L 22591-65
ACCESSION NR:  AP4046782

are presented with special attention given to recording, signaling,
and the transmission control systems.  The use of complex functional
and specialized training devices, including those which could be used
for spaceships, is discussed with the aim of maintaining the
skills of cosmonauts over the long period in flight time such that
spaceflights would entail.  Orig. art. has  2 figures and

ASSOCIATION:  none

SUBMITTED:  28Feb64          ENCL:  00          SUB CODE:  PH, LS

NR REF SOV:  006             OTHER:  003

Card 2/2

ACCESSION NR: AT4037695                          8/2865/64/003/000/0245/0249

AUTHOR: Kuz'minov, A. P.; Onishchenko, V. F.; Sil'vestrov, M. M.

TITLE: Retention of habits for transmitting information under conditions of prolonged isolation

SOURCE: AN SSSR. Otdeleniye biologicheskikh nauk. Problemy* kosmicheskoy biologii, v. 3, 1964, 245-249

TOPIC TAGS: isolation, emotional stress, manned space flight

ABSTRACT: Experiments have been conducted to study the effects of prolonged isolation on the ability of man to perform habitual tasks involving the transmission of information. Data from five experiments on prolonged isolation indicate that during the first day, performance in the habitual transmission of information decreases both qualitatively and quantitatively. Adaptation tc conditions of isolation usually takes place on the second or third day; performance improves, but does not reach the initial level. The average number of errors for a well-trained operator is higher under isolation conditions than under normal circumstances. The character and degree of emotional strain has been shown to vary with the individual peculiarities of each subject studied.

Card 1/2

ACCESSION NR: AT4037695

ASSOCIATION: none

SUBMITTED: 00                    ENCL: 00              SUB CODE: PH, LS

NO REF SOV: 006                  OTHER: 005

Card   2/2

L 14267-66   EWT(1)/FS(v)-3   SCTB   DD/RD

ACC NR:   AT6003834                    SOURCE CODE:   UR/2865/65/004/000/0003/0009

AUTHOR:  Gurovskiy, N. N.; Denisov, V. G.; Kuz'minov, A. P.; Sil'vestrov, M. M.

ORG:  none

TITLE:  Training devices for preparing cosmonauts for occupational activity in controlling spacecraft and their systems

SOURCE:  AN SSSR. Otdeleniye biologicheskikh nauk. Problemy kosmicheskoy biologii, v. 4, 1965, 3-9

TOPIC TAGS:  cosmonaut training, space flight simulation, manned spacecraft, space physiology, spacecraft navigation, spacecraft control, space environment simulation, training equipment, spacecraft capsule

ABSTRACT:  Training craft such as are used for actual flight schooling of aviators do not exist for training cosmonauts.  Reliance must therefore be place on ground trainers, which must be able to simulate the conditions and factors of normal and emergency spaceflight situations and model the operation of space-craft systems and the dynamics of flight.
     A great variety of training devices are used.  The general characteristics of such devices must be based on time and motion studies of cosmonaut

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ACC NR: AT6003834

activities, operation of various systems, definition of training objectives,
and analysis of training programs and effectiveness of training devices.
     All training devices fall into one of three groups: 1) those for physio-
logical training to increase resistance or adaptation to extremal flight
factors; 2) those for occupational training in flight operations; and 3) those
which combine physiological with occupational training. The present article
discusses various types of devices designed to provide training in space-
craft piloting and systems control.
     Depending on the number of systems, flight stages, and flight tasks to.
be modeled, trainers may be classed as 1) universal, 2) complex, 3) spe-
cialized, or 4) functional.
     Universal trainers (which may be dynamic or static) are complex devices
which may be adjusted to simulate the characteristics of existing or projected
spacecraft. The most important elements of a universal trainer are a cabin
mockup, computer, instructor's control panel, night sky and earth simu-
lators, program device, and recording apparatus. The cabin mockup may
be designed to simulate flight conditions (temperature, noise, vibration,
atmospheric gas composition, pressure, humidity, and convection) on the
spacecraft.

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ACC NR:  AT6003834

Complex trainers are designed to train all crew members in the details of their activities on a given type of ship at all stages of flight. The complex trainer used for Vostok pilots includes training for flight and for using systems monitoring manual attitude control, for Earth-ship communications, systems control, manual deorbiting procedures, and for various types of emergencies. All on-board equipment was simulated; the mockup cabin was identical with that of the actual ship. Such details as the alternation of day and night in orbital flight were reproduced. Training problems were imposed from the instructor's control panel outside the trainer. All phases of normal flight and emergencies in every flight stage were simulated on the Vostok trainer. The construction of complex trainers for multiman inter-planetary and orbital spacecraft crews and pilots of orbital aircraft (rocket planes) is envisioned.

Specialized trainers are those designed to provide training in specific flight tasks or activities or the use of control equipment for specific maneuvers. Examples are devices for training cosmonauts in attitude control, navigation, changing orbits, rendezvous and docking operations, assembly and repair of space stations or spacecraft while in orbit, getting an inter-

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ACC NR: AT6003834

planetary vessel under way from a space station, and so on. Specialized trainers model only those systems and information sources entering into the performance of a specific flight task. A specialized trainer was used to prepare the crew of Voskhod-2 for EVA. Consisting of a cabin mockup with an airlock, which was placed in a vacuum chamber, it enabled Leonov and Belyayev to rehearse every detail of the EVA until it was second nature. Another example of a specialized trainer is the airlock flown on parabolic trajectories to provide training in egress and ingress procedures during weightlessness. Training devices carried on long spaceflights to keep space pilots from getting rusty in landing procedures are also classed as specialized trainers. On-board trainers are designed to make use of existing indicators, signals, manual controls, and the on-board computer.

Functional trainers are designed to provide practice in motor habits or other functional capacities utilized during more complex flight operations, e.g., tracking, concentration, perception, and other basic skills. It models only what is required to increase human functional capacity in one or another respect. Functional trainers are simple, cheap, and efficient. They are, therefore, well suited to types of training requiring many hours to establish

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ACC NR: AT6003834

or perfect the required habit patterns.
     Theoretically it would be possible to build a combined trainer which
would combine all the modeling capabilities of universal, complex, and
specialized trainers, but this would be a prohibitively expensive proposition,
and at present it is considered neither desirable nor necessary to do so.
Universal-type trainers, which also attempt to model too wide a variety of
characteristics and conditions, are unwieldy and inefficient.
     The authors conclude that since cosmonauts are trained for specific ships
and specific tasks on a given ship, three types of trainers are necessary and
sufficient: complex, specialized, and functional. [ATD PRESS: 4091-F]

SUB CODE: 05, 22 / SUBM DATE: none / OTH REF: 001

Card 5/5

VOLYNKIN, Yu.M.; ARUTYUNOV, G.A.; ANTIPOV, V.V.; ALTUKHOV, G.V.; BAYEVSKIY, R.M.; BELAY, V.Ye.; BUYANOV, P.V.; BRYANOV, I.I.; VASIL'YEV, P.V.; VOLOVICH, V.G.; GAGARIN, Yu.A.; GENIN, A.M.; GORBOV, F.D.; GORSHKOV, A.I.; GUROVSKIY, N.N.; YESHANOV, N.Kh.; YEGOROV, A.D.; KARPOV, Ye.A.; KOVALEV, V.V.; KOLOSOV. T.A.; KORESHKOV, A.A.; KAS'YAN, I.I.; KOTOVSKAYA, A.R.; KALIBERDIN, G.V.; KOPANEV, V.I.; KUZ'MINOV, A.P.; KAKURIN, L.I ; KUDROVA, R.V.; LEBEDEV, V.I.; LEBEDEV, A.A.; LOBZIN, P.P.; MAKSIMOV, D.G.; MYASNIKOV, V.I.; MALYSHKIN, Ye.G.; NEUMYVAKIN, I.P.; ONISHCHENKO, V.F.; POPOV, I.G.; PORUCHIKOV, Ye.P.; SIL'VESTROV, M.M.; SERYAPIN, A.D.; SAKSONOV, P.P.; TERENT'YEV, V.G.; USHAKOV, A.S.; UDALOV, Yu.F.; FOMIN, V.S.; FOMIN, A.G.; KHLEBNIKOV, G.F.; YUGANOV, Ye.M.; YAZDOVSKIY, V.I.; KRICHAGIN, V.I.; AKULINICHEV, I.T.; SAVINICH, F.K.: STMPURA, S.F.; VOSKRESENSKIY, O.G.; GAZENKO, O.G., SISAKYAN, N.M., akademik, red.

[Second group space flight and some results of the Soviet astronauts' flights on "Vostok" ships; scientific results of medical and biological research conducted during the second group space flight] Vtoroi gruppovoi kosmicheskii polet i nekotorye itogi poletov sovetskikh kosmonavtov na korabliakh "Vostok"; nauchnye rezul'taty medikobiologicheskikh issledovanii, provedennykh vo vremia vtorogo gruppovogo kosmicheskogo poleta. Moskva, Nauka, 1965. 277 p.                    (MIRA 18:6)

L 29436-66

ACC NR: AT6012890                  SOURCE CODE: UR/0000/65/000/000/0112/0118

AUTHOR: Bulat, A. A.; Denisov, V. G.; Kuz'minov, A. P.; Onishchenko, V. F.; Rozanov, Yu. A.; Sil'vestrov, M. M.

ORG: None

TITLE: An integral method for evaluating the effective training level of operators in control systems

SOURCE: Sistema chelovek i avtomat (Man-automaton systems). Moscow, Izd-vo Nauka, 1965, 112-118

TOPIC TAGS: man machine communication, electrophysiology, specialized training, training procedure, human engineering

ABSTRACT: The authors consider the dynamics of the process by which an operator acquires skill in control and the degree to which training is effective in an attempt to solve the problem of adaptation of an operator to the system which he controls. Factors affecting the speed at which working habits are formed are discussed. It is pointed out that the purely psychological method for evaluating the level of training effectiveness is not sufficiently complete and object- ive. Electrophysiological methods are used for a fuller evaluation of the habit formation pro- cess using electroencephalograms, electromyograms, electrocardiograms, cutaneogalvanic reactions, and pneumograms to study changes in the neuropsychic makeup of the operator. The results of tests show a reduction in the bioelectric activity of the muscles and high-frequency

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ACC NR: AT6012890

rhythms of the cerebral cortex as well as in the amplitude of electrocutaneous potentials and the number of cardiac contractions to a frequency close to the normal pulse rate. A diagram is given showing the equipment for comprehensive registration of the electrophysiological indices of the operator during training. An analysis of the dynamic process of coordination between the various systems in the organism of the operator during training is used for determining the instant when the operator reaches optimum capacity for dealing with control problems. It is found that the circulation of a definite quantity of information is required for maintaining a given control process. This quantity of information is evaluated for a closed control system with a single human link. An integral expression is given for evaluating the level of effectiveness of operator training in man-machine systems. A curve is given showing the degree of training effectiveness for an operator in a complex control system as a function of the number of training exercises. Seven parameters were used for evaluating training effectiveness. It was found that working habits were formed after 12—13 training periods. Orig. art. has: 2 figures and 5 formulas. [08]

SUB CODE: 05 / SUBM DATE: 02Aug65 / ORIG REF: 008/ ATD PRESS: 5010

Card 2/2

ACC NR:   AT6036561                       SOURCE CODE:  UR/0000/66/000/000/0169/0170

AUTHOR: Zharov, S. G.; Kuzminov, A. P.; Kas'yan, I. I.; Maksimov, D. G.;
Onishchenko, V. F.; Popov, V. A.

