RAT', A.A., insh.

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

(Steel—Fatigue)

		Vibration strength of welded beams made of six different grade steels. Avtom. svar. 14 no.1:13-16 Ja '61. (MIRA 14:1)							
		l. Inst	itut "Pro (Girders-	yektstal'k -Testing)	onstruktsi (!	ya". SteelWelding)	•		
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BRAUDE, Z.I., insh.; BAT', A.A., kand.tekhn.nauk

The lessons of an accident. Prom. stroi. 39 no.3:45-48 '61.

(MRA 14:4)

(Steel, Structural) (Karaganda—Metallurgical plants)

8/137/62/000/001/081/237 A052/A101

AUTHORS:

Bat', A.A., Gladahteyn, L.I.

TITLE:

Plastic deformations at the cold rolling of sheet steel

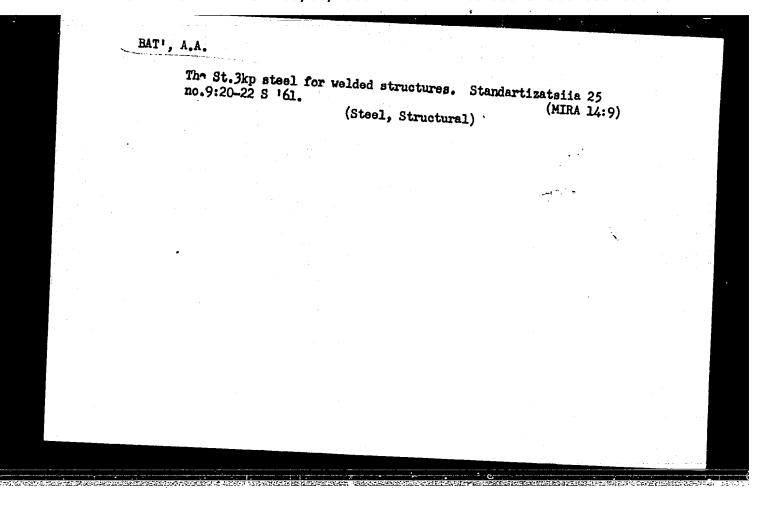
PERIODICAL;

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

mess 6 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-tive and negative temperatures and also for constructions working under static loads at positive and negative temperatures could be bent in a cold state on rolls with the radius >125. At that the residual plastic deformation makes up 125. 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

[Abstracter's note: Complete translation]
Card 1/1

N. Yudina



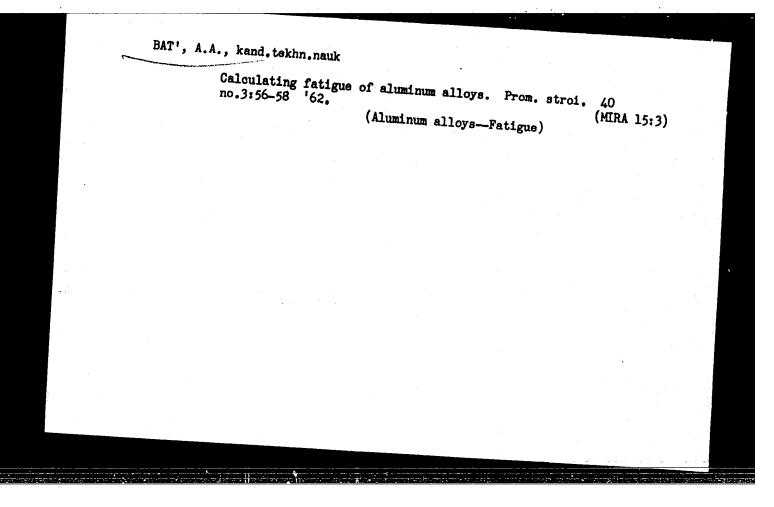
•	S/028/62/000/003/004/005 D217/D302	
AUTHORS:	Timoshuk, L.T. and Bat', A.A.	
TITLE:	Recommendations for the mechanical methods of metal testing	10
	WOART CONCINE	
PERIODICAL: TEXT: At a	Standartizatsiya, no. 3, 1962, 29-31	
TEXT: At a testing the held in Mosc these method tion was on the unification.	Standartizatsiya, no. 3, 1962, 29-31  conference for the coordination of the study of methods of strength of metals and compounds used in metal structures, ow, in 1961, recommendations were made for unification of and for treating experimental data. The first recommendations of test specimens, the second was on on of conditions of gripping specimens in the tensile test the third, on the refinement of methods of interpreting the	19
TEXT: At a testing the held in Mosc these method tion was on the unification.	Standartizatsiya, no. 3, 1962, 29-31 conference for the coordination of the study of methods of strength of metals and compounds used in metal structures, ow, in 1961, recommendations were made for unification of and for treating experimental data. The first recommendations where shape and dimensions of test specimens, the second was on	19
TEXT: At a testing the held in Mosc these method tion was on the unification.	Standartizatsiya, no. 3, 1962, 29-31 conference for the coordination of the study of methods of strength of metals and compounds used in metal structures, ow, in 1961, recommendations were made for unification of and for treating experimental data. The first recommendations where shape and dimensions of test specimens, the second was on	19

