SOURCE: Svarochnoye proizvodstvo, no. 6, 1965, 15-17

TOPIC TAGS: build-up sequence, press tool, press bushing, press die, carbon
... mineral bushing.

NC REF

TOLSTOV, K. D.

"Mass and Trajectory of Fission Products of Plutonium," Uspekhi Fiz. Nauk, 37, No.3, 1949.

TOLSTOV, K. D.

"Uranium-235 in 'Tukholite'", Uspekhi Fizicheskikh Nauk, Vol. XL, No. 3, 1950

TRANSLATION AVAILABLE In W-12587, 4 Aug 1950.

Tolstov, K. D.

L4076   AEC-tr-2435((Pt. 1) (p.95-108))
AVERAGE NEUTRON VELOCITIES IN VARIOUS MEDIA.
K. D. Tolstov, F. L. Shapiro, and I. V. Shtranikh. p.95-
108 of CONFERENCE OF THE ACADEMY OF SCIENCES
OF THE USSR ON THE PEACEFUL USES OF ATOMIC
ENERGY, JULY 1-5, 1955. SESSION OF THE DIVISION OF
PHYSICAL AND MATHEMATICAL SCIENCES. (Transla-
tion). 14p.
    This paper was originally abstracted from the Russian.
and appeared in Nuclear Science Abstracts as NSA 9-7892.

Tolstov, K. D.

Investigation of the parameters of uranium-graphite heterogeneous systems by the prism method. L. V. Grol, O. I. Kozinets, R. Lazareva, K. D. Tolstov, Feinberg, I. M. Frank, F. L. Shapiro, and E. V. Shtramikh. Izvestiya. Akad. Nauk S.S.S.R. po Miruoniu Ispol'zovaniya Atomnoi Energii, Zasedaniya Otdel. Fiz.- Mat. Nauk 1955, 21–50(English summary, 51 -2).—The buckling, x^2, the multiplication factor k, and the thermal utilization factor θ in a U-graphite heterogeneous system with const. slug diam. were investigated as a function of the U concn., C, in a Cd-shielded prism of $180 \times 180 \times 420$ cm. The equidistant channels in the graphite could be filled either with U slugs or graphite rods. C in the prism was varied by removing metal from the channels. An at. concn. of $N_C = 0.013$, corresponding to a spacing of about 20 cm, is the arbitrary unit. About half of the channels were of larger diam. so that an air gap existed around the slugs; by moving the slugs from one channel into a wider one, the gap effect could be measured. The values x^2 and k were detd. according to the exponential method; both had a max. at $C = 0.8$, and were 0 at $C = 0.3$, and 1 at $C = 1.0$; θ was obtained from Cd-ratio measurements; a formula was derived

$(1 - \theta)/\theta = (z/C) - k$, where g and k are consts. This function of C, by extrapolating to $C = 0$ k can be split into two empirical factors v_i and φ. v_i is the no. of neutrons generated per thermal neutron captured; it is 1.34 ± 0.02. φ is the probability of fission neutrons reaching the thermal energy region. Thus $1 - \varphi$ is the radiation capture in U, partially compensated by epicadmium U^{235} fission. It is a linear function of C. Both air gaps and H_2O gaps were tried for cooling. At $C < 1.5$ H_2O has a neg. effect on k and at >1.5 a pos. one; the air gap influences θ mostly, but both gap effects of air or H_2O were smaller than anticipated from the elementary diffusion theory, that is simply due to the one-velocity-group treatment, which is mathematically insufficient.

Werner Jacobson

(2)

TOLSTOV, K. D.

L 4091   AEC-tr-2435((Pt. 1)(p.39-58))
INVESTIGATION OF THE PARAMETERS OF HETERO-
GENEOUS URANIUM-GRAPHITE SYSTEMS BY THE
PRISM METHOD. L. V. Groshev, O. I. Kozinets, L. E.
Lazareva, K. D. Tolstov, E. L. Feinberg, I. M. Frank,
F. L. Shapiro, and I. V. Shtranikh. p.39-58 of CONFER-
ENCE OF THE ACADEMY OF SCIENCES OF THE USSR ON
THE PEACEFUL USES OF ATOMIC ENERGY, JULY 1-5,
1955. SESSION OF THE DIVISION OF PHYSICAL AND
MATHEMATICAL SCIENCES. (Translation). 20p.
   This paper was originally abstracted from the Russian and
appeared in Nuclear Science Abstracts as NSA 9-7925.

Tolstov, K. D.

I'VIL   /

Average neutron velocities in various media. K. D.
Tolstov, P. L. Shapiro, and I. V. Shtranikh. *Sessiya Akad .
Nauk S.S.S.R. po Mirnomu Ispol'zovaniyu Atomnoi Ener-
gii, Zasedaniya Otdel. Fiz.- Mat. Nauk 1955, 103-20(English
summary, 120-31).*—The process of slowing down neutrons
in the vicinity of the thermal equil. region ($v = 2200$ m./sec.)
is influenced by many factors. The av. energy and spectrum
of the neutrons depend on the mean energy transferred
owing to inelastic collisions, on the capture cross section, the
structure and vol. of the moderator, and the temp. of the
medium. The influence of these factors on the av. velocity
$\bar{v}$ and on the spectrum of thermal neutrons was studied.
The $\bar{v}$ was detd. by the ratio flux of neutrons to their d.
The d. was measured with a Geiger counter, which counted the
flux with a BF_3 ionization chamber, the
owing to neutron capture in Cd. The ρ was obtained by
measuring the transmission of neutrons by a $1/v$ absorber.
The temp. function of the diffusion length was detd. by the
exponential method. The changes with temp. of the dif-
fusion coeff. of the neutrons was found by measuring the
variation of the neutron density when the medium was
heated; the mean free transport path changes were found by
measuring the changes of the albedo. Expts. were done
with prisms of 60 $\times$ 60 $\times$ 100 cm. or 20 $\times$ 100 $\times$ 120 cm.
of graphite (I), paraffin (II), H_2O, and H_2O-B, with and
without increments having $1/v$ absorption. Also, hetero-
geneous systems with I and H_2O as moderators, like the U-I

system, were investigated, and it was found that in I, II,
and H_2O the neutrons attain thermal equil. and their veloc-
ity spectrum is Maxwellian. If the lifetime of the neutrons
within the prism is decreased to 1/20 by introducing neu-
tron absorbers, or to 1/50 by diminishing the dimensions
of the prism, $\bar{v}$ is increased up to 40%. Neutrons in the vi-
cinity of the thermal equil. suffer many collisions before
they lose their energy; the results agree with the theory of
slowing down of neutrons in a cryst. medium. If I is treated
up to 300°, the increase of $\bar{v}$ is 6 $\pm$ 2% larger than is that
of the square of the diffusion length, thus the mean free
transport path λ_{tr} decreases 5 $\pm$ 1%. The $\bar{v}$ was measured
at 20 and 300° in the U-I system with various U concns.
and it was found that for any concn. $\bar{v}$ in a homogeneous
system is higher than in such a heterogeneous one. It was
found by calcn. and measurement that the neutron spec-
trum emitted by the moderator surface is not only detd.
by the neutron spectrum in the moderator, but also by the
energy function of λ_{tr}. Therefore, the spectrum of the
neutrons in the medium is different from that of the neu-
trons that have passed through the prism.

W. J.

②

ТОЛСТОЙ, К. D.