ORG: none

TITLE: The problem of investigating pilot work capacity during long sojourns in
spaceship mockups  [Paper presented at the Conference on Problems of Space Medicine
held in Moscow from 24 to 27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy
kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii,
Moscow, 1966, 169-170

TOPIC TAGS:  isolation test, human physiology, hypodynamia, respiratory system,
space physiology

ABSTRACT:  On prolonged spaceflights, cosmonaut work activity will take place
during the exposure of the organism to a whole group of unusual factors
(weightlessness, prolonged isolation, hypodynamia, altered gas medium,
and so forth).  Study of the effect on man of these factors is of great
practical importance.

    The purpose of the present investigation is to study the condition and
work capacity of man during a prolonged sojourn in a spaceship mockup.

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ACC NR: AT6036561

For this purpose, four 3-day experiments and one 12-day experiment were conducted (the latter was a control experiment without special counter-measures against hypodynamia). The volunteer subjects wore ventilated suits. They remained seated in a space cabin couch throughout the whole time of the experiment. The couch was fully isolated from the external environment. The work activity of the subjects was carried out according to a schedule approximating spaceflight conditions. At scheduled times they performed test tasks in the operation of a manual attitude control system, information transmission, correction tests, and so forth. During the experiment complex recordings were made of physiological functions (EEG, EKG, PG, EMG, and galvanic skin response).

Analysis of the experimental data showed that during a three-day stay in a spaceship mockup, the general condition of the subjects was practically unchanged. The investigated physiological indices remained within normal limits. The work activity of the subjects dropped off a bit in the first day, but returned to initial levels on the second and third days of the experiment.

In the 12-day experiment, the tendency toward lowered work capacity

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ACC NR: AT6036561

was more pronounced.  Thus, on the first, fifth, seventh, and eleventh days, a one and one-half to two-fold decrease in the accuracy of ship attitude control from angular coordinates was recorded.  The time required for information transmission increased toward the end of the experiment by an average of 10%.  In the correction tests, the information capacity of the visual analyzer dropped from 1.7 to 1.3—·1.5 bits/sec.  The red and blue light contrast sensitivity of the eyes decreased 35% and 40%, respectively, from L. N. Meyer' s data.

Numerous changes in physiological indices were also noted toward the end of the experiment.  Thus, for example  the EEG's showed a stagnant exaltation of alpha rhythms.  Tests with sudden random signals requiring a response reaction from the subject showed a decrease in electromyogram amplitude from $300-200\mu v$ and a galvanic skin response amplitude decrease from $650-480\mu v$.

The observed functional shifts in the state of the subject during a 12-day stay in a spaceship mockup indicate that further study of pilot work capacity under analogous conditions is necessary, as is an effort to find optimal work-rest schedules· for cosmonauts on prolonged spaceflights.  [W.A. No. 22; ATD Report 66-116]
SUB CODE:  06  /  SUBM DATE:  00May66

Card 3/3

L 13624-63        EWT(m)/BDS___AF?C/ASD                   S/0056/63/044/006/1811/1817 55

ACCESSION NR:  AP3003102                                                          53

AUTHOR:  Kaipov, D. K.; Begzhanov, R. B.; Kuz'minov, A. V.; Shubny*y, Yu. K.

TITLE:  Resonance scattering of Gamma quanta on Cu-65 and Ti-46

SOURCE:  Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1811-1817

TOPIC TAGS:  excited state lifetime, nuclear resonance scattering, copper-65, titanium-46

ABSTRACT:  The lifetimes of the excited states of Cu-65 and Ti-46 nuclei, at 1.114 and 0.890 MeV, respectively, were measured by nuclear resonance scattering, using gaseous sources of Ni-65 and Sc-46 in NiCl sub 2 and ScCl sub 3.  The NiCl sub 2 was prepared from nickel enriched to 77.8% Ni-69 and irradiated in a neutron flux of 1.8 times 10 sup 13 per sq. cm. sec in the reactor of the Institut yadernoy fiziki AN UzSSR (Institute of Nuclear Physics, AN UzSSSR).

The Ni-65 and Sc-46 activities were approximately 20 millicurie.  The scattered photons were detected with a NaJ(Tl) crystal combined with a photomultiplier. The energy distributions of the photons were calculated from the Ni-65 and Sc-46 decay schemes, assuming that the recoil nucleus is free and that there are no Beta-Gamma correlations.  The lifetimes were found to be (1.42 plus or minus 0.20)
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ACCESSION NR: AP3003102

times 10 sup - 11 sec for the 0.890-MeV level of Ti-46 and (6.5 plus or minus 1.6) times 10 sup - 13 sec for the 1.114 MeV level of Cu-65. The latter corresponds to an excited-nucleus lifetime of 8.3 times 10 sup -13 sec for the M1 transition and to an E2/M1 intensity ratio equal to 0.32. "The authors wish to thank A. A. Islamov for assistance with the measurements." Orig. art. has: 7 formulas, 2 figures, and 2 tables.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR (Nuclear Physics Institute, Academy of Sciences, Kazakh SSR)

SUBMITTED: 08Jan63     DATE ACQ: 23Jul63        ENCL: 00

SUB CODE: 00        NO REF SOV: 003            OTHER: 016

2/2
Card

KUZMINOV, B. D. (and I. I. Bondarenko, L. S. Kutsayeva, L. I. Prokhorova, G. N. Smirenkin)

"THE AVERAGE NUMBER OF SPECTRUM OF PROMPT NEUTRONS EMITTED IN FISSION INDISED BY FAST NEUTRONS".

By I. I. Bondarenko, B. D. Kuzminov, L. S. Kutsayeva, L. I. Prokhorova and G. N.

Smirenkin.

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept. 1958.

*KUZ'MINOV, B. D.*

AUTHORS:  Kuz'minov, B. D., Kutsayeva, L. S., Bondarenko,I.I. 89-2-15/35

TITLE:  Prompt Neutron Numbers for the Fast Neutron Fission of $U^{235}$, $U^{238}$, $Th^{232}$ and $Np^{237}$ (Chislo mgnovennykh neytronov pri delenii $U^{235}$, $U^{238}$, $Th^{232}$ i $Np^{237}$ bystrymi neytronami).

PERIODICAL:  Atomnaya Energiya, 1958,    .r 2, pp. 187-188 (USSR)

ABSTRACT:  The following measuring results were obtained:

| Isotope to undergo fission | Mean neutron energy which caused the fission in MeV | Detector of secondary neutrons | $\dfrac{\gamma\,(E)^{+)}}{\gamma_T\,U^{235}}$ | $\gamma\,(E)$ |
|---|---|---|---|---|
| $U^{235}$ | 1,20 | Fission chamber filled with natural uranium | $1,05\pm0,01$ | $2,59\pm0,05$ |
| $U^{238}$ | 3,1 | "  -  " | $1,17\pm0,02$ | $2,9\pm0,1$ |
| $U^{238}$ | 3,1 | Fission chamber containing a uranium concentration of 75% | $1,15\pm0,04$ | $2,04\pm0,15^{++)}$ |

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Prompt Neutron Numbers for the Fast Neutron Fission of $U^{235}$, $U^{238}$, $Th^{232}$ and $Np^{237}$.

89-2-15/35

| Isotope to undergo fission | Mean neutron energy which caused the fission in LeV | Detector of secondary neutrons | $\dfrac{\gamma(E)}{\gamma_T U^{235} +)}$ | $\gamma(E)$ |
|---|---|---|---|---|
| $U^{238}$ | 3,1 | BF$_3$-counter tube in paraffin block | 1,15±0,02 | 2,97±0,10 ++) |
| $Th^{232}$ | 3,5 | " - " | 0,95±0,02 | 2,35±0,07 |
| $Np^{237}$ | 2,5 | " - " | 1,10±0,04 | 2,72±0,15 |

+) $\gamma_T U^{235}$ = 2,47±0,03        ++) Mean value: 2,86±0,10

There are 1 figure, 1 table, and 7 references, 3 of which are Slavic.
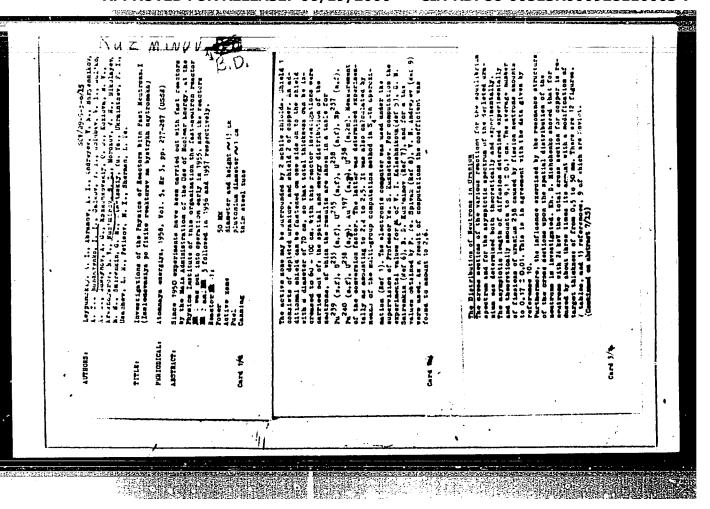
SUBMITTED:    July 8, 1957

AVAILABLE:    Library of Congress
Card 2/2
1. Neutrons-Energy measurement   2. Thorium 232 fission-Measurement   3. Neptunium 237 fission-Measurement   4. Uranium 235 fission-Measurement   5. Uranium 238 fission-Measurement

SCV/89-5-3-6/15

AUTHORS: Leypunskiy, A. I., Abramov, A. I., Andreyev, V. N., Sorokhtin,
A. I., Bondarenko, I. I., Galkov, A. I., Golubev, V. I., associated
A. I., Zaretskiy, A. N., Kazachkovskiy, O. D., Kozlov, F. V.,
Krasikov, B. V., Kuznetsov, I. A., Morokov, Yu. N., Nikolayev,
M. N., Smirenkin, G. N., Ukrainskiy, Yu. Ya., Usachev, L. N.,
Usachev, L. N., Petrov, M. I., Sherman, L. Ye.

TITLE: Investigation of the Physics of Reactors With Fast Neutrons-I
(Issledovaniya po fizike reaktorov na bystrykh neytronakh)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 3, pp. 277-287 (USSR)

ABSTRACT: Since 1950 experiments have been carried out with fast reactors
by the Main Administration of the Use of Nuclear Energy, at the
Physics Institute of this organization the fast-neutron reactor
BR-1 was put into operation early in 1955, and the reactors
BR-2 and BR-3 followed in 1956 and 1957 respectively.

