

PERIODICAL: Energia és Atomtechnika, 1961, Vol. 14, No. 1, pp. 32-39

TEXT: This is the second of a series of articles, the first of which bore the subtitle: Measurement of the Slowing-down and of the Migration Lengths of Heterogeneous Systems. The present article begins by dealing with the measurement of the infinite multiplication factor k_∞ and aims at pointing out the difficulties of measurement and of calculation. The fine-structure flux distribution measured in the BBPC (VVRS) (water-cooled, water-moderated Soviet reactor) is presented. Under thermal utilization factor (f) the ratio of neutrons absorbed in the fuel elements (or in the fissionable material of the system) and of the neutrons absorbed in the entire reactor is understood. By the integration method, the average neutron flux is measured in the desired area with a detector foil whose diameter equals that of the uranium rod. The use of detector foils con-

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taining U^{235} is expedient because its activity Σ_a^{235} is proportional to the thermal neutron flux Φ. In the formula deduced for f, the only quantity to be measured is the ratio of the activities measured in the moderator and in the uranium rod respectively (A). By the differential method, the thermal utilization factor is measured with small foils both in the moderator and the uranium rod against the distance from the middle of the uranium rod. The points measured are superimposed on the analytical form of flux obtained by the diffusion theory. In the case of homogeneous reactors, by measuring the cadmium ratio (CR) at one point, the thermal utilization factor is easily obtained from the formula $f = 1-\Sigma_a^m/C(CR)$. In heterogeneous systems, this method is complicated. Recently the integration and differential methods have been applied, and the moderator and fuel effective cross-sections are determined by other means. The integration method is preferable for low water-uranium ratios and where the diameter of the uranium rods is small. The differential method gives more information on actual flux relations. Summarized measurement results are graphed without indication whether these are the author's experiments. While the thermal utilization factor can be

estimated with fair approximation with the aid of the diffusion theory, this method is inapplicable to the description of the fine-structure flux, and the diffusion equation of first order requires correction. Measurements in water-uranium and heavy water-uranium systems show fair agreement with calculations. The fine-structure flux was measured in the SR-1 (self regulating) subcritical system composed of fuel elements of the BBPC (VVRS) reactor and are graphed in Fig. 9. There are 9 figures and 4 non-Soviet references.

ASSOCIATION: Scientific worker of Központi Fizikai Kutató Intézet (Central Research Institute of Physics)

X

BATA, Lajos

Measuring reactor-parameters.II. Energia es atom 14 no.1:32-39 Ja '61.

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AUTHORS: Bata, Lajos and Vértes, Péter (see Association)

TITLE: Measurement of reactor parameters III

PERIODICAL: Energia és Atomtechnika, v. 14, no. 6, 1961, 274 - 283

TEXT: This is the third of a series of articles (Bata Lajos: Energia és Atomtechnika, v. 13, no. 10 - 11, 490 - 495, 1960; v. 14, no. 1, 32 - 39, 1961) published by the authors. The subject of this paper is the determination of critical reactor dimensions by the 1) start-up and by the 2) exponential experiment. 1) For the authors, the start-up experiment was of greater importance. This consists of the measurement of multiplication and is suited for small-size, water-solution enriched reactors. The reactor of the Central Physical Research Institute of the type VVPC (VVRS) supplied by the Soviet Union, is of such water-cooled, water-moderated, water-reflected, enriched-fuel type. The authors built up a sub-critical system and placed a thermal plane source (Cd) of $5 \cdot 10^6$ neutrons/sec strength in the middle of it to serve as a negative source. Keeping the prescribed fuel:moderator ratio, they placed the clusters of fuel elements into the prearranged grid until the critical level was approached.

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Neutrons of the primary source undergo multiplication, and the neutron flux increases at every point. The ratio of the flux produced by fission and of that due to the primary source is called local multiplication. The reciprocal of this value versus the number of clusters is graphed, and the curve becomes zero at number 22.5 ± 0.5; the system becomes here critical. The corresponding mass is $2816 < m_{crit} < 2944$ g of U^{235}. The authors operated their system on subcritical level and measured the flux in horizontal direction. The reflector very much increases the thermal neutron flux at the borders of the active zone and even produces a local maximum. The resonance flux distribution follows the same law. 2) The multiplicating system built for the exponential experiment is a reduced copy of the projected nuclear reactor of identical composition, construction and grid spacing, but it is subcritical and not capable of self-sustaining chain reaction. Of spare fuel elements of the VVRS-reactor, a subcritical system of 28·28 cm base was built up. Steady state was assured by four neutron sources of 0.1 - 0.5 c strength each. The system was water-reflected and water-moderated. Therefore, it was expedient to adopt the method of a negative plane source in the form of small cadmium tablets placed directly beneath the system. The material buckling (B_m) of the

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nuclear reactor was to be determined from the measurement of the flux distribution. The geometrical buckling (B_g) of the critical reactor $B_g = B_m$. From flux measurement in x direction, the reflector saving (δ) was found to be 7 cm, and the material buckling $B_m^2 = 0.0100 \pm 0.0005$ cm^{-2} against that of $B_M^2 = 0.0111 \pm 0.0027$ cm^{-2} found by the multiplication method The application of the method used in exponential experiments to water-solution enriched systems is associated with numerous problems, and there may be doubt even about the correctness of the basic equation. Therefore, the authors dealt with the problem more exactly with the aid of the two-group diffusion equation. The cylindrical, reflected subcritical system with a thermal plane source at the base was first investigated. The source assures steady flux distribution, satisfying within the system the same equations as in the case of criticality. The authors write down these equations and their solutions on the lines developed by A. M. Weinberg and E. P. Wigner. From a numerical example, they draw the conclusions: The linear reflector saving does not depend much on B_o^2. For the latter, more precise values are obtained in the case of a slight thermal

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