Measurement of temperature effects in uranium-graphite subcritical systems. B. P. Ad'yasevich, O. I. Kozinets, K. D. Tolstov, I. M. Frank, F. L. Shapiro, and I. V. Shtranikh. *Ispol'zovaniya Atomnoi Energii, Zasedaniya Otdel. Fiz.-Mat. Nauk 1955,* 132-54(English summary, 154-5). — The temp. effects on the multiplication const. k and also on all the factors thereof were investigated by two heated to 300-150°. U-graphite (I) lattices were used with slug diams. of 32-7 mm. with various U concns. (c). A Ra-Be and a Po-Be neutron source were employed. The thermal utilization factor θ was measured by the Cd ratio method. A pos. temp. effect was found which increased with decreasing U concn. and was greater in the presence of cooling H_2O. This effect was already predicted by the elementary diffusion theory, but the theory furnished too high values in the absence and too low values in the presence of H_2O. This discrepancy was due to the fact that θ increased when the neutrons were cooled in H_2O upon entering the slug. The pos. effect on θ increased also if the cooling was extended

over a layer of I adjacent to the slug. At identical U concns., the θ of a heterogeneous system can be increased over that of a homogeneous one by inhomogeneously heating the moderator. In order to evaluate correctly the temp. effect on the p escape probability, p, cold H_2O and H_2O at 80° were circulated alternately through the slugs, the temp. of the I being kept const. The variation of p was obtained from measurements of the buckling $\varkappa^2$ and from measurements of the influence of heating on the epi-Cd neutron d. in the vicinity of the source. The temp. effect of the p-integral is found to be $\delta p/p\, \delta t = (1.95 \pm 0.1) \times 10^{-4}$ per degree. The temp. effect on k_0 was detd. by measuring the by the exponential method. The temp. changes of $\varkappa$ (no. of neutrons generated) no. of neutrons captured) were calcd. from the changes of p and θ and from the temp. effect, which is roughly proportional to the variation of the mean energy of the thermal neutrons, caused by the heating of the system: $\delta\varkappa/\varkappa\, \delta\varepsilon = -(37 \pm 6)\, \%/e.v.$

Werner Jacobson

TOLSTOV, R. D

USSR/Nuclear Physics - Elementary Particles

C-3

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33920

Author : Dul'kova, L. S., Romanova, T. A., Sokolova, I. B., Sukhov, L. V., Tolstov, K. D., Shafranova, M. G.

Institution : None

Title : Interaction of 300-Mev π^--Mesons with Protons, Deuterons, and Nuclei of a Photographic Emulsion

Original
Periodical : Dokl. AN SSSR, 1956, 107, No 1, 43-46

Abstract : AIKFI plates of the "p" type, enriched with H or loaded with D by impregnating in a 30% water solution of lithium acetate, were radiated in the phasotron of the Institute for Nuclear Problems, Academy of Sciences USSR by π^--mesons of 225 ± 8 Mev. The H content reached $6 \cdot 10^{22}$, and the D content reached $3 \cdot 10^{22}$ per cm^3. The presence of Li made it possible to control the evenness of the loading. The increased value of

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USSR/Nuclear Physics-Elementary Particles   C-3

Abst Journal : Referat Zhur-Fizika, No. 12, 1956, 33920

pH of the lithium acetate contributed to a reduction in regression.
The radiation was carried out up to a density of 10^4 to 10^5 tracks
per cm^2. The examination was made by areas and along the track.
The average free path for all the processes, including scattering
by an angle greater than 20° was $88 \pm 5\%$ of the geometric. The
principal contributions are made by processes of inelastic scat-
tering and absorption with star formation.

The area inspection method was used to trace 1,240 stars. A
distribution was made by the number of rays. Fifty cases of
scattering by H and 11 cases of scattering by D were found; the
elastic-scattering sections were respectively $H - 14 \pm 3.6$
millibarn and $D = 15 \pm 5.5$ millibarns. The scattering by D
is strongly anisotropic. A histogram is given for the differential
scattering of π-mesons by H in a center of gravity system. A
discrepancy is noticed from the theoretical curve for small scat-
tering angles.

Card 2/2

TOLSTOV; K.D.

BELYAKOV, V.A.; IVANOVA, L.N.; KOZLOVA, L.G.; TOLSTOV, K.D.

Experiments with 600 micron layers from the "R" Emulsion of the Motion Picture and Photography Scientific Research Institute. Zhur. nauch. i prikl. fot. i kin. 2 no.5:325-329 S-O '57.

(MIRA 10:11)

1. Ob"yedinennyy institut yadernykh issledovaniy.

(Photographic emulsions)

120-6-30/36

AUTHORS: Otroshchenko, V.A., Sviridov, V.A., Tolstov, K.D., and Shal'nikov, A.I.

TITLE: Solid Hydrogen Targets on the Surface of Photographic Emulsions (Tverdyye vodorodnyye misheni na poverkhnosti fotoemul'sii)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6, pp. 110 - 111 (USSR).

ABSTRACT: It is difficult to study interactions between elementary particles and protons and deuterons which are included in nuclear emulsions because their number is small compared with the total number of nucleons bound in the nuclei of the emulsion. This is still true even when the emulsion is specially loaded with deuterium and hydrogen. To remove this difficulty, it is convenient to have a target of solid hydrogen or deuterium deposited directly on the surface of the emulsion. In this method of preparation of targets the temperature of the emulsion cannot be greater than 12 to 15 $^{\circ}$K. Because of this, the temperature dependence of the sensitivity of NIKFI-R emulsions was investigated (Ref.1). Already at 20 $^{\circ}$K, the sensitivity of emulsion is down by a factor of 2 and therefore it is difficult to use this emulsion with minimum ionisation particles. However, different types of

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120-6-30/36

Solid Hydrogen Targets on the Surface of Photographic Emulsions.

emulsion have been described (Refs. 2 and 3) which have the property that their sensitivity falls much lower with temperature. To obtain sufficiently thick solid hydrogen targets on top of emulsions, a special device shown in Fig.1 was used. The photoemulsion, 2, kept at the bottom of the plate-holder, 1, was surrounded by liquid hydrogen. Through the tube, 3, deuterium gas was introduced into the plate-holder and slowly solidified on top of the emulsion due to the cooling effect of the surrounding liquid hydrogen. After this, the Dewar containing the hydrogen was evacuated and the plate-holder was lifted into position for irradiation by a beam from an accelerator. In the case of the solid hydrogen target, liquid helium was used as the cooling agent. V.I. Veksler and I.B. Danilov collaborated. There are 2 figures, 2 diagrams and 3 references, 2 of which are Slavic.

ASSOCIATION: United Institute for Nuclear Studies
                (Ob"yedinennyy Institut yadernykh issledovaniy)
                Department of Low Temperature Physics of MGU
                (Kafedra Fiziki nizkikh temperatur MGU)
SUBMITTED: May 20, 1957.
AVAILABLE: Library of Congress.
Card2/2

AUTHORS: Bogachev, N. P., Van Shu-Fen', Gramenitskiy, I. M., Kirillova, L. F., Lebedev, R. M., Lyubimov, V. B., Markov, P. K., Merekov, Yu. P., Podgoretskiy, M. I., Sidorov, V. M., Tolstov, K. D., Shaframova, M. G.

TITLE: The Interaction of 9 Bev Protons With Nuclei in Photo-Emulsion (Vzaimodeystviye protonov s energiyey 9 Bev s yadrami foto-emul'sii)

ABSTRACT: The photoemulsion H И КФИ-P witha a layer of about 450 μ was irradiated with proton within and out of the vacuum chamber of the 9 Bev synchrophasotron. The mean range of 9 Bev protons for an interaction is 34,7 $\pm$ 1,5 cm. (The scattering for angles below 5° was not taken into acount). 258 cases of a nuclear interaction were observed. The mean number of fast particles n generated a process of interaction to 3,4 $\pm$ 0,7 . The angular distribution of these particles shows a clearly preferred forward motion. The mean number of black and grey traces N_n - the recoil nuclei not being considered - is 8,3 $\pm$ 0,5. From 249 found stars 18 can be considered to constitute in interaction of the initial protons with free" or quasifree" protons. 13 stars can be considered to represent

an interaction between protons and "quasifree" neutrons. All of them have an odd number of traces, and in the point of formation of the stare β-traces can be observed. The mean number of fast particles in these 13 star traces is 3,1 $\pm$ 0,3. There are 5 figures, 1 table, and 7 references, 1 of which is Slavic.

SOV/89-5-4-7/24

AUTHOR: Barashenkov, V. S., Van Shu-fen', Tolstov, K. D.

