Spectra of fission neutrons...

of the fragments. Here are the values obtained: $n_f(0^\circ):n_f(45^\circ):n_f(90^\circ)$ = (1.31±0.07):(1.22±0.06):1.00. The neutron distribution showed a considerable anisotropy: $b_{14} = N(0^\circ)/N(90^\circ) = 3.23\pm0.12$. The following value has been obtained after subtracting the neutrons evaporated before a fission $b'_{14} = 4.03 \pm 0.23$; this value agrees within the limits of error with that obtained for thermal neutrons ($b_t = 4.35\pm0.19$). In order to describe these experimental results theoretically, calculations have been done and various assumptions have been made regarding the neutron spectra in the coordinate system of the fragments. However, no variant was able to yield satisfactory results that agreed with all three spectra which have been examined. The authors thank P. V. Toropov, Yu. Ya. Glazunov, A. N. Maslov, N. I. Nemudrov, V. A. Parshina, V. S. Khorkhordin, V. A. Komarova, M. P. Novikova, G. A. Peretokina, and L. A. Chernova for assistance. There are 6 figures, 1 table, and 14 references: 6 Soviet-bloc and 8 non-Soviet-bloc. The three references to English-language publications read as follows: Ref. 7: W.Stein.Phys.Rev. 108, 94 (1957); Ref. 10: S. Whetstone. Phys.Rev., 114, 581 (1959); Ref. 12: J. Terrell,

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S/089/60/009/006/001/011
B102/B212

Spectra of fission neutrons...

Phys.Rev., 113, 527 (1959).

SUBMITTED: February 29, 1960

Legend to Fig. 2: 1) U^{235} layer; 2) deuteron beam; 3) target; 4) collimators.

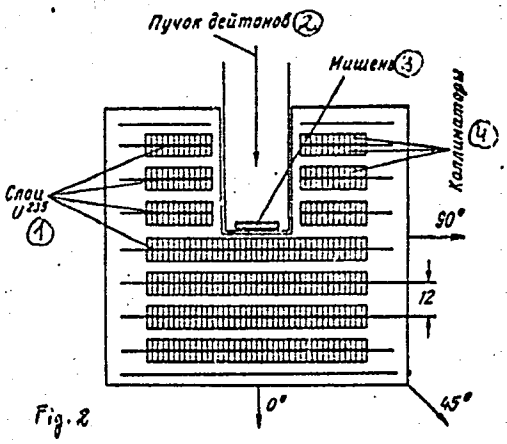

Fig. 2

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24.6500,24.6510

77246
SOV/89-8-2-11/30

AUTHORS: Kazarinova, M. I., Zamyatnin, Yu. S., Gorbachev, V. M.

TITLE: 2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 2, pp 139-141 (USSR)

ABSTRACT: Following recent fission cross-section measurements by fast neutrons, various researchers tried to establish an empirical relation between the relative fission probability $f = \frac{\sigma f}{\sigma c}$ and parameter $\frac{Z^2}{A}$. Nevertheless, the functional relation between f and the mass number A (for a fixed atomic number Z) was investigated in some detail only for the case of uranium, and the relation between f and Z was not clear at all, except that f rises quite rapidly with increasing Z. To study closer this latter problem and to get a more precise f(A) relationship, the authors exposed Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} to

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SOV/89-8-2-11/30

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

2.5 and 14.6 mev neutrons originating from deuterium and tritium targets bombarded by 150-200 kev deuterons. The registration of events took place by means of a fission chamber with electron collection. Isotope content of Th and Am was determined mass-spectrometrically, and that of Pu^{239} in a layer of Pu^{240} by "weighing" it in the flux of thermal neutrons. The content of Am^{241} formed in a Pu^{241} layer resulting from its β disintegration was determined from the known accumulation time. The amount of Th^{230}, Pu^{240}, Am^{241} isotopes in layers under investigation was determined by counting α -particles emitted by those isotopes. The Pu^{240} content in the layer was also determined from the number of spontaneous fissions, and the amount of Pu^{241} by counting α -particles from Am^{241}. The Pu^{241} layer was also "weighed" in the thermal neutron flux, taking 1,025 $\pm$ 10 barn for the

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value of the Pu^{241} thermal neutron fission cross section. For Pu^{240} and Pu^{241} various methods used agreed within experimental errors. Table 1 contains the results obtained together with the half-lives used by the authors during calculations.