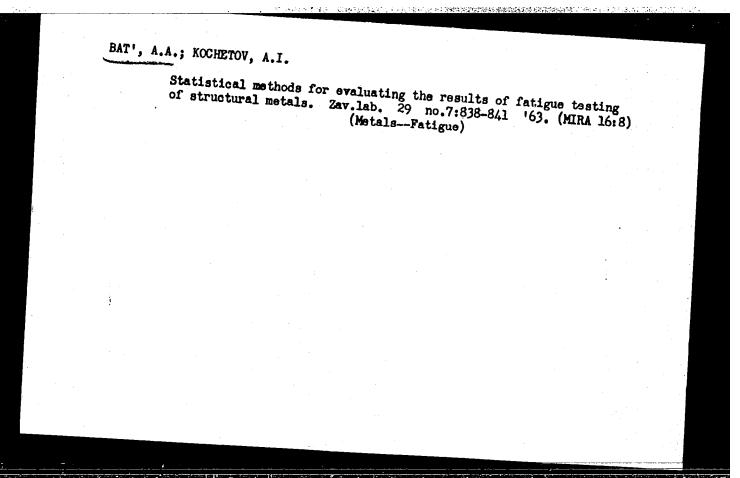
# BAT', A.A.; TIMOSHUK, L.T.

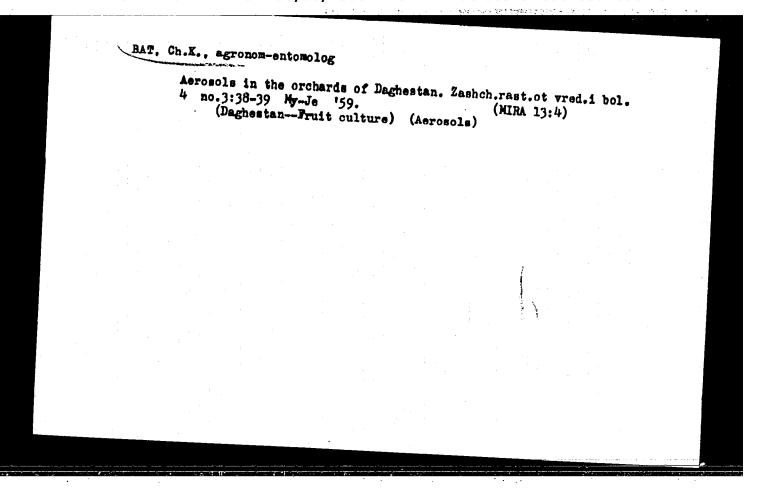
Conference on the strength of metal and joints in metal constructions. Zav.lab. 28 no.3:388-390 '62. (MIRA 15:4)

1. TSentral'ny, nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy i TSentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii imeni I.P.Bardina.

(Metals-Testing)







BAT, J.

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

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

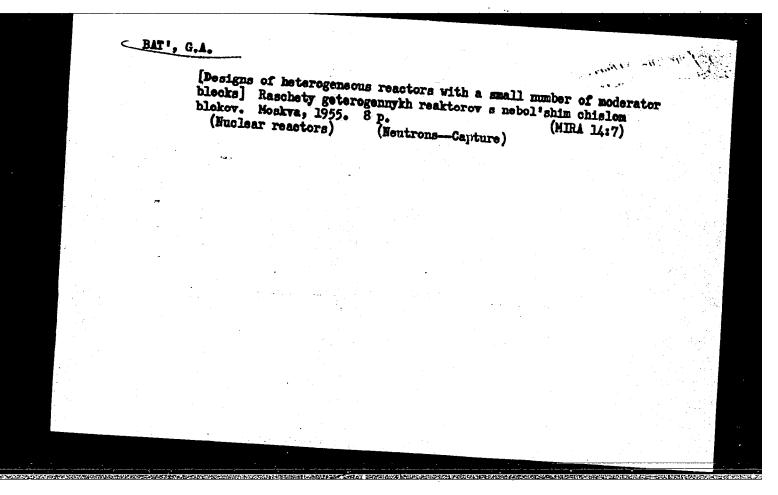
Monthly List of East European Accessions, (EEAI) LC, Vol. 9, no. 2, Uncl.