TITLE: Collisions of Protons With an Energy of 9 BeV With Nucleons
            (Stolknoveniya protonov s energiyey 9 Bev s nuklonami)

ABSTRACT: The nuclear emulsion NIKFI-R, which has a thickness of layer
            of $\sim 450\mu$. was bombarded with protons of $\approx$ 9 BeV (synchro-
            phasotron of the Ob"yedinennyy institut yadernykh
            issledovaniy (United Nuclear Research Institute)).
            From 372 stars 39 were counted as p,p-collisions and from 264
            stars 11 were counted as p,n-collisions. Three of the 39 stars
            could be fixed as being elastic p,p-collisions.
            The following further values were obtained by counting
            (average number of the particles taking part in the p,p- and
            p,n-collisions respectively):

            $\overline{n}_p = 3.8 \pm 0.3$

            $\overline{n}_n = 2.8 \pm 0.6$

Card 1/2 $\overline{n}_p^{(s)} = 3.1 \pm 0.3$ (s) = fast particles

SOV/89-5-4-7/24

Collisions of Protons With an Energy of 9 BeV With Nuclei

$$\overline{n}_n^{(s)} = 2.5 \pm 0.6 \qquad (s) = \text{fast particles}$$

The angular distribution for $n_p^{(s)}$ (Θ) is recorded graphically. The average loss of energy for the forming of ions at p,p-collision amounts to about 50% of the energy of the primary protons.

E. G. Bubelev, V. M. Mal'tsev, and Ten-Gyn assisted in the theoretical calculations. L. F. Kirillova and V. A. Belyakov assisted in experiments. There are 1 figure, 1 table, and 3 references, 2 of which are Soviet.

SUBMITTED: August 1, 1958

Card 2/2

BARASHENKOV, V. S., BELYAKOV, V. A., BUBELEV, E. G., MALTSEV, V. M., TOLSTOV, K. D., WANG SHOU FENG, and TEN GYN.

"Multiple Production of Particles in Collisions between 9 GeV Protons and Nucleons." Nuclear Physics, vol. 9, No. 1, Nov 1958.

Joint Inst. Nuclear Research, Lab Theoretical Physics and High Energy Lab.,Dubna.

Abstract: Some theoretical calculations pertaining to multiple production of particles in nucleon-nucleon collisions at 7-10 GeV were presented in ref. 1, Some preliminary experimental results obtained by irradiating photographic emulsions with proton beam from the synchrocyclotron of the Joint Inst. Nuclear Research were given in ref. 2. In the present paper we compare the theoretical results of ref. 1. with the results of some new experiments. 372 stars of which 50 were classified as proton-nuclean collisions, were recorded in NIKFI-R photographic emulsions along the tracks of $\sim$ 9 Gev protons accelerated in the JINR proton synchrocyclotron. The mean number of charged particles created in these collisions was 3.6 ± 0.5. The angular distribution of fast charged particles is obtained. As a whole the experimental results agree with the statistical theory of multiple particle production within the limits of the experimental r errors. Some discrepancy is evident in the small angle range and may be due to the contribution of non-central impacts and to asymmetry of the angular distribution in the c.m.s.

(23.3000)

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SOV/77-4-6-5/16

AUTHOR: Belyakov, V.A., Kozlova, L.G., Sviridov, V.A. Tolstov, K.D.

TITLE: Dependence of the Sensitivity of Nuclear Emulsions on Temperature Within the Range of 2-300° K

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii 1959, Vol 4, Nr 6, pp 427-429 (USSR)

ABSTRACT: The author reports on recent Soviet study of the dependence of the recording properties of various nuclear emulsions on temperature within the range of 2-300°K. The results of the first experiments were published in the paper of N.A. Dolina, V.A. Sviridov, K.D. Tolstov and E.N. Tsyganov ⌐Ref 1_7. Subsequently, an attempt was made to improve the recording properties of the emulsion NIKFI R 400µ by a change in the processing conditons. Curve 1 of the graph (taken from the paper of V.A. Belyakov, L.G. Kozlova, V.A. Sviridov, K.D. Tolstov and E.N. Tsyganov ⌐Ref 2_7) corresponds to the normal processing conditions of emulsions, which with

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SOV/77-4-6-5/16

Dependence of the Sensitivity of Nuclear Emulsions on Temperature
Within the Range of 2-300° K

regard to the correlation trace density of fog are most
suitable for exposure at room temperature. Curve 2
corresponds to intensified development conditions, the
fog increasing in this case by 50%. NIKFI low-tempera-
ture emulsions without silver iodide gave better results.
Under normal processing conditions, the relative sensi-
tivity at 20° K for the best series of emulsions was
equal to 45±3%, and the absolute density of the tracks
of the relativistic particles amounted to 17 grains for
100μ. The microphotograph shows the tracks of η-mesons
with an energy of 340 Mev and nuclear fission at an ex-
posure of the emulsion at 20° K. Fine-grained emulsions
developed by N.A. Perfilov, N.R. Novikova and Ye.T.
Prokof'yeva $\angle$ Ref 3_7 showed at 75° K a relative sensi-
tivity of 75%. The density of the grains on the tracks
of the relativistic particles at 300° K amounted to 46
grains per 100μ.Experiments with Ilford ("Il'ford")
Card 2/3   G-5 600μ layers $\angle$ Ref 4_7 were also carried out (see

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Dependence of the Sensitivity of Nuclear Emulsions on Temperature Within the Range of 2-300° K

Table). The grain density at exposure within the range of 2-215° K averages 15-17 grains per 100μ of particle track. The fog is approximately constant. The layers were processed under conditions recommended by the firm of Ilford. Comparative data on NIKFI and Ilford emulsions are given in the graph. There are 1 graph, 1 microphotograph, 1 table and 4 references, 3 of which are Soviet and 1 English.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 23, 1957

Card 3/3

Tolstov, K.D.

Card 1/3

SOV/89-7-4-12/28

AUTHORS: Barashenkov, V. S., Belyakov, V. A., Yao Shu-feng', Glagolev, V. V., Dolkhazhar, E., Kirillova, L. F., Lebedev, R. M., Mal'tsev, V. M., Markov, P. K., Tolstov, K. D., Tsygnov, M. G., Yao Ch'ing-hsieh

TITLE: The Interaction of Fast Nucleons with Nuclei of the Photoemulsion NIKFI-R

PERIODICAL: Atomnaya energiya, 1959, Vol 7, Nr 4, pp 376-377 (USSR)

ABSTRACT: The present paper deals with the interaction between 9 Bev-protons, which were accelerated in the beam of the synchrophasotron of the Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research), and the nuclei of a photoemulsion of the NIKFI-R type. The results of these measurements are shown by a table. On the basis of the data thus found it is possible to draw several conclusions as to the mechanism of the interaction between a fast proton and a nucleus. If the primary nucleon-nucleus collision is an interaction between nucleon and channel, the velocity of the center of mass in an interaction of silver and breaks with the channel will be considerably less than in an interaction with light nuclei. Therefore, also the number of α-particles

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must be considerably greater. In the experiment, the numbers of α-particles for light and heavy nuclei are, however, nearly the same. This is explainable on the basis of the cascade mechanism of interaction, in which the energy of the α-particles decreases rapidly in cascade collisions. The multiplicity of the particles produced decreases simultaneously. In the case of the greater number of α-particles, nucleons are concerned, which may be explained by the cascade mechanism of nucleon-nucleus interaction. Also the agreement between the transversal momentum P_T for g-protons originating from interaction with light and heavy nuclei points in the direction of the interaction cascade mechanism. Besides, a search was made for strange particles by employing the method of investigating according to steams. The cross section of the production of K'-particles with an energy of $K < 140$ Bev in a medium-weight nucleus of the photoemulsion amounts to $(5 \pm 2)10^{-27}$ cm². Besides, the amount of the production cross section, the wide angular distribution of the K-mesons, as well as other facts indicate that a noticeable fraction of

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slow strange particles is produced in an intranuclear cascade process. Furthermore, the medium-weight energy losses of a fast nucleon are evaluated in the case of a single nucleon-nucleon collision. A 9Bev-proton gives up an average of (5.1 ± 0.8) Bev to a medium-weight nucleus of the photoemulsion, which amounts to (60 ± 10)% of its initial energy. 4.05 Bev are used for the production of pions, and 1.05 Bev are transferred to the nucleons of the nucleus. As a proton in an medium-weight nucleus undergoes approximately 2 collisions, the proton, in one single nucleon-nucleon collision, loses $\Delta E = 55 \pm 10$% of its initial energy. By means of other measurements of the pion energy spectrum carried out independently of the present paper in a nucleon-nucleus collision $\Delta E = 40 \pm 10$% is obtained. The statistical theory of multiple production furnishes $\Delta E = (40 - 50)$%. The authors thank G. Bosnorigh, V. Veksim, Z. Kunstanovand N. Kotkin for their help in the measurements, and L. Popom Dr his assistance in analysing measuring results. There are 1 table and 1 reference.