Table 1. The characteristics of layers of isotopes studied.

Isotope	Effective weight, μg	Half-life, years	Isotopic composition
Th^{230}	(1870±40)	$8 \cdot 10^4$ [1]	(35±1)% Th^{230}; (65±1)% Th^{232}
Pu^{240}	(345±15)	$6,6 \cdot 10^3$ [1]; $Th_{spont.} = 1,2 \cdot 10^{11}$ [2]	15% Pu^{239}; 85% Pu^{240}
Pu^{241}	(50,6±1,6)	13,2 [3]	12% Am^{241}; 88% Pu^{241}
Am^{241}	(89±2)	458±0,5 [3]	100% Am^{241}

2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

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SOV/89-8-2-11/30

The 14.6 mev neutron cross section was determined by absolute methods. Neutron flux was obtained counting α-particles from $T(d, n)He^4$ reaction, while the background of scattered neutrons was determined performing measurements at different places between the chamber and the sources. The 2.5 mev measurements could not be made completely exact, because of the small counting rate. Relative measurements utilized twin fission chambers which contained at the same time a material of known fission cross section for neutrons of given energy. Cross section of Th^{230} was taken relative to that of Th^{232}, and those of Pu^{240}, Pu^{241}, and Am^{241} relative to the U^{238} fission cross section. For control purposes Am^{241} was compared to U^{235}. The 2.5 mev cross sections were also compared to those at 14.6 mev by utilizing the relative fission cross sections of materials used in the neutron beam monitors:

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0.13 and 0.34 barn for Th^{235} and 0.58 and 1.1 barn for U^{238} detectors at the respective energies of 2.5 and 14.6 mev. Cross section values are from papers of Hughes and Schwartz (see reference at end of Abstract). All 2.5 mev values agreed on the limit of errors, and results are given in Table 2.

Table 2. 2.5 and 14.6 mev neutron induced fission cross sections σ_f of isotopes, barn.

Isotopes	2.5 mev		14.6 mev		
	Data from present experiments	Data by other authors	Data from present experiments	Data by other authors	** σ_{f_1}
Th^{230}	0,41±0,08	--	0,72±0,15	—	0,90
Pu^{240}	1,6 ±0,3	1,5±0,15 [A]	2,4 ±0,3	2,6 ±0,2* [A]	2,55
Pu^{241}	1,2 ±0,2	—	2,05±0,1	—	2,15
Am^{241}	1,95±0,2	1,35 [1]	2,95±0,15	2,35±0,15 [8]	2,85

* Fission cross section due to neutrons of 15 mev energy.
** Fission cross sections on the second plateau, computed using Eq. (1).

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2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

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SOV/89-8-2-11/30

In Table 2, Reference [A] is: V. G. Nesterov, G. N. Smirenkin, Zh. eksperim. i teor. fiz., 35, 522 (1958); and Reference [B] is: A. N. Protopopov, Yu. A. Selitskiy, Atomnaya energiya, 6, Nr 1, 67 (1959). The authors paid special attention to possible mistakes in the case of Am^{241}, where the results disagreed with results of other authors, but they did not find any appreciable error. Evaluation of Results. The 2.5 mev neutron results verify the decrease of the fission cross section and the ratio f with the increase of A (for fixed Z). The explanation of this is connected to the decrease of neutron binding energy, and to the related rise in neutron evaporation probability. From this standpoint the practically negligible influence of pairing of the fissionable isotopes on f(A) seems slightly strange, since it affects the binding energy E_B. The authors found also that f is not a single-valued function of Z^2/A since, as seen on Fig. A, each element has a particular f-curve.