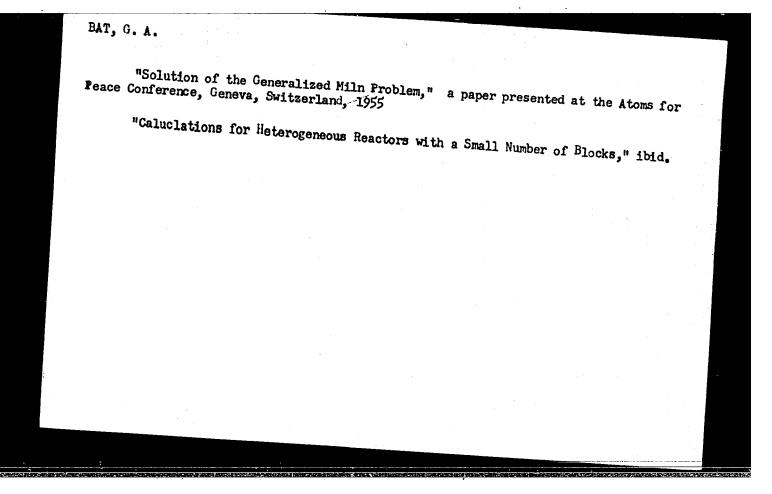
BAT, J.

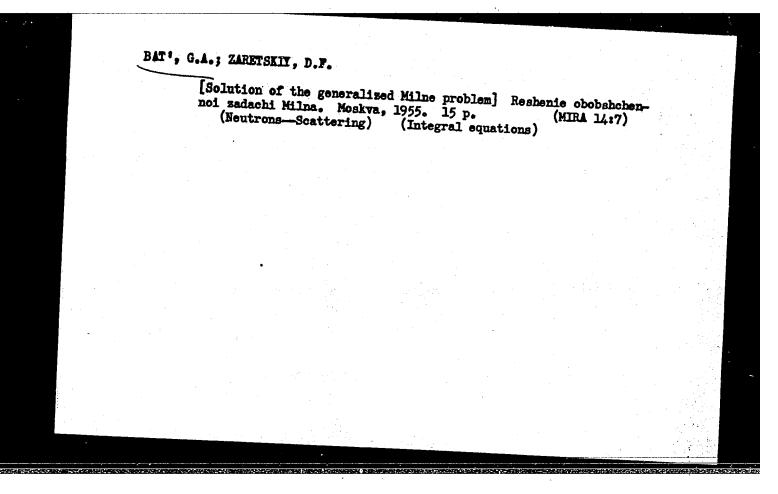
New methods of metalworking for shaping bearing inserts.

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







H & THJ

UTHOR

KORYAKIN Yu.I., BAT' G.A.

PERIODICAL

On Pepular Scientific Publications Concerning Nuclear Energy. (O nauchne-pepulyarney literature pe atemney energii -Russian) Atemnaia Energiia, 1957, Vel 2, Nr 5, pp 487-49e (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 Seviet Union, but there are only very few beeks that are at the same time pepular, 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 cencise manner, and also the illustrations are well chesen. A pamphlet by A.TRIFONOV "Atemic Energy for the Use of Man" is of the character of an eye-witness account. The reader, tegether with the author, undertakes an interesting excursion through a number of physical laboratories.

Another publication, by P.T.ASTASHENKOV, describes the constnction and the eperation of nuclear reactors and their auxiliary devices. The beek 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 pepular publications proper, but is rather for the use of readers pessessing some physical knowledge.

Card 1/2

On Pepular Scientific Publications Concerning Nuclear Energy.

89-5-22/22

Hewever, the everwhelming majerity 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", "Moskevskiy 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 Card 2/2

Library of Congress

AUTHORS:

Bat', G.A., Kudrin, L.P.

89-7-3/32

TITLE:

1711 1

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

PERIODICAL:

Atomaya Energiya, 1957, Vol. 3, Nr 7, pp. 15-22 (USSE)

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  $\epsilon_{_{\mathbf{0}}}$  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  $\chi(\alpha) = 1 + k \cos^2 \alpha$ ,  $k = k(\varepsilon_0)$ . Here  $\varepsilon_0$  denotes the energy of the

Card 1/2

On the Angular Distributions and the Energy Distributions of Fission Neutrons

89-7-3/32

inciding neutron and  $\alpha$  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  $\varepsilon_0$  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
- Fission neutrons Energy Mathematical analysis
   Fission neutrons Scattering Mathematical analysis

Card 2/2

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 (Surrey) (Effektivnyye granichnyye usloviya v teorii difficii neytronov (Obsor))

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 wacuum 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

The Effective Boundary Value Conditions in the Diffusion Theory of Neutrons

SOV/89-4-6-2/30

- a) The balance method developed by Brudno (1951)
- b) The variation method developed by Zaretskiy (Ref 6)
- o) The method of spherical harmonics by Galanin
- d) Solution of Peierl's (Payerl's) equations for great and small ro 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

Card 2/2

BAT', G. A.; MUKHINA, 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.