85363

21.5200

S/120/60/000/005/037/051
E032/E314

AUTHORS: Zavaritskiy, N.V., Sviridov, V.A. and Tolstov, K.D.

TITLE: Sensitivity and Thermal Conductivity of Nuclear Emulsions at Low Temperatures

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 5, pp. 131 - 152

TEXT: НИКФИ-Р (NIKFI-R) and Ilford G-5 nuclear emulsions were investigated. The thermal conductivity of the emulsions was measured by the method described in an earlier paper (Ref. 1). In the temperature interval 4 - 1.5 ^{o}K the coefficient of thermal conductivity of the NIKFI-R emulsions can be expressed by the formula:

$$K \sim 2.2 \cdot T^{2.8} \cdot 10^{-5} \text{ W/cm } ^{o}K \qquad (1)$$

A description is given of a low-temperature device which was used to cool the emulsions below 1 ^{o}K. The emulsions are cooled by connecting them through a heat-conducting rod to a block of an adiabatically demagnetised material. The sensitivity was measured after irradiating the emulsions with Co^{60} γ-rays

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S/120/60/000/005/037/051
E032/E314

Sensitivity and Thermal Conductivity of Nuclear Emulsions at Low Temperatures

at 0.1, 0.3, 1.6 and 300 $^{\circ}$K. The results obtained are summarised in the following table:

Emulsion	Temperature, $^{\circ}$K				Absolute sensitivity at 300 $^{\circ}$K (blobs/100μ)
	300	1.6	0.3	0.1	
NIKFI-R	100%	$\left(36^{+15}_{-10}\right)$%	$\left(31^{+15}_{-10}\right)$%	$\left(21^{+15}_{-10}\right)$%	$\sim$ 60
Ilford G-5	100%	(69 ± 15)%	—	(70 ± 15)%	$\sim$ 25

The sensitivity at 300 $^{\circ}$K was taken at 100%. Acknowledgments are expressed to P.L. Kapitsa for collaboration in this work.

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85363

S/120/60/000/005/037/051
E032/E314

Sensitivity and Thermal Conductivity of Nuclear Emulsions at
Low Temperatures

There are 2 figures, 1 table and 1 Soviet reference.

ASSOCIATION: Ob'yedinenyy institut yadernykh issledovaniy
               (Joint Institute for Nuclear Studies)

SUBMITTED: August 13, 1959

Card 3/3

PERELYGIN, V.P.; TOLSTOV, K.D.

Cross section of the reaction Li^6 $(n,\alpha)H^3$ for 2.15 Mev neutrons.
Atom. energ. 9 no.6:488-489 D '60.   (MIRA 13:12)
         (Lithium--Isotopes)   (Tritium)

TOLSTOV, K. D.

AUTHORS: Selivanov, G. I., Yao Shu-fen, Clyachev, V. P., Saltykov,
V. I., Lebedev, R. M., Mel'nikov, E. N., Nikitin, V. A.,
Parfenov, L. I., Sviridov, V. A., Suk, M., Tolstov, K. D.

Card 1/3

TITLE: Inelastic Interactions of 7 Bev π^--Mesons and Nucleons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 39, No. 4(10), pp. 937-947

TEXT: The inelastic interaction of 7-Bev π^--mesons with nucleons is
studied in this paper. The preliminary results were communicated to
Elsewhere koferentsiya po fiziki vysokikh energiy (Kiev Conference on
the Physics of High Energies). The emulsion chamber consisted of 240
НИКФИ-Р (NIKFI-R) layers with a thickness of 400μ. 5500 interactions
with the nuclei of photoemulsion were observed. Of these, 555 inelastic
interactions were analyzed (Table 1). The theoretical distribution of the
charged particles was calculated by V. S. Barashenkov. Spurious scattering
was eliminated by special measurements (Table 2). 459 pions and 134 protons

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were identified. The angular distribution of pions and the total
distribution of all stars (in c.m.s.) are shown in Fig. 1. For smaller
number of charged particles, the asymmetry increases strongly. This is
principally due to pions with large momenta (Fig. 2). Therefore, the
angular distributions are very different for fast and slow pions (Fig. 3).
Pions with momenta < 0.5 Bev show an almost isotropic distribution. From
the angular and total distributions of protons (Fig. 4) it is seen that
the protons conserve their initial direction. From the momentum
distributions of pions and nucleons, the authors conclude that the
average momentum of the nucleons and of the charged pions does not depend
on the increase of the number of charged particles. The same result
follows from the data for the average transverse momenta p_t of protons
and pions given in Table 3. Fig. 7 shows the number of neutral mesons as
a function of the number of charged particles. The results can be
interpreted only partly by the statistical theory. The asymmetry of the
angular distribution of the secondary pions can only be explained by a
peripheric collision of the pion with a pion of the nucleon shell
(Figs. 8 and 9). An estimate of the radius of the nucleon core gave the

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maximum value of 4·10⁻¹⁴ cm. The authors summarize the results as follows:
Average momentum of protons - (0.69±0.04)Bev/c. Average transverse
momentum - (0.37±0.04)Bev/c. Asymmetry of angular distribution of all
pions - 1.5±0.10; pions with P>0.5 Bev/c are emitted in the forward
direction, their average momentum equaling (0.97±0.06)Bev/c and agrees,
therefore, with that of the protons. The authors thank D. I. Blokhintsev
and T. I. Vaksler for discussion and advice. There are 9 figures, 3
tables, and 33 references: 9 Soviet, 8 US, 1 British, 1 German, 4
Italian, 1 Japanese, and 1 Polish.

ASSOCIATION: Ob"yedinennyy Institut yadernykh issledovaniy (Joint
Institute of Nuclear Research)

SUBMITTED: May 11, 1960

TOLSTOV, K. D.

32991
S/641/61/000/000/018/033
B108/B102

24.6500

AUTHORS: Mikhaylina, K. M., Nomofilov, A. A., Romanova, T. A.,
             Sviridov, V. A., Tikhomirov, F. A., Tolstov, K. D.

TITLE: Interaction of 14.1-Mev neutrons with Li^6 and Li^7

SOURCE: Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey.
             Moscow, 1961, 249 - 257

TEXT: Interaction of 14.1-Mev neutrons with Li^6 and Li^7 nuclei was studied
both with targets prepared from Ilford E_1 photoemulsions bearing the
lithium and with targets of metallic lithium isotopes. The latter method
was used for small angles of the departing particles. The mean number of
Li nuclei in the photoemulsion was $2.3 \cdot 10^{19}$ cm^{-2}. The integral neutron
flux striking the emulsion at right angles was about 10^8 cm^{-2}. Altogether,
412 events were recorded on a 2.5 cm^2 area. 96 events were from the reac-
tion $Li^6(n,t)\alpha$ with a cross section $\sigma = 27 \pm 6$ mb. Seven $Li^6(n,p)He^6$
reactions with a cross section of about 5 mb were found, moreover

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Interaction of 1a.1-Mev...

$Li^6(n,d)He^5$ reactions with a differential cross section of 2.15 to 2.5 mb/sterad in the range between 70 and 142°. The cross section of the $Li^6(n,n')Li^{6*} \longrightarrow d + \alpha$ events was 70 ± 12 mb, that of the reaction $Li^6(n,2n)Li^{5*} \longrightarrow \alpha + p$ was equal to 50 ± 10 mb. Interaction with Li^7 yielded the reactions $Li^7(n,t)He^5$, $Li^7(n,n')Li^{7*}$, and seven $Li^7(n,d)He^6$ events. In the experiments with pure lithium targets the reactions observed were $Li^6(n,d)He^5$ ($\sigma = 58 \pm 10$ mb), $Li^7(n,t)He^5$ (58 ± 12 mb), $Li^7(n,n')Li^{7*} \longrightarrow t + \alpha$, $Li^7(n,d)He^6$. The overall cross section of (n,r') and $(n,2n)$ processes for Li^6 was 179 ± 20 mb. The results obtained are consistent with those of other publications. I. M. Frank, O. I. Kozinets. L. N. Katsaurov, and D. I. Ivanov are thanked for help. There are 6 figures, 1 table, and 7 references: 2 Soviet and 5 non-Soviet. The four most recent references to English-language publications read as follows: Frye, G. M. Phys. Rev., 93, 1086 (1954); Battat, M. E., . Ribe, F. L. Phys. Rev., 89, 80 (1953); Frye, G. M., Rosen, L. Phys. Rev. 90, 381 (1953); Moak, C. D. Phys. Rev., 92, 383 (1953).