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2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

77246
SOV/89-8-2-11/30

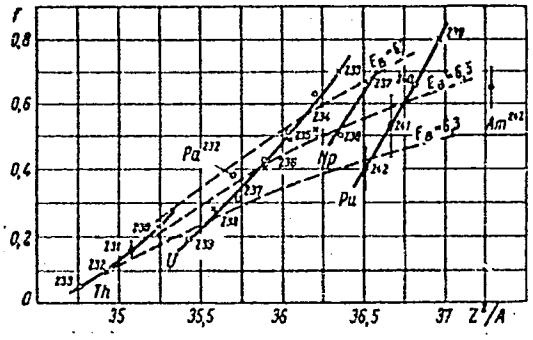

Fig. "A". Relative probability of nuclear fission f versus the parameter Z^2/A. o, neutron-induced fission; x, photofission (points o and x taken from: Yu. S. Zamyatnin, The Physics of Nuclear Fission, Supplement Nr 1 to the periodical Atomnaya energiya; M. Atomizdat, 1957, p 27, corrected by taking into account newly published fission cross-section data); I are data from the present investigation. Dashed line shows approximate $f(Z^2/A)$ relationships for various values of the binding energy.

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2.5 and 14.6 mev Neutron Cross Sections of Th^{230}, Pu^{240}, Pu^{241}, and Am^{241} Fission. Letter to the Editor

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SOV/89-8-2-11/30

Trying to fit all the curves together using Z^n/A, at $n \neq 2$, dependence, it became clear to the authors that fitting curves of different groups of elements would require different exponents of n. To fit Th, Pa, and U, n should be 1.7; to fit U, Np, and Pu, n should be 1.2; to fit Am^{242} with the Pu curve, n = 0.8. The authors note that the weaker dependence of f from Z is apparently connected to the fact that, in addition to the Z^2/A parameter, f is determined also by the probability of neutron evaporation, which again depends on the binding energy of neutrons. If one takes into account that for a given Z^2/A and the same pairing, an increase in Z is connected to a decrease of binding energy (see Table 3) and, consequently, with an increase of evaporation probability, it becomes understandable why one observes reduced relative fission probability of isotopes of elements with larger Z.

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Table 3. Neutron binding energy in nuclei versus Z for fixed Z^2/A, in mev.

Z^2/A							
35,25		35,5		36,2		36,5	
—	—	Th^{228}	7,0	—	—	U^{232}	7,1
Th^{230}	6,7	Pa^{233}	6,6	U^{234}	6,7	Np^{237}	6,7
Pa^{235}	6,3	—	—	Np^{239}	6,3	Pu^{242}	6,2
—	—	U^{238}	6,0	—	—	—	—
U^{240}	5,8	—	—	—	—	—	—

It follows that by observing nuclei which have equal values of E_B one can exclude the effect of neutron evaporation and obtain an $f(Z^2/A)$ depending on the fission process only (see Fig. A). The 14.6 mev

fission cross sections may be compared to the expected fission cross-section values on the second plateau using

$$\sigma_{f_1} = \sigma_{f_0}\left[1 + \frac{(1-f_0)f_{-1}}{f_0}\right]. \qquad (1)$$

Computed values σ_f are tabulated in Table 2. Allowing during such a comparison the possibility of occurrence of a new channel leading to fission of the nucleus reaction (n, 2nf) whose energy threshold lies slightly below 14 mev, and allowing the possibility of a slant of the plateau due to a difference in the fission Γ_f and neutron Γ_n width increase with energy, the agreement may be considered as good. A larger discrepancy in case of Th^{230} can be explained by lower accuracy of its fission cross-section determination. B. V. Kurchatov, M. I. Pevzner, G. N. Yakovlev, E. P. Dergunov,