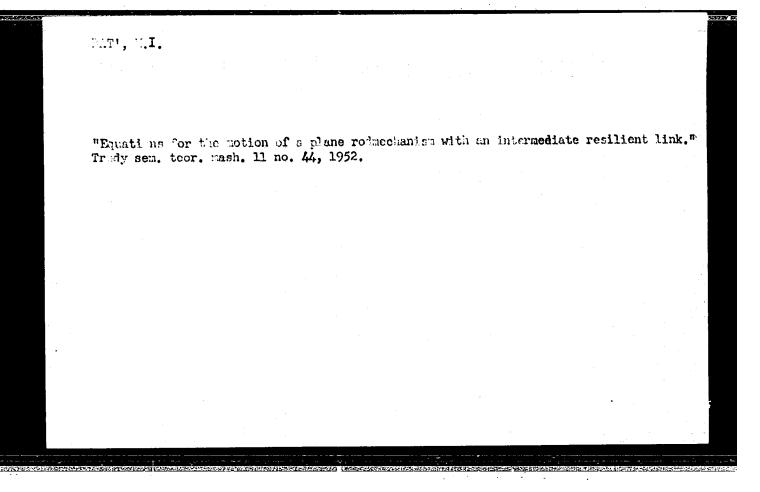
1. Przedsiebiorstwo Projektow i Dostaw Inwestycyjnych, Warszawa.

### BAT, Jakub

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

1. Bepes, Warszawa.

Hathematical Reviews
Vol. 15 No. 3
March 1954
Machanics



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;

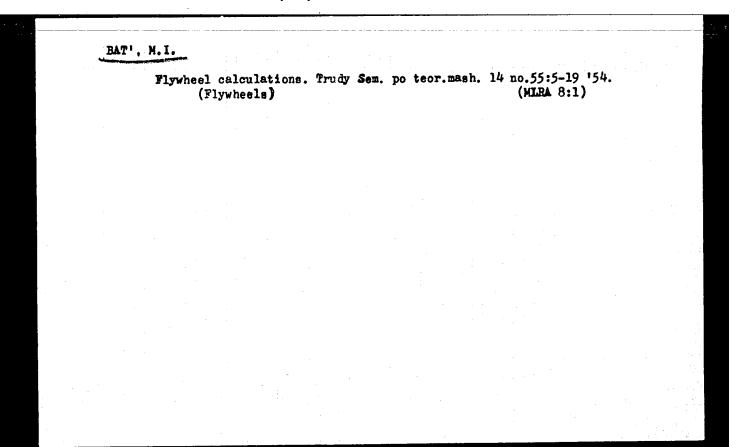
KEN'ZON Knätčliy Saulovich; MARKUZON, I.A., red.;

SHKLYAR, S.Ya., tehkn. red.

[Theoretical mechanics in examples and problems] Teoreticheskaia mekhanika v primerakh i zadachakh. Izd.2., ispr.

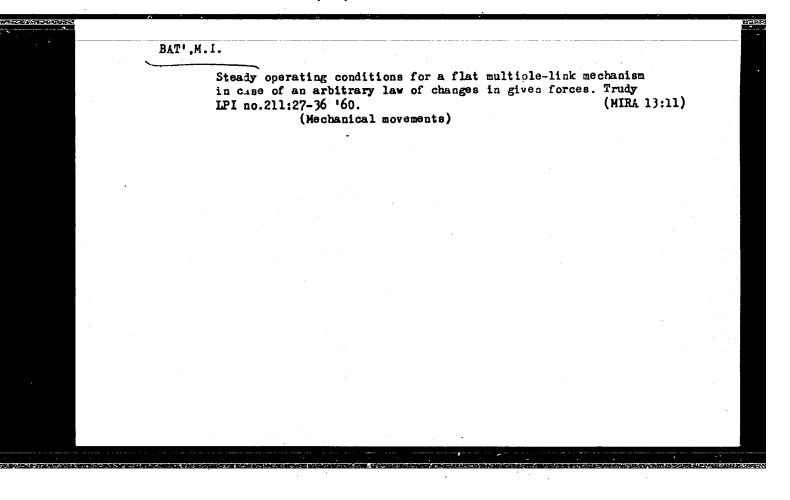
Moskva, Fizmatgiz. Vol.1.[Statics and kinematics] Statika
i kinematika. 1963. 483 p. (MIRA 16:12)

(Statics) (Kinematics)



BAT! Moisey Legifovich: KEL'ZON, Anatoliy Saulovich; SOROKOV, Solemon Abramovich; Levantovskiy, V.I., red.; AKHLAMOV, S.W., tekhn.red.