Card 2/2

37199
S/560/61/000/011/005/012
E032/E514

3.2100 (also 4303)

AUTHORS: V e prik, Ya.M., Kurnosova, L.V., Razorenov, L.A.,
              Tolstov, K.D., Fradkin, M.I. and Chukin, V.S.

TITLE: Experiment on the development of photographic
              emulsions on board the second cosmic spaceship

SOURCE: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli.
              no.11. Moscow, 1961. Rezul'taty nauchnykh
              issledovaniy, provedennykh vo vremya poletov vtorogo
              i tret'yego kosmicheskikh korabley-sputnikov, 35-41

TEXT: The second Soviet cosmic spaceship carried stacks
of thick nuclear emulsions. Owing to the fact that the spaceship
remained in orbit for a considerable time, the number of particles
recorded in the emulsions was very large, which could complicate
subsequent scanning and identification of particle tracks. It was,
therefore, necessary to develop the emulsions before too many
particles had been recorded. An account is given in the present
paper of how the emulsions were in fact developed on board the
spaceship. The operation was carried out in four stages, namely:
1) exposure of the emulsions to the radiations for a given time,

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Experiment on the development ...   S/560/61/000/011/005/012
                                    E032/E514

2) development, 3) storage of the emulsions (latent-image centres produced during this period could not be developed), 4) subsequent laboratory analysis on the Earth's surface.   The whole operation was carried out in a hermetically sealed container.   The emulsion stack (20 unbacked emulsions 300 μ thick each) had to be so arranged that after the exposure the emulsions could be separated from each other and the developer let in.   This was done by a piston device (a schematic drawing of the latter is reproduced). After this operation the developer was removed and a stopping solution was introduced.   The emulsions remained in this solution until they were returned to the laboratory for final treatment. It was found that relativistic tracks were easily visible in these emulsions, although the sensitivity to the latter turned out to be somewhat lower than usual.   Two particle-track microphotographs are reproduced to illustrate the possibilities of the method. There are 3 figures.

SUBMITTED: July 7, 1961

Card 2/2

29612
S/120/61/00(/004/023/034
E032/E514

24.6830

AUTHORS: Perelygin, V. P., Myachkova, S.A. and Tolstov, K.D.

TITLE: Introduction of beryllium grains into photographic emulsions

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.4, pp.145-147

TEXT: Zh.S. Takibayev (Ref.3: Zh.eksperim.i teor.fiz.,
1953, 24, 229) is said to have been the first to introduce
spherical metal grains into photographic emulsions. Quantitative
experiments concerned with the determination of cross-sections
using non-spherical beryllium grains were described by
S.S.Vasil'yev, V. V. Komarov, A.M. Popova (Ref.4: PTE, 1959.
No.1, 48). The dimensions of the grains depend on the minimum
range of charged particles which can be recorded in an ordinary
emulsion (3 μ approximately). However, the grains cannot be too
small since otherwise there may be confusion as to whether the
event takes place in the grain or the emulsion. The present
authors have used the spark discharge method of evaporation of
metals described by B. R. Lazarenko, N. I. Lazarenko (Ref.5:

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29612

Introduction of beryllium grains ...   S/120/61/000/004/023/034
E032/E514

Elektroiskrovaya obrabotka metallov (Electric Spark Treatment of
Metals), 1950, Gosenergoizdat).   In the case of a spark discharge
between two electrodes located in a dielectric, it is found that
in most cases the metal grains produced during the process are
spherical in form.   It is stated that the "usual circuit" was
employed with R = 115 Ohm, C = 2-8 μF, V = 110 V.   The average
beryllium grain diameter was about 1,5 μ.   The volume of the
dielectric was 50 to 100 cc and the evaporation process was
continued for 60 to 90 min.   At first the dielectric employed
was absolute alcohol,   However, the spark discharge in alcohol
leads to the formation of BeO and Be(OH)$_2$ and complex insoluble
compounds.   Tests were therefore made to determine whether the
grains could be obtained with a spark discharge in liquefied argon.
The evaporation was carried out in a dewar having a volume of
about 200 cc.   The argon was then driven off and the volume was
filled with alcohol.   In this way it was possible to obtain
isolated beryllium grains and the suspension could be kept for
long periods of time.   In order to introduce the grains into the
emulsion, the photographic plates were placed horizontally and the

Card 2/9 3

Introduction of beryllium grains ...   S/120/61/000/004/023/034
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suspension was poured on to it.   The particles then sedimented
down onto the surface and the alcohol was evaporated.   The photo-
graphic plate was then covered by a wet, unbacked emulsion and the
composite emulsion was placed in a 5% solution of glycerine at
15°C for 45 min.   The emulsion was then removed from the glass
backing and dried with filter paper.   The two-layer photo plates
were then placed into a water bath at 45-48°C for 3 to 5 min.
In this bath the upper layer fused into the lower one and the
separation boundary could not be seen through a microscope.   The
procedure has been successfully used with Ilford E-1, C-2,
НИКФИ А-2 (NIKFI Ya-2), T-1 and T-3 emulsions.   Fig.2 shows the
diameter (I) and mass (II) distributions.   N in this figure is
the number of grains, M is the weight of the grains in units of
10^{-9} g/cm^2, and d is the diameter in microns (horizontal axis).
The method has been used i n nuclear reaction studies with
14 MeV neutrons.   Acknowledgments are expressed to G.Ye.Belovitskiy
for advice.   There are 2 figures and 5 references: all Soviet.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics Institute
AS' USSR)

Card 3/3

TOLSTOV, K. D., VEPRIK (fnu), KURNOSOVA, L. V., RAZORENVO, L. A.,FRADKIN, M.I., CHUKIN

"Controlled exposition of nuclear emulsions on sputniks"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West
Germany, 3-8 Sep 62

TOLSTOV, K.D.

[Determination of the effectiveness of observation and the
number of events] Opredelenie effektivnosti nabliudenii i
chisla sobytii. Dubna, Ob"edinennyi in-t iadernykh issle-
dovanii, 1962. 9 p. (MIRA 15:2)
(Photography, Particle track)

SOKOLOV, S.N.; TOLSTOV, K.D.; SARANTSEVA, V.R., tekhn. red.

[Verification of counting efficiency and estimating the true
number of events]Kontrol' effektivnosti nabliudenii i otsenka
istinnogo chisla sobytii. Dubna, Ob"edinennyi in-t iadernykh
issledovanii, 1962. 10 p. (MIRA 15:12)
(Nuclear counters) (Mathematical statistics)

TOLSTOV, V.N.; TOLSTOV, K.N.

Orientation method for the determination of blood sugar. Zdrav.
Kazakh. 22 no.10:75-76 '62.   (MIRA 17:5)

1. Iz Ural'skoy oblastnoy bol'nitsy.

KOROLEV, P.A.; TOLSTOV, K.S.

Smoke generator of a multiple effect. Zashch. rast. ot vred. i bol.
6 no.12:9-11 D '61.   (MIRA 16:5)

LUCHINSKIY, G.P., doktor khimicheskikh nauk; TOLSTOV, K.S., kand.tekhnicheskikh
nauk; KOROLEV, P.A.

Use of haxachloran in insecticidal fumigants. Khim.prom. no.4:235-
237 Ap '61.   (MIRA 14:4)

(Cyclohexane)   (Insecticides)

TOLSTOV, L.A.

Effect of temperature on the oil yield in water flooding.
Neft. khoz. 43 no.6:38-42   Je '65.   (MIRA 18:7)

NOVIKOV, V.N.; TOLSTOV, L.K.; SEREBRYAKOVA, Ye.K.; SOKOLOV, B.M.; Prini-
mal uchastiye: Velent'yev, Yu.I.; KAPGER, V.S.; ZORCHENKO, I.P.;
KARPOV, K.F.; Kushnarenko, V.S.; SHEVCHENKO, L.I.; TRIFONOVA, N.
I.; PODZHUNAS, V.A.; MASLITSKAYA, M.P.