Reactor BR-1:
Power          50 KW
Active zone    diameter and height ~11 cm
Fuel           Plutonium diameter ~11 cm
Canning        thin steel tube

The active zone may be surrounded by 2 mobile shields. Shield 1
consists of depleted uranium, and shield 2 of copper. An ad-
ditional shield can be fastened on one side on to the third
with a diameter of 70 cm, so that total thickness can be in-
creased to 60 - 100 cm. With this reactor investigations were
carried out of the spatial and energy distribution of the
neutrons, of which the results are shown in a table for
$Pu^{239}$ (n,f), $U^{235}$ (n,f), $U^{238}$ (n,f), $U^{238}$ (n,f), $Np^{237}$ (n,f),
$Pu^{240}$ (n,f), $U^{238}$ (n,γ), $Au^{197}$ (n,γ), $U^{238}$ (n,2n). Measurement
of the conversion factor. The latter was determined experimen-
tally as amounting to 2.4 to 2.5. It was also calculated by
means of the multi-group computation method in $S_4$-th approxi-
mation (Ref 1). The electronic computer was used under the
supervision of Professor Ye. S. Kuznetsov. For computation the
experimental values (for B, of V. I. Kalashnikova (Ref 5), C. M.
Smirenkin (Ref 6), B. D. Kuznetsov (Ref 7), and for a the
values obtained by P. Ye. Spivak (Ref 8), V. N. Andreyev (Ref 9)
were used. As a result of computations the conversion factor was
found to amount to 2.6.

The Distribution of Neutrons in Uranium
The cross sections of the various reactions for the equilibrium
spectrum and for the asymptotic spectrum of the depleted ura-
nium was determined both theoretically and experimentally.
The asymptotic length of diffusion determined experimentally
and theoretically amounts to $9.1 \pm 0.1$ cm. The average number
of fissions of uranium 238 caused by fission neutrons amounts
to $0.17 \pm 0.01$. This is in agreement with the data given by
reference 10.
Furthermore, the influence exercised by the resonance structure
of the cross sections upon the spatial distribution of the
neutron is investigated. Kh. D. Mishchenko showed that for
uranium with 24 keV the total cross section for copper in re-
duced by about three times, its normal with a modification of
target thickness of from 0.5 to 30 mm. There are 12 figures,
(tables, and 11 references, 9 of which are Soviet.
(Continued on abstract 7/15)

Card 1/2

Card 2

Card 3/3

AUTHORS:         Kuz'minov, B. D., Smirenkin, G. N.                56-2-31/51

TITLE:           The Systematics of the Mean Number of Instantaneous
                 Fission Neutrons (Sistematika srednego chisla ngnovennykh
                 neytronov deleniya $\nu$)

PERIODICAL:      Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958,
                 Vol 34. Nr 2. pp 503-504 (USSR)

ABSTRACT:        The present work compares the experimental data for $\nu$
                 (references 1-8) with the results of the calculations on
                 the below mentioned conditions. The authors investigate
                 the masses of only two fragments, namely $M_{light}$ of a light
                 fragment and $M_{heavy}$ of a heavy fragment. This corresponds
                 to the most probable way of fission. In the computation
                 of the energy of fission the mass $M(A, Z)$ of the nucleus
                 subjected to fission was determined by means of the semi-
                 -empiric formula of A. E. S. Green (reference 9), and the
                 masses $M(A_{light}, Z_{light})$, $M(A_{heavy}, Z_{heavy})$ were computed
                 by means of the formula of Fermi with the correction
                 factors of P. Fong (reference 10) which take into account
Card 1/3         the shell structure of the nuclei. For reasons of

simplicity it was assumed that $A_{heavy}=140$. The initial
charges $Z_{light}$ and $Z_{heavy}$ of the fission fragments are
computed using the hypothesis of the same $\beta$-decay chains.
The kinetik energy $E_k$ of the fission fragments was
calculated by means of the formula $E_k = c_1 Z^2 A^{-1/3}(1 - c_2 Z^2/A)$.
The constants $c_1$ and $c_2$ are selected in such a way that the
last mentioned formula coincides best with the experimental
values of $V$ in the equation of the balance of energy. The
mean energy transported by instantaneous neutrons called
$E_n$ consists of the binding energy $E_{binding}$ of this very
neutron in the nuclear fragment and of its mean kinetic
energy $2T$ in relation to the fragment at rest. The
temperature $T$ of the fragment after the emission of the
neutron was estimated on the basis of the data on the
spectra of the fission neutrons of $U^{233}$, $U^{235}$, $Pu^{239}$
(fission by slow neutrons) as well as on the spontaneous
fission of $Cf^{252}$. The values of $E_{binding}$ were calculated
according to the formula of Fermi-Fong (reference 10)
for masses. Some more conditions laid down here are
mentioned. For the purpose of comparison with the results

Card 2/3          of calculations all experimental values of $V$ for the fission

The Systematics of the Mean Number of Instantaneous    56-2-31/51
Fission Neutrons $\nu$

caused by neutrons were traced back to the values for $\nu$
for the spontaneous fission of the corresponding compound
nuclei, and this was done using the formula $d\nu/dE_x = 1/E_n$.
The correctness of this operation was proved by certain
comparisons mentioned here. A diagram shows the families
of curves for $\nu$ as function of A for various Z. Most
experimental data coincide satisfactorily with the results
of calculations. The non-momotonous course of the function
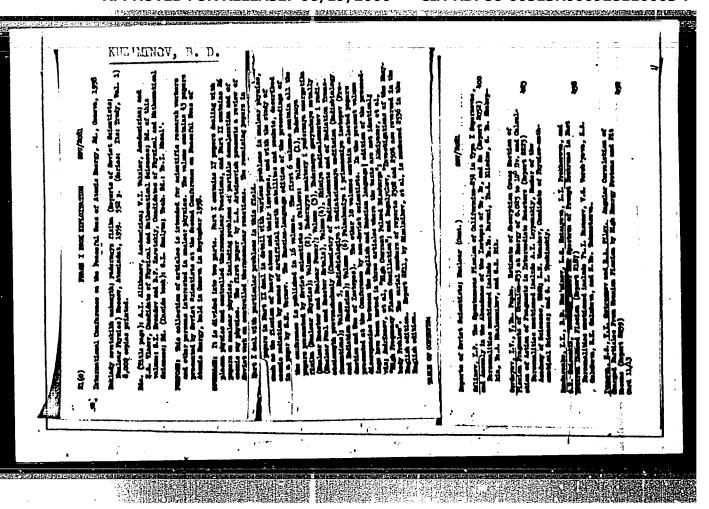$\nu(A)$ is connected with the shell structure of the nuclear
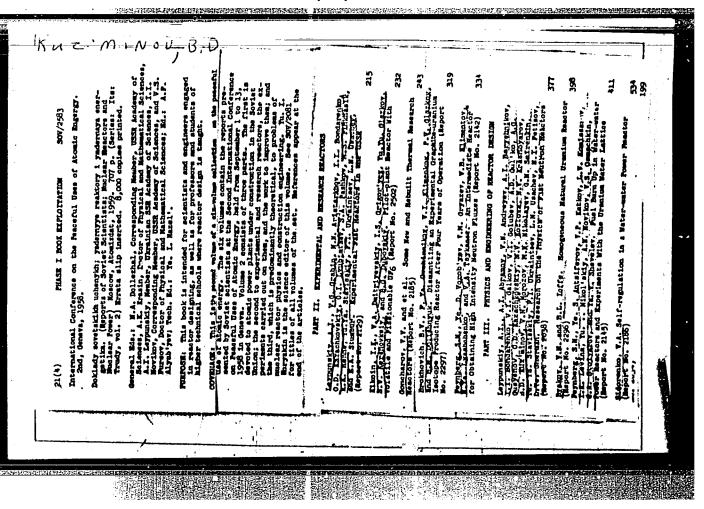fragments.

SUBMITTED:-    September 30, 1957

AVAILABLE:    Library of Congress

1. $M_{light}$-Light fragment-Analysis    2. $M_{heavy}$-Heavy fragment-Analysis

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KUZ'MINOV, B. D.

21(4)

PHASE I BOOK EXPLOITATION    SOV/2583

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958.

Doklady sovetskikh uchenykh; yadernyye reaktory i yadernaya energetika. (Reports of Soviet Scientists; Nuclear Reactors and Nuclear Power) Moscow, Atomizdat, 1959. 707 p. (Series: Its: Trudy, vol. 2) Errata slip inserted. 8,000 copies printed.

General Eds.: M.A. Dolleshal, Corresponding Member, USSR Academy of Sciences, A.K. Krasin, Doctor of Physical and Mathematical Sciences, A.I. Leypunskiy, Member, Ukrainian SSR Academy of Sciences, I.I. Novikov, Corresponding Member, USSR Academy of Sciences, and V.S. Fursov, Doctor of Physical and Mathematical Sciences; Ed.: A.P. Alymov'yev; Tech. Ed.: Ye. I. Mazel'.

PURPOSE: This book is intended for scientists and engineers engaged in reactor designing, as well as for professors and students of higher technical schools where reactor design is taught.

COVERAGE: This 1959 second volume of a six-volume collection on the peaceful use of atomic energy. The six volumes contain the reports presented by Soviet scientists at the Second International Conference on Peaceful Uses of Atomic Energy, held from September 1 to 13, 1958 in Geneva. Volume 2 consists of three parts. The first is devoted to atomic power plants under construction in the Soviet Union; the second to experimental and research reactors, the experiments carried out on them, and the work to improve them; and the third, which is predominantly theoretical, to problems of nuclear reactor physics and construction engineering. Yu.I. Koryakin is the science editor of this volume. See SOV/2581 for titles of all volumes of the set. References appear at the end of the articles.

PART II.   EXPERIMENTAL AND RESEARCH REACTORS

Leypunskiy, A.I., V.G. Orobkin, K.A. Arkhaerzabogo, I.I. Bondarenko, O.D. Kaznchkovskiy, O.I. Leypunskiy, B.A. Moryakov, S.A. Kushnir, V.G. Frdraidt, L.I. Kamayeva, V.A. Stavisskiy, V.A. Ukrainhev, L.N. Usachev, and I.I. Studnov.   Experimental Fast Reactor in the USSR    215
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Klein, L.S., V.A. Dmitriyevskiy, I.S. Grigor'yev, Ya.Du. Glazkov, V.N. Andreyev, and L.D. Dupovskiy.   Pilot-Plant Reactor with Variable and Positionable UFG (Report No. 2502)    232

Goncharov, V.V. and et al.   Some New and Rebuilt Thermal Research    243
Reactors (Report No. 2185)

Brokhovich, B.V., P.I. Konstantinov, V.I. Klimenkov, P.L. Glazkov, and L.M. Ililnazruk.   Dismantling an Experimental Graphite-Uranium Isotope-Producing Reactor After Four Years of Operation (Report    319
No. 2142)

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for Obtaining High Intensity Neutron Fluxes (Report No. 2141)

PART III.   PHYSICS AND ENGINEERING OF REACTOR DESIGN

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(Report No. 2058)

Blokhin, V.N. and B.L. Ioffe.   Homogeneous Natural Uranium Reactor    398
(Report No. 2296)

Feynberg, S.M., Ye. S. Aaniferov, V.P. Kachev, L.V. Kanlaen'v, E.I. Zavina, Yu.I. Nikol'skiy, A.I. Tovilov, L.S.L. Gomshkin, et al.   Fuel Burn-Up in Water-water Power Reactors and Experiments with the Uranium Water Lattice    411
(Report No. 2145)

Sidorenko, V.A.   Self-regulation in a Water-water Power Reactor    534
(Report No. 2106)                                                     199

21(7)                                                           SOV/56-37-2-12/56

AUTHORS:      Kuz'minov, B. D., Kutsayeva, L. S., Nesterov, V. G.,
              Prokhorova, L. I., Smirenkin, G. P.