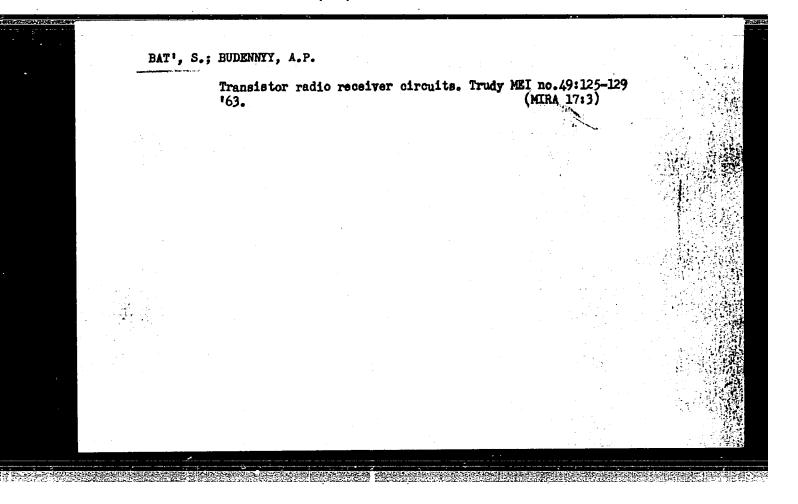
[Cellection of problems in theoretical mechanics; for technical schools] Sbornik sadach po teoreticheskoi mekhanike; dlia tekhnikumev. Pod red. A.S.Kel'sona. Moskva, Gos.isd-ve fisike-matem.lit-ry, 1958. 320 p. (MIRA 12:2) (Mechanics--Problems, exercises, etc.)



BAT', Moisey Iosifovich; DZHANELIDZE, Georgiy Yustinovich; KEL'ZON, Anatoliy Seulovich; 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.Dshanelidse. 1961. 472 p. (MIRA 14:8) (Statics)

	Some data on coge nauki no.3:35-38	nesis in eels. 1	Wauch. dokl.	vys. shkoly; (MIRA 15:7)	biol.	
	1. Rekomendovana instituta.	kafedroy rybovoo	istva Kalini	ngradskogo ry	onogo	
		(RELS) (OOGI	enesis)			
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BUDENNYY, A., inzh.; BAT¹, 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, T. 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)

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 undermeath 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

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

Experimental industrial vnit ...

5.0 tons by adjusting the springs. Below the drawing stand there is the gascutting 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)

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

1. 61026-65 EMT(m)/EMP(w)/EMP(1)/EPF(n)-2/EMG(m)/EWA(d)/T/EMP(t)/EMP(b) P8-4/Pu-4
IJP(c) JD/JG

ACCESSION NR: AR5017425 UR/

UR/0137/65/000/006/D006/D005

SOURCE: Ref. zh. Metallurgiya, Abs. 6039

AUTHOR: Mal'tsey, 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

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

	L 61026-65 ACCESSION NR: AR50174	25				
	pressure is only slightly dependent on temperature in the interval investigated.  A. Leont'yev					
	SUB CODE: MM	ENCL: 90				
	Rolling in vacuum		singulgi 44 si igungsanan vastidan mart in 17 me titangga digisi digisi digitanangan melapakan			
_	Au m/   Card 2/2	, .				

DOIZHENKOV, F.Ye., KRIVONOSOV, Yu.I., PIRYAZEV, D.1., BAT', Yu.I., VOLCHEK, F.R.

Obtaining bimetal joints by rolling in vacuum. Sbor.trud.
UNIIM no.ll:183-196 \*65.

(MIRA 18:11)

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

CC NR: AR6009956	OURCE CODE: UR/0137/65/000/012/D009/D010
UTHOR: Dolzhenkov, F. Ye.; Kı	rivonosov, Y. I.; Piryazev, D. I.; Bat', Yu. I.; Volchek,
. R.	
ITLE: Production of bimetal con	apounds by vacua \ rolling 47
OURCE: Ref. zh. Metallurgiya,	Abs. 12D75 ${\cal B}$
	in-t metallov, vyp. 1, 1965, 183-196
OPIC TAGS: bimetal, metal roll	ing, titanium, low ce rbon steel
BSTRACT: The optimal tempera	ture for commencing he vacuum rolling (R) of Ti-steel
imetal is 1000°C. At higher tempe	pratures liquid phase hay form. It is desirable to terminate mperature leads to a harp rise in specific pressures as $\eta$
rell as to the occurrence of consid	lerable internal stres es in the bimetal layers. A nigh U
ontent of steel Adversely affects t	he cohesion to Ti, at , ence it is desirable to use a steel
vith a lower C bontent as the base	-layer Me. Reduction in R temperature and increase in re-
uction of area contribute to the de	ecrease of the transit on zone of the steel-Ti bimetal. During with the P-plates politioned outermost, the difference in
t of two-tayer and sandwich packs	10
- 1/2	UDC: 621, 771, 001
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# "APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203920007-8

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ACC NR. AP603592	24	SOURCE CODE: UR/04	113/66/000/020/0184/0185	
INVENTOR: Krivor Volchek, F. R.	nosov, Yu. I.; Zakhar	cov, L. A.; Dolzhenkov, l	F. Ye.; Bat', Yu. I.;	
ORG: none				
TITLE: Method of	f manufacture composi	te metal articles. Clas	ss 49, No. 187496	
SOURCE: Izobrete	eniya, promyshlennyye	e obraztsy, tovarnyye zna	aki, no. 20, 1966, 184-185	
TOPIC TAGS: comp	posite metal, <del>clademe</del> MATERIAL	tal composite metal proc	INCLINE METAL ROLLING	
metal articles ac facture of large	cording to Author Ce articles, vacuum rol	ertificate No. 111925. T Lling of the pack is done	only to obtain a	
sufficient bondir air.	ng with a reduction o	of 5-15%. The rest of t	the rolling is done in	
SUB CODE: 13/ S	SUBM DATE: 18Ju163/			
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Card 1/1	. ;	UDC: 621.771.8-419	0.5	] ·
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# BAT GENSHTEYN, I.S.