Obtaining industrial naphthalene from the centrifugal naphthalene
of the Gubakha Coke and Coal Chemicals Plant. Koks i khim. no.8:
35-38 '62.   (MIRA 17:2)

1. Vostochnyy uglekhimicheskiy institut (for Novikov, Tolstov,
Serebryakova). 2. Gubakhinskiy koksokhimicheskiy zavod (for Soko-
lov).

ZOLOTAVIN, V.L.; BUKREYEV, Yu.F.; TOLSTOV, L.K.; BEZRUKOV, I.Ya.

Photometric determination of sodium in pure vanadium pentoxide.
Zhur. prikl. spektr. 2 no.5:461-462 My '65.   (MIRA 18:7)

TOLSTOV L. M.   238T17

USSR/Chemistry - Viscosimeters   Aug 52

"The Sliding of Mercury on Glass," L. M. Tolstov,
Moscow Mach Tool and Tool Inst imeni I. V. Stalin

"DAN SSSR" Vol 85, No 6, pp 1329-1332

The sliding effect of Hg can be studied in a capil-
lary having a diam about the size of a micron. Since
this excludes the use of ordinary viscosimeters, a
specially constructed instrument was made from a
long-stem thermometer. Negative results obtained by
Brillouin agree with those obtained by using this
instrument. Presented by Acad P. A. Rebinder
14 Jun 52

                                                238T17

SIL'CHENKO, Serafim Semenovich; TOLSTOV, M.A., inzh., retsenzent;
    LIOZNYANSKIY, M.I., inzh., red.; YERMAKOV, N.P., tekhn.red.

[Hydraulic equipment of metal cutting machines; manual for
repairman] Gidravlicheskoe oborudovanie metallorezhushchikh
stankov; posobie dlia slesarei-remontnikov. Izd.2., dop.
Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1958.
169 p.
                                          (MIRA 12:5)
            (Machine tools--Hydraulic driving)

TOLSTOV, MIKHAIL ALEKSEYEVICH

N/5
741.43
.T6

PNEUMATICHESKIYE I PNEVMOGIDRAVLICHESKIYE PRISPOSOBLENIYA /‾PNEUMATIC
AND PNEUMOHYDRAULIC DEVICES/ MOSKVA, MASHGIZ, 1953-

V. DIAGRS. INCLUDES BIBLIOGRAPHIES. LIB.HAS: 1953 (1st ED.)
1956 (2D ED.)

TOLSTOV, M.A.; SHNEYDERMAN, K.A., red.

[Footprint on the earth] Sled na Zemle. Rostov-na-Donu,
Rostovskoe knizhnoe izd-vo, 1965. 138 p. (MIRA 18:8)

MEN'SHAKOV, Vladimir Mikhailovich; STUDENOK, G.A.,inzhener, redaktor;
KUVSHINSKIY, V.V.,kandidat tekhnicheskikh nauk, retsenzent;
TOLSTOV, M.A.,inzhener, retsenzent;DUGINA, N.A.,tekhnicheskiy
redaktor

[Planing machines] Strogal'nye stanki. Pod red. G.A. Studenok.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956.
54 p. (Nauchno-populiarnaia biblioteka rabochego stanochnika,
no.22)
　　　　　　　(Planing machines)

TOLSTOV, Mikhail Alekseyevich; KERNER, D.B., inzhener, retsenzent; KUVSHIN-
SKIY, V.V., kandidat tekhnicheskikh nauk, redaktor; DUGINA, N.A.,
tekhnicheskiy redaktor
[Pneumatic and pneumatic-hydraulic attachments] Pnevmaticheskie i
pnevmogidravlicheskie prisposobleniia. Izd. 2-oe, dop. i perer.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956.
202 p.   (MIRA 10:4)
                    (Machine tools--Attachments)

DOROFEYEV, Vasiliy Ivanovich, zootekhnik; TOLSTOV, M.A., red.

[We raise ducks without bodies of water] Vyrashchivaem
utok bez vodoemov. Rostov-na-Domu, Rostovskoe knizhnoe
izd-vo, 1963. 14 p.   (MIRA 17:9)

1. Zernogradskaya gosudarstvennaya selektsionnaya stantsiya
(for Dorofeyev).

SHKURO, Gennadiy Alekseyevich: TOLTOV, M., red.

[State dairy farm for Rostov workers] Molochnyi sovkhoz -
trudiashchimsia Rostova. Rostov-na-Donu, Rostovskoe knizh-
noe izd-vo, 1963. 20 p.   (MIRA 17:10)

1. Direktor molochnogo sovkhoza "Aksayskiy" Azovskogo pro-
izvodstvennogo upravleniya Rostovskoy oblasti (for Shkuro).

OGANESYAN, Yefrem Avetisovi   , deputat Verkhovnogo Soveta SSSR;
          TOLSTOV,M.A.,red.
          [Creators of golden fleece] Tvortsy zolotogo runa. Rostov-
          na-Donu, Rostovskoe knizhnoe izd-vo, 1963. 35 p.
                                                  (MIRA 17:10)
          1. Predsedatel' kolkhoza imeni 17 partkonferentsii,
          Remontnenskogo proizvodstvennogo upravleniya, Rostovskoy
          oblasti (for Oganesyan).

CHEPEL', Yakov Grigor'yevich; TOLSTOV, M.A., red.

[Let's discover, let's utilize the resources] Nakhodim,
ispol'zuem rezervy. Rostov-na-Donu, Rostovskoe knizhnoe
izd-vo, 1963. 28 p.   (MIRA 17:10)

1. Direktor ordena Lenina sovkhoza "TSelinskiy" Yegorlykskogo
proizvodstvennogo upravleniya, Rostovskoy oblasti (for Chepel').

GENIKA, Lyubov' Vasil'yevna, kand. veter. nauk; TOLSTOV, M.A.,
red.

[Trichomoniasis in cattle] Trikhomonoz krupnogo rogatogo
skota. Rostov-na-Donu, Rostovskoe knizhnoe izd-vo, 1963.
26 p.   (MIRA 17:6)

FEDOROV, Boris Fedorovich; SLOBODYANNIKOV, S.S., kand.tekhn.nauk,
        retsenzent; TOLSTOV, M.A., inzh., retsenzent; BOGOSLAVETS,
        N.P., tekhn.red.

[Mechanization and automation of fitting and assembling
operations] Mekhanizatsiia i avtomatizatsiia slesarno-
sborochnykh rabot. Moskva, Mashgiz, 1962. 310 p.
                                                    (MIRA 15:5)
    (Assembly-line methods)   (Machine-shop practice)
                (Automation)

ROZIN, Aleksandr Iosifovich; REVENKO, Vyacheslav Andreyevich;
TOLSTOV, M.A., inzh., red.; KUTENKOVA, G.M., tekhn.red.

[Using straight and reverse tooth generation in the manufacture
of cutting tools] Metod priamoi i obratnoi obkatki v proiz-
vodstve instrumenta. Sverdlovsk, TSentr.biuro tekhn.informatsii,
1959. 40 p.
                        (MIRA 14:4)
            (Metal cutting)

TOLSTOV, M. A.

LOSKUTOV, V.V.; BREYEV, B.G., kand.tekhn.nauk, retsenzent; KITAYEV, V.I., inzh., retsenzent; TOLSTOV, M.A., inzh., red.; MODEL', B.I., tekhn.red.

[Automatic and semiautomatic grinding machines] Shlifoval'nye avtomaty i poluavtomaty. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 292 p.   (MIRA 13:3)
                        (Grinding machines)

TOLSTOV, M.A.

Pnevmaticheskie i pnevmogidravliche-
skie prisposobleniia (Pneumatic and pneumohydraulic
devices). Sverdlovsk, Mashgiz, 1953. 164 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 5, August 1954

TOLSTOV M.A.

ALEKSEYEV, B.A.; ROZIN, A.I.; KLIMOV, V.I., inzhener, retsenzent; TOLSTOV, M.A., inzhener, retsenzent; SOMOVA, T.M., inzhener, vedushchiy redaktor, redaktor literatury po kholodnoy obrabotke metallov.