and S. K. Sokolova supplied the isotopes and prepared the layers; I. A. Tishchenko and G. M. Kukavadze performed the mass-spectrometric analysis; Yu. A. Vasil'yev and E. I. Sirotin performed measurements on the accelerating tube; and M. S. Shvetsov, Yu. A. Barashkov, and E. D. Beregovenko helped take measurements. There is 1 figure; 3 tables, and 8 references, 3 Soviet, 1 U.K., 4 U.S. The U.K. and U.S. references are: J. Huizenga, Phys. Rev., 109, 484 (1958); D. Hughes, R. Schwartz, Neutron Cross Sections, New York, BNL (1958); D. Hall, T. Markin, J. Inorg. and Nucl. Chem., 4, 137 (1957); R. Leachman, Report Nr 2467 presented by U.S.A. at the Second United Nations International Conference for the Peaceful Uses of Atomic Energy (Geneva 1958); M. Studier, J. Huizenega, Phys. Rev., 96, 545 (1954).

SUBMITTED: August 8, 1959

Card 11/11

S/089/60/010/001/002/020
B006/B063

AUTHORS: Bonyushkin, Ye. K., Zamyatnin, Yu. S., Spektor, V. V., Rachev, V. V., Negina, V. R., Zamyatnina, V. N.

TITLE: Fragment Yields From U^{233} and Pu^{239} Fissions Induced by Fast Neutrons

PERIODICAL: Atomnaya energiya, 1960, Vol. 10, No. 1, pp. 13 - 18

TEXT: The authors applied radiochemical methods to determine the absolute fragment yields of U^{233} and Pu^{239} fissions induced by 14.5-Mev neutrons and neutrons of the fission spectrum. A report of the results is made here. Specimens of $U_3^{233}O_3$ and metallic Pu^{239} foils (120 - 150 mg) were irradiated in hermetically sealed brass cells - both with 14.5 Mev neutrons (from the target of an accelerator, by means of a t,d-reaction) and neutrons of the fission spectrum (from a non-moderated U^{235} arrangement). The total flux hitting the specimens was $\sim 5.10^{14}$ neutrons. Thereupon, the fragments were

separated chemically, and their beta activity was measured. The mass distributions of fragments were determined for the irradiated specimens. The curves are basically symmetric, i. e., the minimum between A = 110 - 120 is flanked by two maxima at A = 90 - 100 and A = 135 - 145. The simple linear correlation between the difference Δm of the average masses of the heaviest and the lightest fragment and the atomic weight of the nucleus undergoing fission was independent of the neutron energy but dependent on whether A was even or odd:

$\Delta m = 288 - 1.04\ A + \delta$, $\delta = \begin{cases} 0 \text{ (even A)} \\ \sim 2 \text{ (odd A)} \end{cases}$. A. A. Malinkin, Yu. A. Vasil'yev, and V. I. Shamarukhin are thanked for neutron irradiation of the specimens; P. N. Moskalev, N. V. Shuvanova, A. A. Yegorova, and K. N. Borozdina for chemical operations; and V. V. Zakatilov and L. N. Sorokina for assistance in physical measurements. Numerical results are tabulated. There are 5 figures, 1 table, and 12 references: 5 Soviet and 7 US.

SUBMITTED: April 16, 1960

S/089/62/010/001/002/020
B006/B063

Выходы осколков деления U^{233} и Pu^{239}

Осколки 1	U^{233}		Pu^{239}	
	нейтроны спектра деления 2	нейтроны с энергией 14,5 Мэв 3	нейтроны спектра деления 2	нейтроны с энергией 14,5 Мэв 3
Sr^{89}	6,30±0,60	—	—	—
Mo^{99}	4,75±0,35	3,5±0,3	5,9±0,6	4,16±0,40
Ru^{103}	0,413±0,045	2,31±0,30	6,0±0,7	6,25±0,80
Ru^{106}	0,16±0,02	1,52±0,20	4,8±0,6	4,16±0,5
Ag^{111}	0,0837±0,008	1,22±0,12	0,55±0,06	1,46±0,14
Cd^{115}	0,052±0,006	0,98±0,18	0,09±0,01	1,23±0,10
$115_{поли}$	0,050±0,006	1,05±0,20	0,095±0,010	1,30±0,11
Te^{129m}	0,602±0,050	—	0,45±0,09	—
$129_{поли}$	1,57	—	1,17	—
Te^{132}	4,36±0,40	3,98±0,35	3,5±1,0	4,58±0,50
Cs^{136}	0,11	0,5	—	—
Cs^{137}	6,28±0,50	4,7±0,5	—	5,1±0,8
Ba^{140}	6,31±0,50	—	5,4±0,5	4,35±0,40
Ce^{141}	6,77±0,60	5,0±0,5	—	—