The problem of synovious. Thirurgits 33 no.4:151-152 Ap '57.

(MLRA 10:7)

1. Is khirurgicheskogo otdeleniya oblastnogo onkologicheskogo dispansera g.Molotova.

(SYMOVICMA, in inf. and child femur)

(FEMUR, neoplasms
synovicma 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 IN K. A. TIMIRYAZEV). (KL, 3-61, 224).

313

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

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; DINITRIJEVIC, 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 Speske akad, nauka, odelj. med. no.8:31-52 1953.

1. Institut sa 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. examguination & 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. exanguination in hypothermia in dogs)

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

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

 Institut sa patolosku fisiologiju 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)

. Shypothermia, exper., eff. on blood picture & biochem. changes after exanguination & consecutive blood transfusion in rats) (HEMERHAGE, 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 rate)

#### BATA, A.

Galcium, 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)

(GALGIUM, 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)

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

Turoslavia COUNTRY General Problems of Pathology.

Allergy. CATEGORY

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

Sahovie, K.; Bata, A. SOHTUA

ILIST. Anaphylactic Shock in Guinea Figs Under Conditions of Intense Exhaustion. TITLE

. Arhiv bicl.nauka,1954,6,No.3,4,193-169 ORIG. PUB.

. Intense physical exhaustion was produced in ABSTRACT guines pigs sensitized with horse serum. Anaphylactic shock (AS) in such animals developed weakly, not one guinea pig per-ished. A S failed to develop following sec-

ondary 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.mauka, 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)

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

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

Utilisation of glucose by individual organs in various stages of hypothermia. Glas Srpeke akad. nauka, odélj. med. 217 no. 10:29-50 1956.

1. Institut sa medicinska instrasivanja Srpske akademije nauka. Odeljenje sa klinicku i eksperimentalnu patologiju i Institut sa patolosku fisiologiju 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 guineapigs 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 sa patolsku fisiologiju
Medicinskog fakulteta u Beogradu.

(IMMUNE SERUMS, effects,
horse serum on pleura & peritoneum of sensitised guinea
pigs (Ser))

(PLEURA, effect of drugs on,
horse serum in sensitised guinea pigs (Ser))

(PERITONEUM, effect of drugs on,
same)

# BATA, A.; KRZALIC, Leiljana

Chromatographic determination of the amino acid concentration in the blood serum after intravenous administration in dogs. Glas. srpske akad. nauk. [Med] no.15:9-17 160.

(AMINO ACIDS blood)

2

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. sypske akad. nauk. [Med] no.15:43-49 160.

(LIPIDS nutrition and diets)

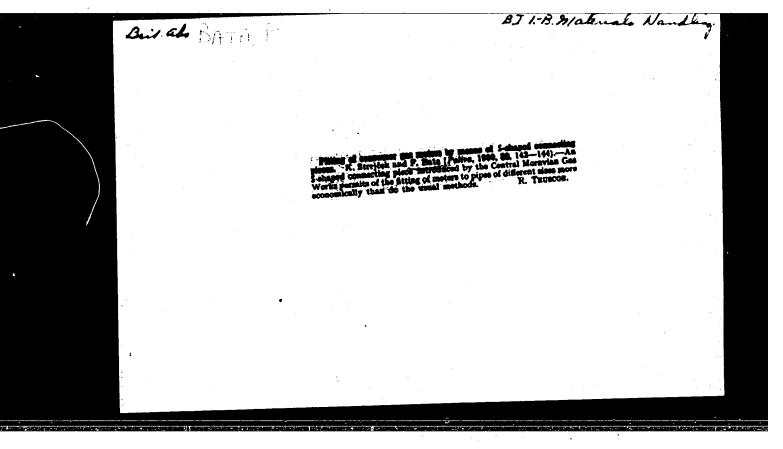
APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000203920007-8"

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.257:213-223 164.

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

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



BATA, G

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

BEIGRADE 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 De-

partment

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

Card 1/5

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

110.0 m canal used for calibrating hydraulic currentmeters, 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

Card 2/5

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 47, 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),

Card 3/5

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

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

Card 4/5

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)

l. 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).