TITLE:        Some Characteristics of the Spontaneous Fission of $U^{238}$

PERIODICAL:   Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
              Vol 37, Nr 2(8), pp 406-412 (USSR)

ABSTRACT:     The average number of neutrons emitted by excited fragments per
              decay event $\bar{\nu}$ has already been experimentally and theoretically
              determined. It was found that with the excitation energy $E_x$
              of the fragments $\bar{\nu}$ grows nearly linearly. In the introduction
              some previous papers are discussed, as well as the theoretical
              fundamentals of a calculation of $\bar{\nu}$. For the determination of $\bar{\nu}$
              the authors employed the method of measuring the double co-
              incidence of the prompt neutrons and of the spontaneous fissions
              of $U^{238}$ and $Pu^{240}$. As detector of the spontaneous fission of $U^{238}$
              two multi-layer ionization chambers connected in parallel were
              used (Fig 1). 12 g $U^{238}$ + $U^{235}$ was applied in 2 $mg/cm^2$ thick on

Card 1/3      both sides of an aluminum foil and Pu (92% $Pu^{240}$ + 8% $Pu^{239}$)

Some Characteristics of the Spontaneous Fission of $U^{238}$

upon a platinum foil. In the case of the uranium experiments, the chamber was filled with argon (5 atm), and in the case of plutonium with 90% Ar + 10% $CO_2$ (35 mm Hg). The fission chamber

was surrounded by 24 proportional counters connected in parallel ($B^{10}F_3$ in paraffin); an electronic apparatus recorded the pulses

of chamber, counters, and coincidence circuit. The latter had a

resolving power of $\sim 6.10^{-4}$ sec. Random coincidences made a contribution of $< 0.2\%$ (Pu) and $\sim 0.01$ (U), respectively, and could therefore be neglected. A total of $\sim 2400$ coincidences was

recorded in the case of $U^{238}$ and $\sim 12000$ in the case of $Pu^{240}$. Three series of measurements were carried out; the following was

obtained: $\bar{\nu}(U^{238})/\bar{\nu}(Pu^{240}) = (2.1\pm 0.1)/(2.26\pm 0.05) = 0.92\pm 0.03$. In the following the measurement of $\Delta$ was discussed.

$\Delta = (\bar{\nu}^2 - \bar{\nu})/\bar{\nu} = 1 - 1/\nu_m$ holds, where $\nu_m$ denotes the largest

Card 2/3     possible number of emitted neutrons. The method is briefly ex-

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Some Characteristics of the Spontaneous Fission of $U^{238}$

plained on the basis of a scheme (Fig 2). By denoting the ratio $(\bar{\nu}^2 - \bar{\nu})/\bar{\nu} = \delta$, $\delta_U/\delta_{Pu} = 1.085 \pm 0.02$. $\Delta_U = 0.95 \pm 0.05$ was obtained. By means of these data the number Q of the neutrons emitted within the time unit per g uranium was calculated as amounting to $Q = (64.5 \pm 2)$ neutrons/g.sec according to three different methods which are briefly explained. The average life-time of the neutrons was determined as amounting to

$\tau = 1.44 \cdot 10^{-4}$ sec; $\eta = 0.82 \pm 0.02$ ($\eta \approx 1 - e^{-T/\tau}$) at

$T = 2.38 \cdot 10^{-4}$ sec (duration of pulse); $\lambda = Q/\bar{\nu} = (31 \pm 1.5)$ fissions/g.h and half-life $T_{1/2} = (6.5 \pm 0.3) \cdot 10^{15}$a. In conclusion, the results are discussed and compared with those obtained by other authors (Table 1,2). The authors finally thank Professor A. I. Leypunskiy for his interest, and I. I. Bondarenko and V. S. Stavinskiy for discussions. There are 2 figures, 2 tables, and 15 references, 5 of which are Soviet.

SUBMITTED:     March 25, 1959
Card 3/3

32989
S/641/61/000/000/016/033
B104/B102

26.2244

AUTHOR:        Kuz'minov, B. D.

TITLE:         Mean number of prompt fission neutrons for $U^{238}$ and $Th^{232}$

SOURCE:        Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey.
               Moscow, 1961, 241-245

TEXT:  The author studied the dependence of the mean number of prompt
fission neutrons for $U^{238}$ and $Th^{232}$ on the neutron energy. 3.75- and
15.7-Mev neutrons were produced in the reaction $D(d,n)He^3$ and $T(d,n)He^4$
using 0.920-Mev deuterons.  In measurements with 2.3 Mev neutrons the
entire measuring arrangement was placed at an angle of $110^0$ to the deuteron
direction.  The fission neutrons were recorded by $B^{10}F_3$ counters.  The
number of pulses from the fission chamber, the number of pulses from the
neutron detector and the number of pulse coincidences were measured.  The
mean number $\overline{\nu}$ of the prompt fission neutrons is proportional to the
coincidences per fission event.  The time resolution of the coincidence
circuit was $2 \cdot 10^{-4}$ sec.  The ratio of the random coincidence to the true
coincidences did not exceed 30%.  The experimental arrangement was

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S/641/61/000/000/016/033
B104/B102

Mean number of prompt fission ...

calibrated by thermal $U^{235}$ fission. When calculating the absolute values of $\bar{v}$ for $U^{235}$, $\bar{v}_{therm}$ of $U^{235}$ was assumed to be $2.47 \pm 0.03$, (Table). The following mean effective neutron energies were obtained: $\bar{E}_n = 3.1$ Mev $(U^{238})$ and $\bar{E}_n = 3.5$ Mev $(Th^{232})$. The dependence of $\bar{v}$ on the neutron energy can be represented, by averaged shaight lines whose inclinations are $0.139 \pm 0.008$ Mev$^{-1}$ $(U^{238})$ and $0.15 \pm 0.1$ Mev$^{-1}$ $(Th^{232})$. The author thanks A. I. Sergachev, V. G. Vorob'yeva, N. Ye. Tokmantseva and the accelerator team headed by C. N. Deryagin. Furthermore, Professo A. I. Leypunskiy is thanked for his interest and I. I. Bondarenko for discussions. There are 2 figures, 1 table, and 9 references: 5 Soviet and 4 non-Soviet. The four references to English-language publications read as follows: Leachman R., Phys. Rev., 101, 1005 (1956); Fraser I., Phys. Rev., 88, 536 (1952); Henkel R., Brolley J., Phys. Rev., 103, 1292 (1956); Smith A., Fields, P., Roberts I., Phys. Rev., 108, 411 (1957).

Card 2/2

KUZ'MINOV, B.D.

/3

21406
S/089/61/011/006/002/014
B102/B138

2 1./000

AUTHORS:   Leypunskiy, A. I., Abramov, A. I., Aleksandrov, Yu. A.,
           Anikin, G. V., Bondarenko, I. I., Guseynov, A. G.,
           Ivanov, V. I., Kazachkovskiy, O. D., Kuznetsov, V. F.,
           Kuz'minov, B. D., Morozov, V. N., Nikolayev, M. K.,
           Sal'nikov, O. A., Smirenkin, G. N., Soldatov, A. S.,
           Usachev, L. N., Yutkin, M. G.

TITLE:     Investigation of the БP-5 (BR-5) fast reactor (spatial and
           energy distributions of neutrons)

PERIODICAL: Atomnaya energiya, v. 11, no. 6, 1961, 498 - 505

TEXT:  The fast research reactor BR-5 and its experimental equipment is
described in brief and some of its neutron spectra are given and discussed.
The following data are given:  fuel - plutonium oxide; coolant - sodium;
reflector - thin layer of natural uranium plus thick layer of nickel;
power - 5000 kw.  The reactor has many vertical and horizontal holes for
technical and physical studies and is well supplied with experimental
equipment.  Leypunskiy gave a detailed description of the BR-5 reactor at   X

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Investigation of the...

the Second Geneva Conference (1958). Inside the core the neutrons have
energies of more than 100 kev which they lose almost completely in passage
through reflector and shield. In the outer layers c. the shield, their
mean energy does not exceed some tens of ev. In the kev range ($E_n > 50$ kev)
spectra were measured for the most important beams and channels. For the
other cases, they were determined from threshold reactions. The soft part
of the spectrum within the reflector was determined from the spatial
distribution of neutrons with $E_n \lesssim 5$ ev, recorded with gold resonance indi-
cators. The total neutron flux was determined only at the points where
the $Pu^{239}$ fission cross section was constant. Direct neutron spectrum
measurements were carried out in a vertical (OK-70) and a horizontal (B-3)
channel using ($He^3 + Ar$)-filled ionization chamber in the first case and the
neutron tmnmission method with n-hexane in the second. The neutron
spectrum of the horizontal channel was also determined by photoemulsions.
From the rates of indicator and fission reactions $Au^{197}(n,\gamma)$, $U^{235}(n,f)$
$Pu^{239}(n,f)$, $Th^{232}(n,f)$, $Na^{23}(n,\gamma)$    $Cu^{63}(n,\gamma)$, and $Al^{27}(n,\alpha)$ the abrupt

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Investigation of the...

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$B102/B138$

drop in neutron energy in the Ni reflector was determined, and the activity caused by resonance neutrons ($E_n$ - 4.9 ev). The fast neutron flux ($E_n > 1.4$ Mev) in the core center was found to be $(2.4 \pm 0.2) \cdot 10^{14}$, and total flux was $(8.2 \pm 0.3) \cdot 10^{14}$. Experimental results were verified by energy-group calculations (18 groups). Good agreement between theory and experiment was also found for the channel spectra. The authors thank D. S. Pinkhasik, N. N. Aristarkhov, and the reactor personnel for assistance. There are 10 figures, 2 tables, and 2 Soviet references.

SUBMITTED:    August 17, 1961

Table 1.  Reaction cross sections in the core center.

Legend:  (1) Reaction; (2) experiment; (3) $\sigma$ calculated, given in barns.

Fig. 7.  Neutron transmission spectrum (n-hexane) for the horizontal channel B-3.

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37784
S/120/62/000/002/007/047
E039/E520

*2(.2244*

AUTHOR:     Kuz'minov, B.D.

TITLE:      A simple method of measuring the continuous spectrum
            of fast neutrons

PERIODICAL: Pribory i tekhnika eksperimenta, no.2, 1962, 34-35

TEXT:       By making use of experimentally determined neutron
transmission curves for particular filter materials it is possible
to obtain accurate determinations of the neutron spectrum in a
beam.  The final form of the neutron transmission function is
given by:

$$\varphi(x) = \int_{0}^{\infty} \bar{\Phi}(\mu) e^{-\mu x} d\mu$$

where  x  is the thickness of the filter and $\bar{\Phi}(\mu) = F(\mu)\varepsilon(\mu)$.
$F(\mu)$ and $\varepsilon(\mu)$ are functions characteristic of the neutron spectrum
and neutron detector efficiency respectively.  The method has been
used to determine the neutron spectrum in beams from the reactors
БР -2 (BR-2) and БР -5 (BR-5).  In both cases n-hexane was used as
a filter.  The detector in the first case was a fission chamber
using $U^{235}$ and in the second case a $BF_3$ proportional counter.  The

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A simple method of measuring ...     S/120/62/000/002/007/047
E039/E520

spectrum obtained in the latter showed detail at $\sim$ 40 keV. Other
recommended filter materials are boron and hydrogen.  There are
2 figures.