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Legend to the Table: 1) Fragment, 2) the fission being induced by neutrons of the fission spectrum, 3) the fission being induced by 14.5-Mev neutrons.

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82405

S/056/60/038/03/02/033
B006/B014

21.1100

AUTHORS: Vasil'yev, Yu. A., Zamyatnin, Yu. S., Il'in, Yu. I., Sirotinin, Ye. I., Toropov, P. V., Fomushkin, E. F.

TITLE: Measurement of Spectra and the Average Neutron Number in the Fission of U^{235} and U^{238} by 14.3-Mev Neutrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 3, pp. 671-684

TEXT: The present article deals in detail with the experimental investigations made in the energy range 0.4 - 5 Mev by means of the time-of-flight technique and a pulsed neutron source. The experimental arrangement is schematically shown in Fig. 1. The reaction $T(d,n)He^4$ served as primary neutron source in the target of an accelerator. The target was bombarded with 150-kev deuterons. The time-of-flight determination was carried out electronically by measuring the time integrals between the pulses in the detector. The deuteron impulses were obtained by modulation; i.e., by means of a sinusoidal

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Measurement of Spectra and the Average Neutron Number in the Fission of U^{235} and U^{238} by 14.3-Mev Neutrons

S/056/60/038/03/02/033
B006/B014

electric field (f = 2Mc/sec); the pulses of the 14.3-Mev neutrons lasted 3mμsec and had a frequency of 4 Mc/sec. On the average, 4 neutrons were obtained per pulse. Two fission chambers were used (with U^{235} (90 per cent) and U^{238} (natural isotope composition)); the chambers were filled with a mixture of argon and CO_2-gas (10 per cent) at 760 torr. A tolan crystal (diameter 80 mm, thickness 25 mm) with a photomultiplier of the type FEU-33 served as neutron detector. The efficiency of the detector was determined according to Hardy. Fig. 2 shows the efficiency as a function of the energy of three threshold energies: 0.2, 0.25, and 0.3 Mev. The electronic apparatus used to measure the pulse distribution in the detector with respect to time is described in detail. Fig. 3 illustrates a block scheme, Fig. 4 a recorded pulse versus time diagram. Fig. 5 shows the time distribution of the pulses recorded with the measurement of the neutron spectrum of the U^{238} fission. Besides neutrons and γ-rays of the fission the following were also recorded: 14-Mev primary neutrons, neutrons, and γ-quanta due to interaction between primary neutrons and parts of the apparatus, radiations of the activated

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82405

S/056/60/038/03/02/033
B006/B014

Measurement of Spectra and the Average Neutron Number in the Fission of U^{235} and U^{238} by 14.3-Mev Neutrons

substances, neutrons, and γ-quanta due to primary neutron scattering, and 2.5-Mev neutrons from the accelerator. Details and accuracy of the "separation" of the measured values from the background are discussed. The neutron spectra of U^{235} and U^{238} fission are shown in Figs. 7a and 7b. All curves show a similar course: a steep ascent, a peak, and an even descent. Figs. 8a and 8b show the diagrams made for the analysis of the spectra in the coordinates $\ln (F(E)/E)$ and E_p. The spectra may be satisfactorily represented by

$$F(E) = \alpha \frac{E}{T^2} \exp(-E/T) + (1-\alpha) \frac{\exp(-w/T_f)}{\sqrt{\pi w T_f}} \exp(-E/T_f) \operatorname{sh} \frac{2\sqrt{wE}}{T_f} .$$