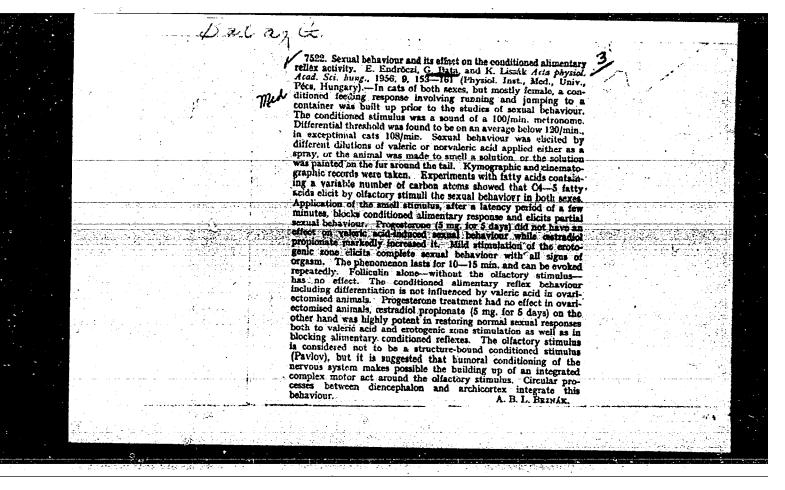
Chemical Thermoregulation of "The Importance of Skin Temperature in Hypothermic, Immature Infants.

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

Abstract: [Authors! Hungarian summary] The changes in and relationship between 02 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.

- 39 -

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



MARTIN, J.; BATA, G.; MNROCZI, R.; MOLL, A.

Utilization of cortisons and hydrocortisons 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. (CORTISOME, metab.

comparison with hydrocortisons metab. in various tissues in vivo & in vitro.)
(HYDROCORTISONS, 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 Intesete,

(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 anygdalic nuclei on the secretion of adrenal cortical hormones. Acta physicl. 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 normone secretion in exper. animals)
(ADRENAL CORTEX, physicl.

eff. of removal of amygdaloid nuclei on hormone secretion in exper. animals)

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

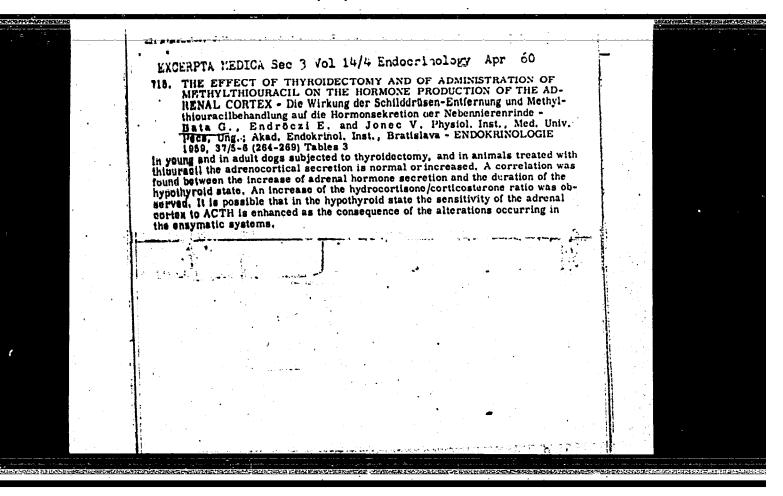
Data on adrenal function in thyrotoxicosis. Magy.belorv.arch. 12 no.5:136-139 0 '59.

1. A Pecsi Orvostudomanyi Egyetem I. Belklinikaja (igazgato:
Angyan Janos, egyetemi tanar) es Elettani Interete (igazgato:
Lissak Kalman akademikus) kozlemenye.

(HYPERTHYROIDISM physiol)

(ADHENAL CORTEX funct tests)

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



KEMPEL 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.

\*

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

L 16914-65 EWG(j)/EWT(w)/EFF(c)/EFR/EWF(j)/EWF(t)/EWF(b) IJP(c) JD/HW/JO/RM ACCESSION NR: AP4047836 S/0195/64/005/005/0842/0848 AUTHOR: Bata, I.; Shol'moshi, P.; Sabo, Z. G. TITLE: The effect of the formation of spinels on the catalytic 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-

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

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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 chromium oxides was then studied as a function of the surface of nickel and 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 I

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

SUBMITTED: 230ct62

ENCL: 00

SUB CODE: MM. IC

Card 2/2

NO REF SOV: OOD

OTHER: OF

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

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  $\pm$  0.009 cm, and for the slowing-down length, referred to the thermal energy, IS = 7.93 ± 0.08 cm. The relaxation length in water for a Po-Be source of neutrons

is  $\lambda (E_0) = 11.16 \pm 0.01$  cm.