[Metal cutting tools; design and manufacture] Instrumental'noe delo. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1952. 319 p. [Microfilm]   (MIRA 7:10)

1. Uralo-Sibirskoye otdeleniye Mashgiza (for Somova).
    (Cutting tools)

TOLSTOV, M. A.

Pnevmaticheskiye i pnevmogidravlicheskiye prisposobleniya (Pneumatic and pneumo-
hydralic devices) Moskva, Mashgiz, 1953. 162 p. diagrs. "Literatura i istochniki":
p. 161.

SO: N/5
     741.43
     .T6

Tolstov, M.A.

KUVSHINSKIY, Vladimir Vladimirovich; TOLSTOV, M.A., retsenzent; DUGINA,
N.A. tekhnicheskiy redakter.

[Milling machinery] Frezernye stanki. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroitel'noi lit-ry, 1955. 62 p. (Nauchno-populiar-
naia biblioteka rabochego stanochnika, no.24)   (MLRA 9:1)
(Milling machines)

SHUMAKOV, B.A., akademik, red.; TOLSTOV, M.A., red.

[Work mechanization in irrigation farming] Mekhaniza-
tsiia rabot v oroshaemom zemledelii. Rostov-na-Donu,
Rostovskoe knizhnoe izd-vo, 1965. 152 p.

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1. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk
imeni V.I.Lenina (for Shumakov).

TOLSTOV, Mikhail Alekseyevich; DUGINA, N.A., tekhn. red.

[Pneumatic and hydraulic-pneumatic devices] Pnevmaticheskie i
pnevmogidravlicheskie prisposobleniia. Izd.3., dop. i perer.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1961. 270 p.   (MIRA 14:9)
     (Hydraulic machinery)   (Pneumatic machinery)

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(MLRA 7:6)

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TOLSTOY, Mikhail Ivanovich; MIRONETS, Ye.M., red.

[Some problems in the evaluation of the metal potential
in geological formations and revealing of endogenetic
geochemical halos] Nekotorye voprosy otsenki metallo-
nosnosti geologicheskikh obrazovanii i obnaruzheniia
endogennykh geokhimicheskikh oreolov. Kiev, Izd-vo
Kievskogo univ., 1964. 150 p.   (MIRA 18:7)

KARISS, Ya.E.; TOLSTOY, M.N.; FEOFILOV, P.P.

Luminescence and absorption of trivalent neodymium in fluorite
type crystals. Opt. i spektr. 18 no.3:440-445 Mr '65.
(MIRA 18:5)

SEYFUL'-MULYUKOV, R.B., kand.geol.-mineral.nauk; TOLSTOY, M.P., prof.,
doktor geol.-mineral.nauk, red.

[Genetic types of Quaternary sediments and basic data on geo-
morphology] Geneticheskie tipy chetvertichnykh otlozhenii s
osnovnymi svedeniiami po geomorfologii; kratkoe uchebnoe posobie.
Pod red. M.P.Tolstogo. Moskva, Mosk.sel'khoz.akad.im. K.A.
Timiriazeva, 1959. 79 p.   (MIRA 13:9)
          (Sediments (Geology))   (Geology, Structural)

TOLSTOV, N.

Close contact with the economic council. Prof.-tekh. obr. 15 no.4:
3-4 Ap '58.
(MIRA 11:5)

1. Zamestitel' nachal'nika Luganskogo oblastnogo upravleniya trudovykh rezervov.

(Lugansk Province—Technical education)

L 4446-66   EWT(1)/EWT(m)/EWP(t)/EWP(b)   IJP(c)   JD

ACCESSION NR: AP5017897   UR/0051/65/019/001/0097/0101
                                                   535.377

AUTHORS: Sokolov, V. A.; Tolstoy, N. A.

TITLE: Thermal afterglow and thermostimulated current in TlCl single crystals

SOURCE: Optika i spektroskopiya, v. 19, no. 1, 1965, 97-101

TOPIC TAGS: luminescence, thallium compound, thermoluminescence, crystal lattice defect, optic transition

ABSTRACT: This is a continuation of earlier work (Sb. 'Fizika shchelochno galoidnykh kristallov. (II Vses. soveshch.) [Collection Physics of alkali halide crystals, Second All-Union Conference] p. 411, Riga, 1962), where it was shown that luminescence of thallium chloride undergoes strong temperature quenching when heated above 160C. To determine the level spectrum in the forbidden band and its variations in single crystals of thallium chlorides from different sources, which have different luminescence spectra, the authors in-

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vestigated the thermoluminescence and at the same time also the thermostimulated current (TSC) in the same single crystal specimens of TlCl. A block diagram of the experimental setup for the simultaneous measurement is shown in Fig. 1 of the Enclosure. The crystals were excited at -190C with the 365-nm mercury line for five minutes, which was adequate for an equilibrium population of the capture levels. All the investigated single-crystal TlCl specimens displayed thermal afterglow (TA) and TSC. Specimens from different lots had similar shapes of TA and TSC curves, but different luminescence spectra. Different specimens cut from the same crystal (with similar luminescence spectra) may have different ratios of the peak maxima of the TA and TSC curves. The peaks of the TA and TSC of all the TlCl specimens lie within narrow temperature ranges. The net result is that the capture levels of the carriers in single TlCl crystals are connected with the intrinsic defects of the crystal lattice, and that the luminescence mechanism of this sort, when excited by the band-band transition, is similar to the Schoen-Klasens mechanism. Orig. art. has: 5 figures and 1 table.

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L 4446-66
ACCESSION NR: 'AP5017897   0

ASSOCIATION: None

SUBMITTED: 28Apr64   ENCL: 01   SUB CODE: OP, SS

NR REF SOV: 013   OTHER: 010
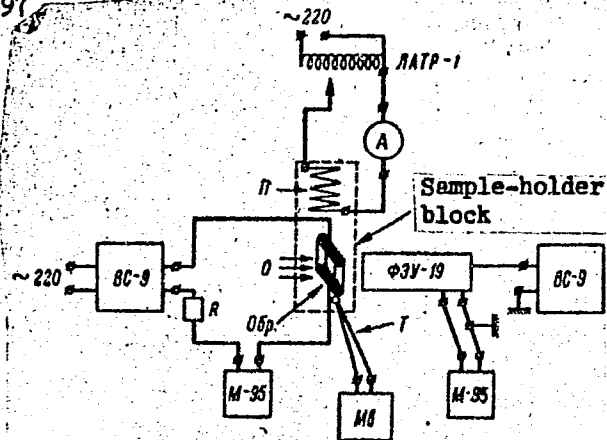
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ACCESSION NR: AP5017897   ENCLOSURE: 01

Fig. 1. Block diagram of setup for simultaneous measurement of thermoluminescence and thermostimulated current.

T - Thermocouple, 0 - direction of exciting light, П - oven of sample holder, R - 15 Meg resistor, обр - sample, ФЭУ - photomultiplier, МВ - millivoltmeter, M-95 - microammeter

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ACCESSION NR: AP4032872   S/0051/64/016/004/0677/0683

AUTHOR: Tolstoy, N.A.; Yepifanov, M.V.

TITLE: Shape of light pulses from a flash tube

SOURCE: Optika i spektroskopiya, v.16, no.4, 1964, 677-683

TOPIC TAGS: flash lamp, flash tube pulse, light impulse, flash tube pulse cutoff,
taumeter, taumeter circuitry   *

ABSTRACT: Flash tubes are now successfully employed in conjunction with pulse tau-
meters; the use of the flash-pulse technique has made it feasible to advance from ,
measurement of integral luminescence lifetimes to measurement of the duration of
individual relaxation processes. However, the pulse taumeter technique, as compared
with the ordinary taumeter procedure, has two related shortcomings which stem from
the fact that the exciting pulses are not square and the fact that the trailing edge
of the light pulse is longer than the leading edge. The last reduces the time-sen-
sitivity of the pulse taumeter measurements. Accordingly, the authors propose a me-
thod for enhancing the time sensitivity by shortening the trailing edge of the light
pulses from the flash tube. This is based on the assumption that the rise and fall

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are both exponential, and is realized in practice by modification of the flash tube
supply (discharge) circuit to provide for sharp cutoff of the current to the tube.
The circuit used by the authors with an IFK-120 infrared flash tube is diagramed.
The shapes of the light pulses yielded by the tube under different supply conditions
are shown in figures. An analytic expression for the pulse shape is also adduced.
Orig.art.has: 7 formulas, 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 25Jan63   DATE ACQ: 07May64   ENCL: 00

SUB CODE: OP, EE   NR REF SOV: 004   OTHER: 000

Card 2/2

RYSKIN, A.I.; TKACHUK, A.M.; TOLSTOY, N.A.