SUBMITTED:   August 15, 1961

Card 2/2

34001
S/056/62/042/001/016/048
B104/B102

*24. 6210*

AUTHORS:    Kuz'minov, B. D., Kutsayeva, L. S., Bondarenko, I. I.

TITLE:    Angular anisotropy and energy distribution of the $Th^{232}$ fission fragments

PERIODICAL:    Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 1, 1962, 105-107

TEXT:    The kinetic energy of two fragments was measured simultaneously, using a double ionization chamber with a collimator allowing the direction of fragment motion to be determined. A $Th^{232}$ layer ($15 \ \mu g/cm^2$) was applied to a collodion film ($20 \ \mu g/cm^2$). A БР-5 (BR-5) fast neutron reactor was the neutron source. The electronic equipment included two linear amplifiers, coincidence circuits, pulse shapers, and a double-beam tube. The movement of the fragment center-of-mass, the neutron emission from the fragments, the energy loss of the fragments penetrating the collodion film, and the effects of the Th layer and of the collimator increased the half-width of energy distribution of the fragments by

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34001
Angular anisotropy and energy distribution...     S/056/62/042/001/016/048
B104/B102

2-3 Mev. The mean kinetic energy and the dependence of the total kinetic
energy on the mass ratio are the same for fragments leaving the target
along and perpendicular to the neutron beam direction (Figs. 1 and 2). The
half-width of fragment energy distribution is 16 %. In view of the shell
structure of the fragments, the most probable mass of the heavy fragments
is 140. The kinetic energy passes through a maximum at a mass ratio of
$R = M_h/M_1 = 1.25$. There are 2 figures and 12 references: 4 Soviet and
8 non-Soviet. The four most recent references to English-language
publications read as follows: D. Hicks. Phys. Rev., 105, 1507, 1957;
I. Halpern, C. T. Coffin. Proc. Second United Nations Int. Conf. on the
Peaceful Uses of Atomic Energy, 15, Geneva, 1958; E. I. Winhold,
I Halpern. Phys. Rev., 103, 990, 1956; R. B. Leachman. Proc. Second
United Nations Int. Conf. on the Peaceful Uses of Atomic Energy, Geneva,
1958, p. 229.

SUBMITTED:    August, 15, 1961

Card 2/2

L 15529-63          EPF(n)-2/EWT(m)/BDS   AFFTC/ASD/SSD   Pu-4
ACCESSION NR: AP3005234                    S/0056/63/045/002/0008/0012   65
                                                                         63

AUTHORS: D'yachenko, P. P.; Kuz'minov, B. D.; Kutsayeva, L. S.; Okolovich, V. N.;
Smirenkin, G. N.; Utyuzhnikov, A. N.

TITLE: Kinetic energy of fragments produced in symmetric fission of U-235 /7

TOPIC TAGS: Fission, symmetric, kinetic energy, U-235, induced fission

ABSTRACT: The mean kinetic energy of the fragments produced in symmetrical U-235
fission induced by 7-, 14.5-, and 20-MeV neutrons has measured and found to be
constant, within the limits of experimental error, just as in the case of a
symmetrical fission. This refutes the hypothesis made by Selitskiy and Eysmont
(Zh. eksp. i teoret. fiz. v. 43, 1005, 1962) that symmetric fission is a fast
process. The hypothesis by Kovalenko, Petrzhak, and Adamov (Atomnaya energiya
v. 13, 474, 1962) that symmetrical fission is of the subbarrier type is likewise
refuted. The results are interpreted from the point of view that the two types
of fission correspond to two barriers. The authors are indebted to Prof. I. I.
Bondarenko and to N. S. Rabotnov for a discussion of the results.

Card 1/4/

D'YACHENKO, P.P.; KUZ'MINOV, B.D.; KUTSAYEVA, L.S.; SERGACHEV, A.I.;
UTYUZHNIKOV, A.N.

Correlation of the mass distribution of fission fragments with
the quantum characteristics of the nucleus at the saddle point.
Atom. energ. 15 no.3:246-247 S '63.                    (MIRA 16:10)

(Nuclear fission)    (Quantum theory)

KUZ'MINOV,B.D.

[Mean number of instantaneous fission neutrons for
$U^{238}$ and $Th^{232}$] Srednee chislo mgnovennykh neitronov
deleniia dlia $U^{238}$ i $Th^{232}$. Moskva, Glav.upr. po is-
pol'zovaniiu atomnoi energii, 1960. 9 p.
                                    (MIRA 17:1)

D'YACHENKO, P.P.; KUZ'MINOV, B.D.; KUTSAYEVA, L.S.; OKOLOVICH, V.N.;
        SMIRENKIN, G.N.; UTYUZHNIKOV, A.N.

        Kinetic energy of fragments produced in the symmetrical fission of
        $U^{235}$. Zhur. eksp. i teor. fiz. 45 no.2:8-12 Ag '63.
                                                                (MIRA 16:9)

                (Uranium isotopes)   (Nuclear fission)

D'YACHENKO, P.P.; KUZ'MINOV, B.D.; CHUKICHEV, M.V.

Effect of the state of the surface on the operation of
silicon counters of fission fragments. Prib. i tekh.eksp.
10 no.5:85-88 S-O '65.

(MIRA 19:1)

1. Submitted July 15, 1964.

L 4379-66   EWT(m)/EWA(h)
ACCESSION NR: AP5020258                          UR/0367/65/002/001/0092/0096

AUTHOR:  D'yachenko, P. P.; Kuz'minov, B. D.; Smirnov, V. I.; Chernukhin, V. L.;
Chubarov, S. I.

TITLE:  Kinetic energies of fragments with various masses in the fission of U-235
by thermal and fast neutrons

SOURCE:  Yadernaya fizika, v. 2, no. 1, 1965, 92-96

TOPIC TAGS:  uranium, nuclear fission, fission product, fast neutron, thermal
neutron

ABSTRACT:  The kinetic energy distributions of fragments with various masses have
been investigated in the fission of $U^{235}$ by thermal neutrons and by neutrons of
mean energy 720 kev, for the purpose of comparing the dependence of the total
fragment kinetic energies on the fragment mass ratios at the two fissioning-neutron
energies.  The fission was produced in a layer of uranium enriched 90% in $U^{235}$,
deposited on a thin organic film, and the fragment energy was measured with two
surface-barrier silicon detectors.  The detector signals were analyzed after ampli-
fication by a two-dimensional 128 x 128 channel pulse-height analyzer, which sorted
the pulse heights and stored all the information obtained during the measurements.

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L 4379-66
ACCESSION NR: AP5020258

The results show that the mean total kinetic energies of the fission fragments
have the same value for thermal and fast neutron fission, amounting to 156 ± 2 Mev
for fission into two fragments with approximately equal masses. This means that
in bombardment of $U^{235}$ by thermal neutrons and neutrons with an average energy of
720 keV, the kinetic energy of the symmetric-fission fragments is approximately
10 Mev lower than for fission by neutrons with energies above 7 Mev. "The authors
thank A. I. Sergachev, A. B. Yekatov, V. F. Semenkov, A. N. Utyuzhnikov, A. N.
Agfonov, and V. V. Kalyuzhnyy for help." Orig. art. has: 4 figures.

ASSOCIATION: None

SUBMITTED: 19Jan65                    ENCL: 00                    SUB CODE: NP

NR REF SOV: 003                       OTHER: 004

Card 2/2

KUZ'MINOV, B.D.

Symposium on the Physics and Chemistry of Fission.  Atom. energ.
19 no.2:207-208  Ag '65.                                  (MIRA 18:9)

L 28036-66    EWA(h)/EWT(m)/T/EWP(t)/ETI    IJP(c)    JD

ACC NR: AP5027011                SOURCE CODE: UR/0120/65/000/005/0085/0088

AUTHOR: D'yachenko, P. P.; Kuz'minov, B. D.; Chukichev, M. V.

ORG: None

TITLE: The effect produced by the surface quality upon the performance of silicon counters of fission fragments

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 85-88

TOPIC TAGS: nuclear fission, nuclear physics apparatus

ABSTRACT: After reviewing the preceding research and experiments the authors presented the results of their investigations of two lots of surface-barrier detectors. Their aim was to determine the causes of "tails" in the pulse amplitude distribution curves. On analyzing the curves showing the distribution of the fragment energies originated in the U235 fission by thermal neutrons and examining the possible causes, the authors concluded that the tail defect was caused by the presence of craters on the counter surfaces. The thickness of the entrance insensitive layer composed of gold coating, silicon oxide film and p-type layer, was about 10 microns. The microscopic examinations disclosed that the surface craters were of various shapes and sizes. The

Card 1/2                                        UDC: 539.1.074.5

L 28036-66

ACC NR: AP5027011

crater depths up to 10 microns were observed. The crater surface was schematically illustrated and two surface photos (for the first and second lots) were presented. The surfaces of detectors belonging to the second lot were improved by a special treatment. It was proven that the number of pulses in the tail section was 10 times less in the counters with improved surfaces. The distribution of fragments by mass was illustrated in a graph. The authors expressed their thanks to L. S. Bondarenko, I. A. Golosova and R. S. Nakhmanson for their assistance. Orig. art. has: 5 figures.

SUB CODE: 18 / SUBM DATE: 15July64 / ORIG REF: 002 / OTH REF: 002

Card 2/2 cc

KUZ'MINOV, F.M.; SHESTOPALOV, V.T.

Improve fire-prevention measures for various enterprises of the
capital. Gor. khoz. Mosk. 34 no.10:30-31 0 '60.     (MIRA 13:10)

1. Upravleniye pozharnoy okrany Moskvy.
     (Moscow--Fires and fire prevention)

KUZ'MINOV, F.; ORLOV, B.

Raids of the Communist Youth League.  Pozh.delo  8  no.5:12
My '62.                                                  (MIRA 15:5)
          (Fire prevention)    (Communist Youth League)

KUZ'MINOV, G. P. PA 22T36

Chem/Engineering Jun 1947

Engines, Internal Combustion
Oxygen Equipment

"Use of Oxygen in Internal Combustion Engines," G. P.
Kuz'minov, 8 pp

"Kislorod" No. 3

In recent years methods for the economical production
of oxygen in large quantities have been perfected.
This has opened up new fields where oxygen might be
used. One of these uses might be in internal com-
bustion engines, bringing about great economy in fuel
consumption. Article gives formulae and theoretical
discussion data of Diesel engines, gas engines, and
gasoline carburation engines, which could be supplied
on oxygen.

**Application of oxygen in internal-combustion engines.**
O. P. Kuz'minov. *Kislorod* 4, 36-43; *Fuel Abstracts* [N.S.] 9, No. 6, 103(1948).—Present results of a theoretical study of the possibilities of using O-enriched air in carburetor-type engines, Diesel engines, and gas engines. Application to the latter seems most feasible. R. D. H.

KUZ'MINOV, G.P., kandidat-tekhnicheskikh nauk.

More on air cooled engines. Avt. i trakt.prom.no.10:31-32 O '56.

(Automobiles--Engines)                              (MLRA 10:1)

KUZ'MINOV, G.P., kand.tekhn.nauk

Calculating the heat transfer in automobile and tractor engines with air cooling. Avt.prom. no.1:15-18 Ja '59.(MIRA 12:1)

1. Vsesoyuznyy zaochnyy lesotekhnicheskiy institut.
(Motor vehicles--Engines--Cooling)

S/262/62/000/002/004/017
I008/I208

AUTHOR:        Alekseyev, S. A. and Kuz'minov, G. P.