Card 1/1

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 Euopean 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

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

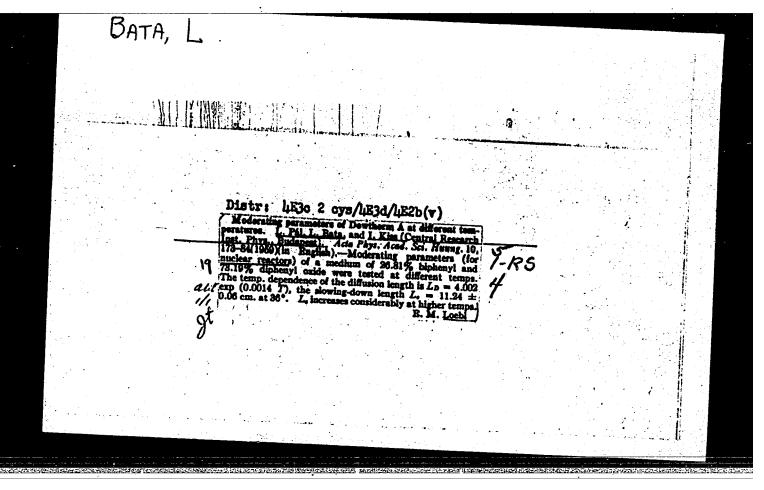
BATA, L.; ADAM, A.

Measuring diffusion and slowing length in water, p. 669

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

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

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



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

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. (EEAI 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 Muclear 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 No 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

Card 1/2

W

The Measurement of Neutron Flux in Nuclear Reactors

81758 H/008/60/013/07/07/009 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 +  $\beta$ Absolute flux is measured in  $\beta$ - $\gamma$  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 3.108n/cm²sec, 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 Kutatô 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,  $\tau_{\rm exp.}$ , and of its corrected value  $\tau_{\rm corr.}$  (excluding the multiplication of epithermal neutrons) are plotted in diagrams versus the volume ratio  $v_{\rm H_2O}/v_{\rm total}$ .

Card 1/3

Measurement of Reactor Parameters I.

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

A Table lists values of the multiplication factor  $k_{\infty}$  and of  $\tau_{1.46\text{ev}}$  functions of  $V_{\text{H}_20}/V_{\text{U}}$ . In reality, the length of slowing down to thermal energy,  $\tau_{0.025\text{ev}}$  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  $k_{\infty}$  are expressed from both the one-group and the age equation, and are tabulated against  $V_{\text{H}_20}/V_{\text{U}}$ . 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 charge of reactivity  $0 \in /0$  h was measured (Fig. 4), from which the relation  $M^2/k_{\infty}$  was derived. From the criticality condition  $k_{\infty} = M^2 B_c^2$ , values of  $M^2$  and  $k_{\infty}$  were computed and tabulated. Results of Card 2/3

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), 71.46ev, is 1-2 cm2 less than the length of slowing down to thermal energy, 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 M2 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

Card 3/3

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

16.2241 AUTHOR:

Bata, Lajos

TITLE:

Measurement of Reactor Parameters II.

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

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 koo 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  $\Sigma_a^{235}$  is proportional to the thermal neutron flux  $\Phi$ . 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

 $1-\sum_{a}^{m}/C(CR)$ . 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

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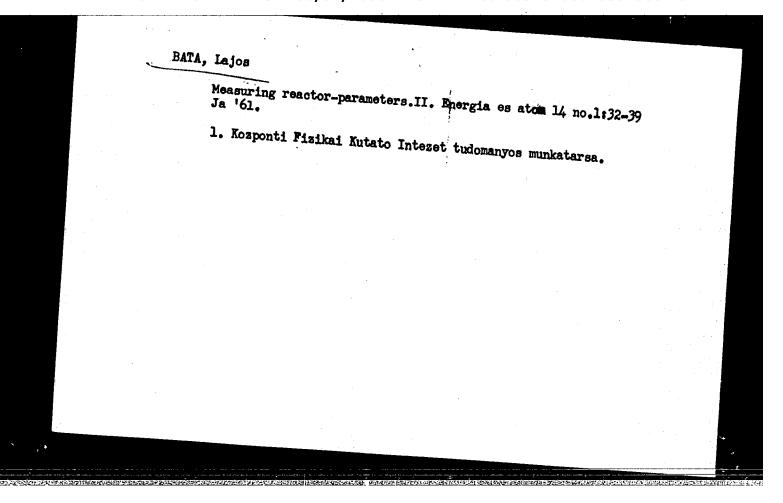
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estimated with fair approximation with the aid of the diffusion theory, this method is inapplicable to the description of the fine-structure flux, and the diffusion equation of first order requires correction. Measurements in water-uranium and heavy 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

ASSOCIATION:

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

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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 &s 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 deterexponential experiment. 1) For the authors, the start-up and by the 2) of greater importance. This consists of the measurement of multiplication and is suited for small-size, water-solution enriched reactors. The supplied by the Soviet Union, is of such water-cooled, water-moderated, system and placed a thermal plane source (Cd) of 5·10° neutrons/sec prescribed fuel:moderator ratio, they placed the clusters of fuel elements card 1/4

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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 U235. 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 Card 2/4

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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 (8) was found to be 7 cm, and the material buckling  $B_m^2 = 0.0100\pm0.0005$  cm<sup>-2</sup> against that of  $B_M^2 = 0.0111\pm0.0027$  cm<sup>-2</sup> found by the multiplication method The application of the method used in exponential experiments to watersolution 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 twogroup 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  $B_0^2$ . For the latter, more precise values are obtained in the case of a slight thermal Card 3/4