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Opt. i spektr. 18 no.3:422-431 Mr '65.   (MIRA 18:5)
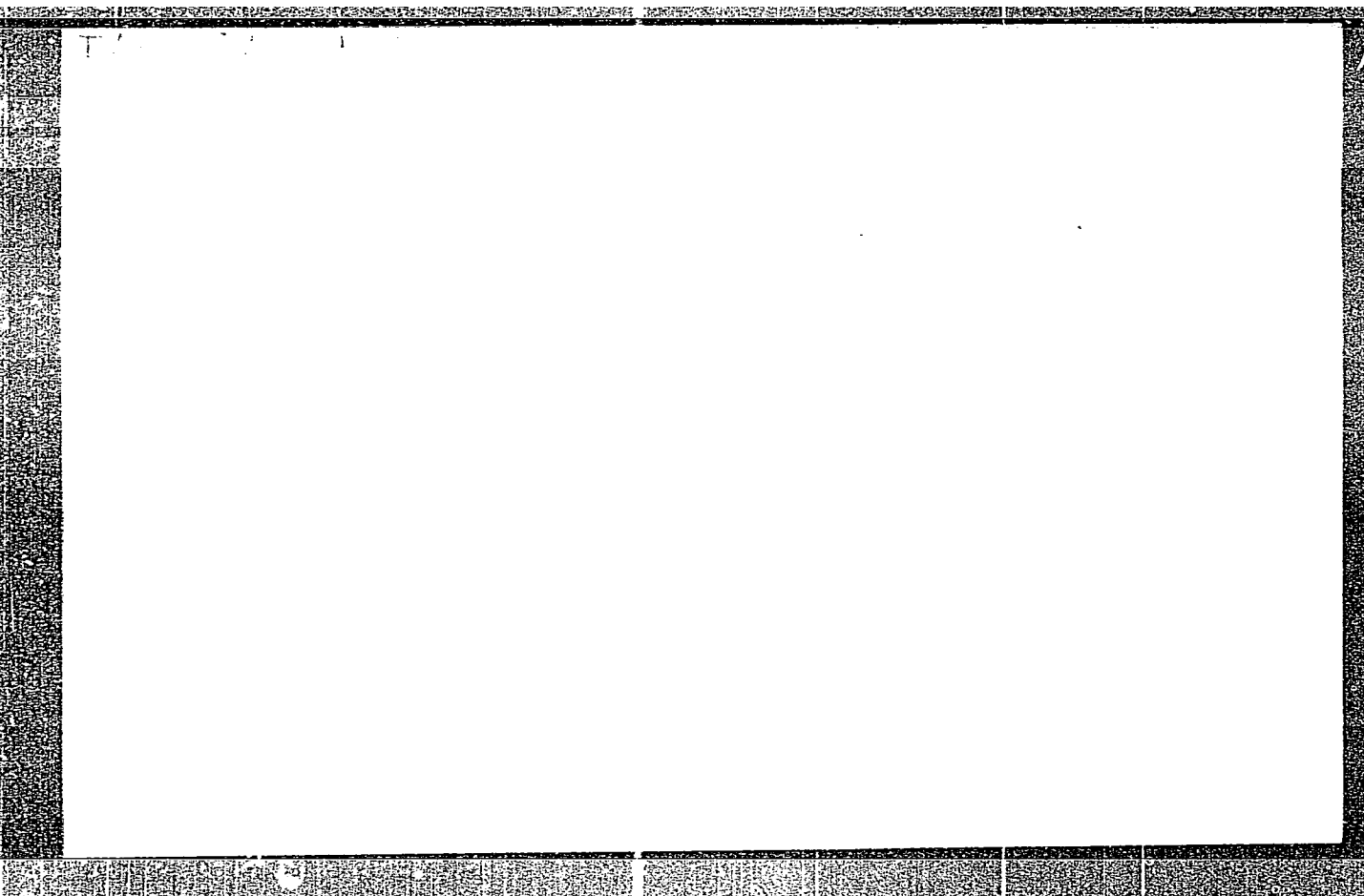
RYSKIN, A.I.; TKACHUK, A.M.; TOLSTOY, N.A.

Optical properties of complex compounds of bivalent platinum.
Izv. AN SSSR. Ser.fiz. 29 no.3:512-515 Mr '65.

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Z.M., doktor geogr. nauk, red.; SULTANOV, G.S., kand.
biol. nauk, red.; PETROSYANTS, M.A., kand. fiz.-matem.
nauk, red.; ZARIFOV, Kh.T., kand. filolog. nauk, red.;
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    [Stoper] Gornorabochii ochistnogo zaboia. Moskva, Gos.nauchno-
    tekhn.izd-vo lit-ry po gornomu delu, 1961. 183 p.   (MIRA 14:12)
                        (Stoping (Mining))

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Moon is made on earth. Znan.-sila 37 no.9:21 S '62.

(MIRA 15:12)

(Moon—Surface)

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KUNIN, V., inzhener-polkovnik; NETYKSA, V., podpolkovnik

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1. Khiva--Antiq. 2. Ethnology--Asia, Central. I. Tolstov, Sergei Pavlovich, ed.

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Vest. AN SSSR 22, No. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, _September_   1953? Uncl.

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N.N. Miklukho-Maklai; 65th anniversary of his death. Sov.etn. no.2:3-9
'53. (MLRA 6:6)

(Miklukho-Maklai, Nikolai Nikolaevich, 1846-1888)

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N.N. Miklukha-Maklai (on the occasion of the 65th anniversary of his death).
Nauka i zhizn' 20 no.4:33-35 Ap '53.   (MLRA 6:5)
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TOLSTOV, S.P.

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Moskva, Izd. Ak. nauk SSSR, 1954. 412 p.

SO: Monthly List of Russian Accessions, Vol. 7, No. 5, August 1954

USSR/ Geography - Geology

Card 1/1   Pub. 45 - 5/16

Authors   : Tolstov, S. P.; Kes', A. S.; and Zhdanko, T. A.

Title   : The history of the Sarikamish Lake in the Middle Ages

Periodical : Izv. AN SSSR. ser. geog. 1, 41-50, Jan-Feb 1954

Abstract   : The origin of Lake Sarikamish is traced to the Pliocene Epoch at which time
             it was full of water and formed a large basin. During the first half of the
             Quarternary Period it became dry and in the second half of the same period it
             again filled with water due to the change in the course of the Amu-Darya
             River. In the 16th Century the level of the water began to sink, the water
             became salty and it finally dried out altogether. Fifteen Russian and USSR
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Institution : Ethnographical and Geographical Institute of the Soviet Academy of Science

Submitted   : ...

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dnei. Tashkent, Izd-vo Akad.nauk Uzbekskoi SSR, 1957. 313 p.

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red.; KARY-NIYAZOV, T.N., akademik, red.; LEMMLEYN, G.G., prof.,
red.; SAL'YE, M.A., kand.filolog.nauk, red.; SEMENOV, A.A., red.;
TOLSTOV, S.P., pochetnyy akademik, red.; UKLONSKIY, A.S., akademik,
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2. Chlen-korrespondent AN UzSSR (for Gulyamov, Semenov).
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    VINOGRADOV, A.P., akademik; SOBOLEV, S.L., akademik; KOSTENKO, M.P.,
    akademik; TOLSTOV, S.P.; SAZHIN, N.P.; KAZARNOVSKIY, I.A.; VUL, B.M.;
    TROFIMUK, A.A., akademik

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M.M., kand.istor.nauk. Prinimali uchastiye LEVINA, L.M.,
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history of their formation and settlement] Nizov'ia Amu-Dar'i,
Sarykamysh, Uzboi; istoriia formirovaniia i zaseleniia. Pod
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