TITLE:         Investigation of heat-transfer in an air-cooled engine

PERIODICAL:    Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no. 2, 1962, 51, abstract
               42.2.269. "Tr. Vses zaochi. lesotekhn. in-ta", no. 6, 1960, 77–96

TEXT:   The investigations were carried out on an air-cooled 25 hp AM-4 engine turning at 2200 r.p.m. and
having a D/S = 82.5/101.5 mm. The experimental data and a method of calculation of the ribs are given.
There are 10 figures and 10 references.

[Abstracter's notes: Complete translation.]

Card 1/1

S/262/62/000/002/003/017

I008/I208

AUTHOR      Kuz'minov, G. P.

TITLE:      On the question of Mechanical similitude of internnl combustion engines

PERIODICAL    Referativnyy zhurnal, otdel'nyy vypusk. 42. Silovyye ustanovki, no 2, 1962, 51, abstract 42.2.267. "Tr. Vses. zaochn. pesotekhn. in-ta", no. 6, 1960, 97–109

TEXT: In connection with the standardization of the production of internal engines the theoretical conditions for the mechanical similitude of two engines arc examined. Considerations governing the evaluation of many mechanical parameters, as density, stresses, mean specific pressure on bearings, etc., are discussed. There are 3 tables and 10 references.

[Abstracter's note: Complete translation.]

Card 1/1

KUZ'MINOV, Grigoriy Petrovich, dots., kand./tekhn.: nauk; BEL'SKIY,I.R., prof., kand. tekhn.nauk, retsenzent; BUKREYEV, B.A., retsenzent; ROBIN, V.A., dots., kand. tekhn. nauk, retsenzent; SHULESHOV, V.F., dots., kand. tekhn. nauk, retsenzent; YAKOVLEV, N.A., retsenzent; BEZGODOVA, L.V., red.; URITSKAYA, A.D., tekhn. red.

[Thermal electric power plants in the lumbering industry] Teplosilovye ustanovki lesnoi promyshlennosti; uchebnoe posobie dlia studentov vsekh fakul'tetov.  Leningrad, Vses. zaochnyi lesotekhn. in-t, 1962.  198 p.                                    (MIRA 16:8)

1. Glavnyy spetsialist otdela energetiki GLT (for Bukreyev).
2. Nachal'nik otdela energetiki Gosudarstvennogo instituta po proyektirovaniyu lesnogo transporta (for Yakovlev).
          (Electric power plants)

L 16583-63          BDS

S/145/62/000/012/009/011

AUTHOR:        Kuz'minov, G. P., Candidate of Technical Sciences, Docent

TITLE:         Methods of the averaging metal temperature at experimental de-
               termination of heat output coefficient in an air-cooled engine

PERIODICAL:    Izvestiya vysshikh uchebynkh zavedeniy. Mashinostroyeniya,
               no. 12, 1962, 130-134

TEXT:          Basing on his experiments and theory, the author presents a method
for averaging the metal temperature on the ribbed surface of an air cooled en-
gine. Determination of the average temperature of the cooling surface of an
engine is difficult because of ribs and because of great irregularity of tem-
perature at various points. After determining the temperature gradient at sev-
eral characteristic points, the measured temperatures could be recalculated,
reducing them for an air cooled surface. The evaluation of average temper-
atures must be carried out for every area in accordance with the system of ribs
and temperature gradients of each portion of the object under study. The
amount of heat removed to the cooling system and the average air temperature

Card 1/2

L 16583-63

Methods of the averaging metal temperature...          S/145/62/000/012/009/011

must be known. The temperature change across the cylinder wall of the air cooled oil engine and the temperature distribution at the root of a rib are shown in figures. The author checked his method on an actual case of a Diesel engine. Seven Soviet references. There are 8 equations and 4 figures.

ASSOCIATION:   Vsesoyuznyy zaochnyy lesotekhnicheskiy institut (The All-Union Forestry Engineering Correspondence Institute)

SUBMITTED:     February 6, 1962

Card 2/2

KOBLIKOVA, Aleksandra Georgiyevna, dots., kand. tekhn. nauk;
KUZ'MINOV, G.P., dots., kand. tekhn. nauk, retsenzent;
CHUDNOV, B.S., dots., kand. tekhn. nauk, retsenzent;
SOKOLOV, P.V., dots., kand. tekhn.nauk, otv. red.;
BEZGODOVA, L.V., red.

[Hydrothermal processing of wood; calculations of kilns
for drying lumber in superheated steam. Manual on course
planning for the students of the faculty of the mechanical
technology of wood] Gidrotermicheskaia obrabotka drevesiny;
raschet kamer dlia sushki pilomaterialov v srede peregreto-
go para. Rukovodstvo k kursovomu proektirovaniiu dlia stu-
dentov fakul'teta mekhanicheskoi tekhnologii dre esiny.
Leningrad, Vses. zaochnyi lesotekhn. in-t, 1963.   82 p.
(MIRA 17:7)

45641

S/126/63/015/001/029/029
E073/E151

AUTHORS:     Lyubchenko, A.P., Sherman, D.G., and Kuz'minov, G.S.

TITLE:       Effect of cerium content of iron on self-diffusion

PERIODICAL:  Fizika metallov i metallovedeniye, v.15, no.1, 1963,
             158-160

TEXT:        The authors have already shown that Ce additions of up
to 0.5% have no effect on the ratio of the intercrystalline $(D_{Boun})$
and transcrystalline $(D_{Body})$ self-diffusion coefficients of Fe.

Further investigations were carried out on pure Armco iron, vacuum
induction melted, into which Ce was added, and the ratio $K_{Fe}$,
which equals

$$d(D_{Boun} \times D_{Body}^{-1/2})$$

was determined using the isotope $Fe_{59}$. It was found that Ce
additions of up to 0.52% had little effect on the self-diffusion
ratio, and that at elevated temperatures the individual values for
inter- and trans-crystalline diffusion were not greatly changed.

Card 1/3

Effect of cerium content of iron...    S/126/63/015/001/029/029
                                        E073/E151

Fluctuations of $\pm$ 100% in the value of $K_{Fe}$ were obtained as Ce
was increased from 0 to 0.52%, but the overall effect, discounting
the fluctuations, appeared to be negligible.  This is contrary to
the findings of K.P. Bunin and Ya.M. Malinochka that the effect of
spheroidisers was to equalise the inter- and trans-crystalline
mobilities of the Fe atoms.  The experimental and published results
show that the effect of Ce, Mg, etc. on the graphite in cast iron
is not related to the kinetics of self-diffusion and it is
probable that the surface active properties of the spheroidiser
are responsible for spheroidisation.  The electron orbits of
additions appear to influence the shape of the graphite particles,
as is seen by comparing the electron structures of spheroidising
agents (Li, Na, Mg, K, Ca, Sr, Ba, Ce) with those of de-
spheroidising agents (Ti, Cu, Sb, Pb, Bi).  Inconsistencies in the
behaviour of added elements on the structure of the graphite
appears to be due to changes in electron configuration caused by
interaction with impurities in the iron.  Spheroidisation can also
be achieved by additions which ensure the required electron
configuration when absorbed on the graphite.
Card 2/3

Effect of cerium content of iron ...     S/126/63/015/001/029/029
E073/E151

There are 2 tables.

ASSOCIATION: Khar'kovskiy zavod transportnogo mashinostroyeniya
             im. V.A. Malysheva
             (Khar'kov Transport Engineering Works imeni
             V.A. Malyshev)

SUBMITTED:   April 10, 1962

Card 3/3

KUZ'MINOV, I.G., kand. ekonom. nauk [deceased]

Indices of the degree and level of mechanization in construction.
Mekh. stroi. 19 no.2:23-25 F '62.                    (MIRA 16:7)

(Construction equipment)

KUZ'MINOV, I.I.

KUZ'MINOV, I. I.    The end of the war and the transition of the economy of the USSR to
a peacetime development.  Leningrad.  Leningradskoe gazetno-zhurnal'noe i knizhnoe
izd-vo, 1945.  31 p.  (50-19833)

HC335.K888 1945

KUZMINOV, I.

1. KUZMINOV, I.

2A. USSR

7. "Concerning the Crisis Nature of O. S. /U. S. ?/ Economic Development in the Post-"ar Period," Bolshevik, No. 23, 1948

9. Current Digest of the Soviet Press, Vol. 1, No. 1, 1949, p. 35. (In ● Library)

KUZ'MINOV, I. I., GATOVSKIY, L. M., SHEPILOV, D. T., LEONT'YEV, L. A., LAPTEV, I. D., and OSTROVITYANOV, K. V.

"Political Economy," Textbook, State Publishing House of Political Literature, Moscow, 1954.

Name: KUZ'MINOV, Ivan Ivanovich

Dissertation: State Monopolistic Capitalism

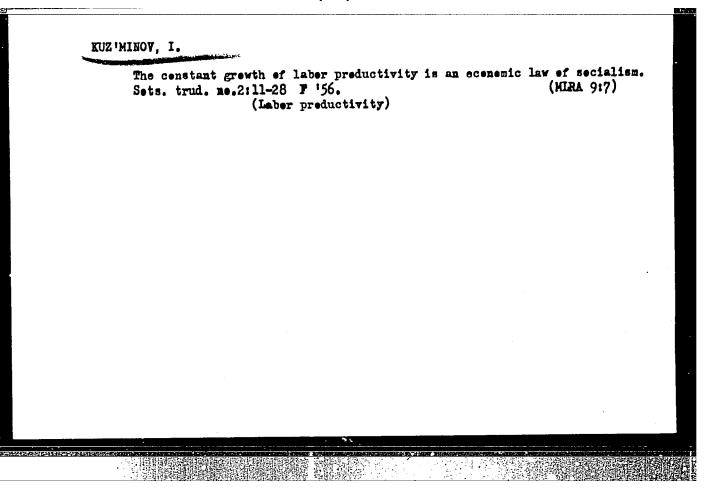Degree: Doc Econ Sci

Affiliation: /‾not indicated‾/

Defense Date, Place: 2 Mar 56, Council of Acad of Social Sci under the Central Committee CPSU

Certification Date: 15 Sep 56

Source: BMVO 6/57

KUZ'MINOV, I.

The constant growth of labor productivity is an economic law of socialism.
Sots. trud. no.2:11-28 F '56.                              (MIRA 9:7)
                    (Labor productivity)

OSTROVITYANOV, K.V., akademik; LEONT'YEV, L.A.; LAPTEV, I.D.; GATOVSKIY, L.M.,
    doktor ekonom.nauk; KUZ'MINOV, I.I., doktor ekonom.nauk. Prinimal
    uchastiye STAROVSKIY, V.N.; RABINOVICH, M., red.; DANILINA, A.,
    tekhn.red.

    [Political economy; textbook] Politicheskaia ekonomiia; uchebnik.
    Izd.3, perer. i dop. Moskva, Gos.izd-vo polit.lit-ry, 1959.  707 p.
                                                        (MIRA 12:10)
    1. Akademiya nauk SSSR. Institut ekonomiki.  2. Chleny-korrespondenty
    Akademii nauk SSSR (for Leont'yev, Starovskiy). 3. Deystvitel'nyy
    chlen Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.
    Lenina (for Laptev).
                        (Economics)

KUZ'MINOV, I., red.; KULIKOV, A., red.; KARAVAYEV, A., red.; SPERANSKAYA,
    L., red.; MOSKVINA, R., tekhn.red.

[Advantages of the socialist economic system] Preimushchestva
sotsialisticheskoi sistemy khoziaistva. Moskva, Izd-vo sotsial'-
no-ekon.lit-ry, 1959. 310 p.                         (MIRA 12:10)
                    (Economics)

KUZ'MINOV, Ivan Ivanovich; PROKOP'YEV, S.P., red.; NAUMOV, K.M.,
         tekhn.red.

[Impoverishment of the workers under capitalism] Obni-
shchanie trudiashchikhsia pri kapitalizme. Moskva, Izd-vo
VPSh i AON pri TsK KPSS, 1960.   335 p.        (MIRA 13:2)
         (Labor and laboring classes)

OSTROVITYANOV, K.V.; GATOVSKIY, L.M. [Hatovs'kyi, L.M.]; KUZ'MINOV, I.I.;
DUBOVENKO, Ye. [Dubovenko, IE.], red.; KOBA, M., red.; KOPYTKOVA,
N., tekhn.red.

[Political economy; textbook] Politychna ekonomiia; pidruchnyk.
Pereklad s 3 perer. i dop. rosiis'koho vyd. 1959 roku. Kyiv,
Derzh.vyd-vo polit.lit-ry URSR, 1960. 686 p. (MIRA 13:7)

1. Akademiya nauk USSR, Kiyev. Institut ekonomiki.
(Economics)

KUZ'MINOV, Ivan Ivanovich, doktor ekon. nauk, zasl. deyatel' nauki
RSFSR; MOROZOV, V., red.; DARONYAN, M., mladshiy red.;
CHEPELEVA. O., tekhn. red.

[Postwar capitalist cycle]Poslevoennyi kapitalisticheskii
tsikl. Moskva, Sotsekgiz, 1962. 187 p. (MIRA 16:2)
(Business cycles)

KUZ'MINOV, I.I., prof., red.; LEBEDEV, V.G., kand. ekon. nauk, red.;
SMOLDYREV, D.A., , red.; KOKOSHKO, A.G., red.; NAUMOV, K.M.,
tekhn. red.

[Developing economic theory in the light of the decisions of
the 22d Congress of the CPSU]Razvitie ekonomicheskoi teorii
v svete reshenii XXII s"ezda KPSS. Pod red. Kuz'minova,I.I.,
Lebedeva, V.G., Smoldyreva, D.A. Moskva, Izd-vo VPSh i AON,
1962. 249 p. (MIRA 15:11)

1. Moscow. Akademiya obshchestvennykh nauk. 2. Akademiya ob-
shchestvennykh nauk, Moscow (for Kuz'minov, Lebedev).
(Economics)

OSTROVITYANOV, K.V., akademik; GATOVSKIY, L.M.; KUZ'MINOV, I.I.,
doktor ekon. nauk; Prinayali uchastiye: STAROVSKIY, V.H.;
SAKOV, M.P.; BACHURIN, A.V.; ZASLAVSKAYA, T.I.; BOGOMOLOV,
O.T.; RYMALOV, V.V.; RABINOVICH, M., red.; MUKHIN, Yu.,
tekhn. red.

[Economics; textbook]Politicheskaia ekonomiia; uchebnik.
4., perer. i dop. izd.  Moskva, Gospolitizdat, 1962. 702 p.
                                        (MIRA 15:11)
1. Akademiya nauk SSSR. Institut ekonomiki. 2. Chlen-
korrespondent Akademii nauk SSSR (for Gatovskiy, Starovskiy).
                    (Economics)

KUZ'MINOV, I.I., red.; KLEPACH, N.Ya., red.; SLASTENENKO, V.A., red.; TREFILOV, V.A., red.; VORONINA, N., red.

[Socialist production collective] Sotsialisticheskii proiz-vodstvennyi kollektiv. Moskva, Mysl', 1964. 230 p.
(MIRA 18:3)

1. Moscow. Akademiya obshchestvennykh nauk.

KARAKASHYAN, A.A., inzh.; KARPUSHIN, I.A.; KUZ'MINOV, I.T., kand.tekhn.nauk

Method of calculating labor productivity in a thermal-electric
power station construction trust. Mont.i spets.rab.v stroi. 23
no.6:20-22  Je  '61.                                    (MIRA 14:7)

1. Trest Teplomontazh i Nauchno-issledovatel'skiy institut
stroitel'noy promyshlennosti.
          (Labor productivity)  (Electric power-plants)

KUZ'MENOV, M. P.

Technology

(Loess-type soils in earthen structures
erected hydraulically). Tashkent, Izd-vo
AN USSR, 1951.

<u>Monthly List of Russian Accessions</u>, Library of Congress, November 1952.   UNCLASSIFIED.

*Kuz'minov, M. P.*

124-1957-10-12034

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 10, p 119 (USSR)

AUTHOR:    Kuz'minov, M. P.

TITLE:     On an Approximate Calculation Method for the Compacting of
           Hydraulically Filled Earth Works  (O priblizhennom sposobe
           rascheta uplotneniya namyvnykh zemlyanykh sooruzheniy)

PERIODICAL:   Tr. In-ta sooruzh. AN UzSSR, 1955, Nr 7 pp 217-223

ABSTRACT:    Simplified methods are presented to solve equations of the
           theory of ground mass compaction for one- and two-dimensional
           problems, based on the application of a method of finite differ-
           ences using certain simplifying assumptions.  In the numerical
           examples it is shown that the results obtained with the Author's
           method agree fairly closely with those obtained by V. A. Florin
           (Teoriya uplotneniya zemlyanykh mass, Moscow, Stroyizdat,
           1948, p 123) and by N. A. Zadubin (Izv. Vses. n.-i in-ta
           gidrotekhn., 1950, Vol 43).
                                           V. G. Berezantsev

Card 1/1

Kuzminov, M.P.

SOV/98-59-7-21/22

10(4)
AUTHOR: Rozinoer, M.F., Chairman

TITLE: Conference on Scientific Research in the Field of Hydromechanics

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 7, pp 62-65 (USSR)

ABSTRACT: The article is a chronicle of the above-named conference, which was held in Moscow from April 15-17, 1959, on the initiative of the coordinatory commission for hydromechanization in the Council for Hydraulic Affairs of the Academy of Sciences of the USSR, the All-Union NIIS Hydromechanization Trust, the Mining Institute of the Academy of Sciences of the USSR and the Moscow Oblast Board of the Technological Department of the construction industry. Also participated in the organization of the conference, which was attended by more than 400 representatives of 149 organisations, including the Office of State Construction of the USSR, ministries, national economic councils, Institute of the Academy of Sciences of the USSR and the union republics, the ASiA of the USSR and the Ukrainian SSR, the Academies of Agricultural Science and the GKII of the union republics, research institutes. The conference was opened by Academician A.M. Terpigorev, and at the plenary session papers were read by the following: Prof. A.P. Yudin, Doctor of Technical Sciences: "The State of Scientific Research Work in the Field of Hydromechanization"; Engineer V.A. Platonov: "The Construction of Alluvial Dams and the Work of Scientific Organisations"; Engineer M.A. Gorin: "The Present State of and the Outlook for Design and Research Work in the Field of Equipment for Hydromechanisation"; Engineer B.P. Fomin: "Certain Problems of the Economy of the Hydromechanisation of Earth Works"; Prof. G.A. Nurok, Doctor of Technical Sciences: "The Present State of and the Outlook for the Development of the Hydromechanisation of Opencast Coalmining"; Engineer B.M. Shkundin: "Means of Perfecting Hydromechanisation in the Nonmetallic Mineral Industry." The remainder of the conference was divided into 3 sessions: on technology (with technology papers and transport. At the session dealing with equipment and transport. At the session dealing with technology, papers were read by the following: Prof. N.N. Maslov, Doctor of Technical Sciences: "Certain Problems in the Planning of Alluvial Dams"; P.L. Ivanov, Candidate of Technical Sciences (Institute of Mechanics of the Academy of Sciences of the USSR): "Peculiar Features of the Dilution and Compression of Sand Foundations"; A.P. Lobasov, Candidate of Technical Sciences (VNIIGS): "Piecemeal Alluvial Construction"; I.A. Melamuty, Candidate of Technical Sciences (B.E. Vedeneyev VNIIG) and I.P. Spiridonov, Candidate of Technical Sciences (Institute of Mechanics of the Academy of Sciences of the USSR): "The Consolidation and Compression of the Foundations of the Key Parts of Earth Dams"; I.P. Lojachenko (GISI): "Research on Alluvial Construction by Means of Cohesive Foundations"; M.P. Kuzminov, Candidate of Technical Sciences: "The Hydraulic Construction of Earthworks by Means of Loess Foundations"; B.A. Volnin (I.I. Kuybyshev MISI): "The Alluvial Construction of the Sary-Yazynak Dam on the Murgab River by Means of Fine-Grained Sand"; L.Ya. Runisov, Candidate of Technical Sciences (A.P. Moshalski VTUZ): "Research into the Morphological Peculiarities of Sand Foundations"; Engineer A. Shmeyke (SAOGIDEP) and I.I. Lebedev (VNIIGM): "Formula for the Determination of the Angle of Inclination of Earth Foundations"; N.I. Zolatarev, Candidate of Technical Sciences: "A Method of Calculating the Thawing Rate of Frozen Foundations on the Upper Slope of Sand Dams when Constructed in Winter"; D.L. Melnik, Candidate of Technical Sciences (VNIIGM) and Engineer K.P. Kontyemir (GISI) of the Moldavian SSR: "Problems of Spanning Rivers Without the Use of Buckets";

Card 1/6

Card 2/6

Card 3/6

KUZ'MINOV, M.P.

On a critique of the book "Hydraulic engineering structures made
of earth." Izv.AN Uz.SSR. Ser.tekh.nauk. no.2:54-60 '60.
(MIRA 13:10)

(Hydraulic structures)

KUZ'MINOV, M.P.; ABDULLAYEV, R.A.; REPNIKOVA, Ye.V.

    Slope stability in saturated loess soils of the Golodnaya
    Steppe.  Mat. po proizv. sil. Uzb. no.15:166-178 '60.
                                                (MIRA 14:8)
  1.  Institut vodnykh problem i gidrotekhniki AN Uzbekskoy SSR.
        (Golodnaya Steppe--Soil mechanics)

VYZGO, M.S., prof.,otv.red.; ARIPOVA,F.M.,kand.tekhn.nauk;red.;
IBRAILOV, M.I., inzh., red.; KUZ'MINOV, M.P., kand.tekhn.
nauk, red.; MUKHAMEDOV, A.M., kand.tekhn.nauk, red.;
RESHETKINA, N.M., kand.geol.-min. nauk, red.;
KHAMUDKHANOV, M.Z., kand. tekhn. nauk, red.; GAYSINSKAYA,
I.G., red.; KISELEVA, V.N., red.; BAKLITSKAYA, A.V., red.;
SOKOLOVA, A.A., red.; KARABAYEVA, Kh.U., tekhn. red.

[Power, hydraulic, and mining engineering]Voprosy onergetiki,
gidrotekhniki i gornogo dela.  Tashkent, Izd-vo AN UzSSR,1961.
262 p.                                      (MIRA 15:8)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Otdeleniye tekhni-
cheskikh nauk. 2. Chlen-korrespondent Akademii nauk Uzbekskoy
SSR (for Vyzgo).
    (Power engineering)  (Hydraulic engineering)
            (Mining engineering)

KUZ'MINOV, N.A., inzh.

Operation of the mazut department of the Cherepovets Metallurgical
Plant. Prom. energ. 20 no.10:14-15 O '65.

(MTRA 18:10)

KUZ'MINOV, Nikolay Vasil'yevich; SHEVCHENKO, M.P., red.; POPOV, V.N.,
        tekhn. red.

[Set the fire of enthusiasm in people]Plamia dushi - liudiam.
Tambov, Tambovskoe knizhnoe izd-vo, 1962. 19 p. (MIRA 16:4)
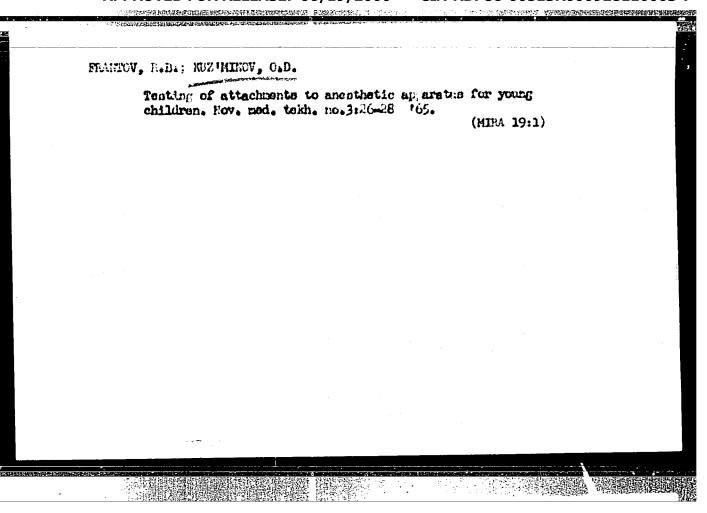                (Agricultural workers)

TEBEN'KOV, M.N.; LEPERSKIY, Ye.A.; KUZ'MINOV, O.D.

Effect of bilateral ligation of the AA. Mammariae internae and pedicardectomy on the coronary circulation in an experiment. Grud.khir. 3 no.6:48-51 N-D '61.                                   (MIRA 15:3)

1. Iz gospital'noy khirurgicheskoy kliniki pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (zav. - prof. A.V. Gulyayev).
             (CORONARY VESSELS)     (PERICARDIUM--SURGERY)
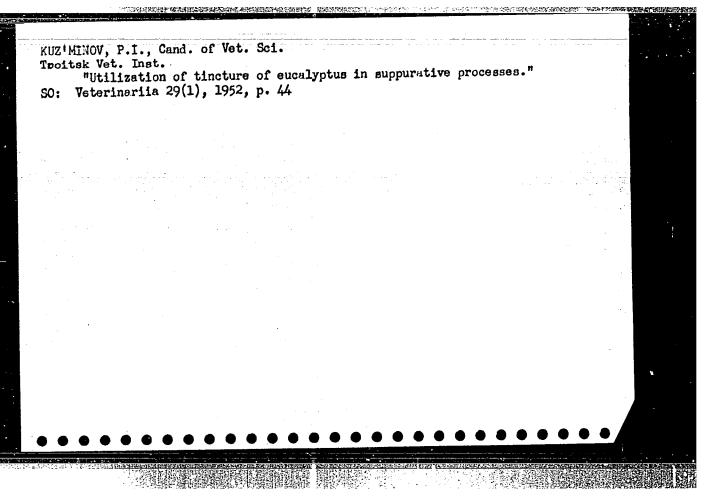                  (MAMMARY GLANDS--BLOOD SUPPLY)

FRANTOV, R.D.; KUZ'MINOV, O.D.

Testing of attachments to anesthetic apparatus for young children. Nov. med. tekh. no.3:26-28 '65.

(MIRA 19:1)

KUZ'MINOV, P. I.

"Pneumothorax in Cattle."  Thesis for degree of Cand. Veterinary Sci. Sub
24 Feb 50, Moscow Veterinary Academy

Summary 71, 4 Sep 52, Dissertation Presented for Degrees in Science and
Engineering in Moscow in 1950.  From Verchernyaya Moskva. Jan-Dec 1950.

KUZ'MINOV, P.I., Cand. of Vet. Sci.
Tpoitsk Vet. Inst.
    "Utilization of tincture of eucalyptus in suppurative processes."
SO:  Veterinariia 29(1), 1952, p. 44

*Kuz'minov, P. I.*

USSR/Diseases of Farm Animals. General Problems.                           R

Abs Jour: Ref Zhur-Biol., No 3, 1958, 12221

Author  : Kuz'minov, P. I.
Inst    : Ivanovsk Farm Institute
Title   : Circular Novocaine Block in Certain Diseases of
          Lower Leg Sections in Horses.

Orig Pub: Sb. nauchn. tr  Ivanovsk. s.-kh. in-ta, 1956, vyp. 13,
          59-65

Abstract: Use of circular novocaine block combined with other
          generally accepted surgical methods of therapy shortened
          the course of treatment of animals sick with acute
          serous thecal abscesses of the tendons, aseptic subder-
          matitis, frog puncture, and certain other infections of
          the extremities.

Card    : 1/1

KUZ'MINOV, S. A.

"Transverse Contraction and Angular Distortions in Welding"    (Avto. Delo, 1952, 23, Nov., p. 7).

A method is developed for calculating the transferse contractions and angular distortions when butt welds are made in sheet and plate material. A number of examples are computed, and the theoretical results compare very closely with actual experimental results.

VI

KUZ'MINOV, S. A.

"Methods of Calculating Welding Deformations in Framework Structures (Units and Sections)." Cand Tech Sci, Leningrad Shipbuilding Inst, Leningrad, 1954. (RZhMekh, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

USSR/Engineering - Structural tests

Card 1/1  :  Pub. 128 - 19/38

Authors  :  Kuz'minov, S. A.

Title  :  An analytical method for the determining the general deformation of a structure due to welding

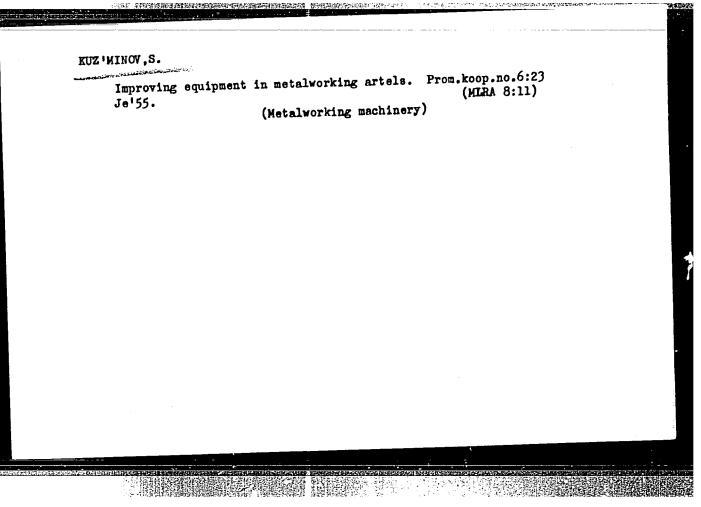Periodical  :  Vest. mash. 9, 70-75, Sep 1954

Abstract  :  A description is presented of a method for calculating the general deformation in a structure, arising from welding, by means of a thermal field formed by a certain input of heat energy and certain assumptions on plastic and elastic deformations. Three USSR references (1948-1952). Graphs; diagrams; drawings; table.

Institution :  ......

Submitted  :  ......

KUZ'MINOV,S.

Improving equipment in metalworking artels.  Prom.koop.no.6:23
                                                      (MIRA 8:11)
Je'55.
                    (Metalworking machinery)

SOV/124-58-8-9320

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 135 (USSR)

AUTHORS: Okerblom, N.O., Kuz'minov, S.A.

TITLE: New Trends in the Planning of Technological Process Proce-
dures for the Fabrication of Welded Structures (Novyye naprav-
leniya v proyektirovanii tekhnologicheskikh protsessov izgo-
tovleniya svarnykh konstruktsiy)

PERIODICAL: V sb.: Svarochnoye proiz-vo. Leningrad, Lenizdat, 1957,
pp 143-160

ABSTRACT: Methods are given for determining the residual strains re-
sulting from longitudinal deformations in the region of a weld.
A case is examined wherein filler beads are laid upon a plate
that is free of stresses (except for the natural stresses norm-
ally present within it); the strains are calculated by methods
similar to those employed for calculation of upsetting stresses.
In addition, the authors study the process of development of
residual strains that result from cross-welding, also, they
devote some attention to the localized bulge-type deformations
that develop in the plane of minimum stiffness of thin sheet
metal when the latter is subjected to welding. Methods are

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New Trends in the Planning of Technological Process Procedures (cont.)

described for determining the angular deformations in the region of a butt weld as a function of the geometric dimensions of the sheet and of the quantity of heat brought to bear by the welding process. A comparison is made of the several possible variants of the sequence of assembling and welding a structure comprised of ribs and skin; the influence exerted by the assembling-welding sequence selected on the magnitude of the residual strains is taken into account; the need is substantiated for using analytical methods in the designing of welded structures in such a manner that residual strains may be minimized.

G.A. Nikolayev

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S/123/61/000/024/015/016
A004/A101

AUTHOR:     Kuz'minov, S. A.

TITLE:      Accounting for welding deformations in determining allowances in
            framework building

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 24, 1961, 50, abstract
            24L311 ("Tr. Nauchno-tekhn. o-va sudostroit. prom-sti", 1959, v. 8,
            no. 3, 49-53)

TEXT:      Based on an analysis of the parameters determining the deviation of
the true welding deformations from the rated ones, it was found that the devia-
tion of the linear welding energy can be rated at $\pm$ 20%, the structure rigidity
at $\pm$ 5% and the factor of proportionality, taking into account the transverse
and longitudinal contraction of the welding joints of a structure, at $\pm$ 10%.
The total deviation of the rated deformation values from the actual ones will
not exceed $\pm$ 35% if the technology is observed. The author presents a list of
constructional and technological measures to reduce the total deformations for
passing over to the manufacture of structures within certain allowances. The
author points out that, with further improvements in the machining and assembly

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Accounting for welding deformations ...          A004/A101

quality, improvement of calculation methods, elimination of elastic bracings and
using accurate and well-defined welding conditions, the range of allowances
could be narrowed down to ± 10%.

K. Kokhanovskiy

[Abstracter's note:   Complete translation]

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OKERBLOM, Nikolay Oskarovich; KUZ'MINOV, S.A., kand. tekhn. nauk,
    retsenzent; BAZILEVSKIY, N.O., kand. tekhn. nauk, nauchnyy
    red.; KAZAROV, Yu.S., red.; KONTOROVICH, A.I., tekhn. red.

[Combination welded structures]Kombinirovannye svarnye kon-
struktsii. Leningrad, Sudpromgiz, 1962. 98 p.
                                            (MIRA 15:9)
        (Ships--Welding)

POMAZKOVA, Z.S., inzh.; KUZ'MINOV, S.Z., inzh.

Jet pump for removing sand obstructions from oil wells.
Neftianik 2 no.8:9-12 Ag '57.                    (MIRA 10:10)

1.Konstruktorskoye byuro po besshtangovym nasosam.
              (Oil well pumps)