The analytical results are listed in Table 1. The following parameter values are indicated: for U^{235}, $T_f = (1.06 \pm 0.03)$ Mev; $T = (0.37 \pm 0.04)$ Mev; α (fraction of evaporated neutrons) $= (0.16 \pm 0.02)\%$; for U^{238}, $T_f = (1.16 \pm 0.03)$ Mev; $T = (0.40 \pm 0.04)$ Mev; $\alpha = (0.21 \pm 0.02)\%$. The average number of neutrons emitted in the fission $\bar{\nu}$: 4.17 ± 0.30 (U^{235}) and

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82405

Measurement of Spectra and the Average Neutron Number in the Fission of U^{235} and U^{238} by 14.3-Mev Neutrons

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B006/B014

4.28 ± 0.30 (U^{238}), the ratio $\bar{\nu}(U^{238})/\bar{\nu}(U^{235}) = 1.03 \pm 0.03$. The following data were obtained: U^{235}; $d\bar{\nu}/dE_n = 0.112 \pm 0.011$ and U^{238}; $d\bar{\nu}/dE_n = 0.115 \pm 0.011$; ($E_n$ - neutron energy). In conclusion, the authors thank Yu. Ya. Glazunov, A. N. Maslov, N. I. Nemudrov, V. A. Parshina, A. I. Reshetov, V. S. Khorkhordin, and V. N. Shikin for having participated in the measurements and for their assistance, V. A. Komarova for computer calculations. Mention is also made of the group of V. A. Ivanov, Yu. S. Zamyatnin, G. A. Bat', and L. P. Kudrin. There are 9 figures, 2 tables, and 21 references, 12 of which are Soviet.

SUBMITTED: August 5, 1959

Card 4/4

32987
S/641/61/000/000/014/033
B104/B102

24.6600

AUTHORS: Bonyushkin, Ye. K., Zamyatin, Yu. S., Kirin, I. S., Martynov, N. P., Skvortsov, Ye. A., Ushatskiy, V. N.

TITLE: Fragment yields of fast neutron fission of U^{235} and U^{238}

SOURCE: Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey. Moscow, 1961, 224-234

TEXT: Results of fragment yield measurements carried out in 1953-1955 are dealt with. U^{235} and U^{238} were fissioned by 14.5-Mev neutrons and fission neutrons. The relative fragment yield with respect to the Mo^{99} yield and the absolute yield in Mo^{99} were determined. Pressed 10-50 g U_3O_8 tablets were put into a hermetically sealed container.

A U^{235} multiplication system without a moderator, and a converter which transformed thermal neutrons into fission neutrons were used as fission neutron sources. The specimen was bombarded by an integral neutron flux of $2 \cdot 10^{13}$. A tritium-saturated zirconium target which was bombarded with

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Fragment yields of fast ...

150-kev protons served as 14.5-Mev neutron source. The integral neutron flux onto the specimen was $2 \cdot 10^{14}$. The irradiation time was 6 to 10 hrs. The fission fragments were separated from the irradiated samples by isotope dilution. The fragment yields were determined from their β-activity by end-window counters with a 15-20 μ thick mica window having a diameter of 20 mm. The results are summarized in Table 2. The relative probability of a symmetrical fission largely depends on the excitation energy of the compound. For U^{235} the ratio r between the fragment yield of a symmetrical fission and the maximum yield increases from 0.0016 in thermal-neutron fission to 0.0052 in fission induced by fission neutrons, and to 0.2 in the fission with 14.5-Mev neutrons. An increase in excitation energy of the compound nucleus to 14.5 Mev increases the relative probability of a symmetrical fission by a factor of 125. The variation of r for U^{239}, U^{236}, U^{234}, and Pu^{239} is studied as a function of Z^2/A. The distribution of the fragment yields of these isotopes as a function of A of the fragments is asymmetric. The authors thank A. A. Malinkin, M. I. Pevzner, L. B. Poretskiy and Ye. I. Sirotinin for irradiating the uranium samples with neutrons, V. V. Spektor and L. S. Andreyeva for help in the measurements, V. N. Zamyatnina, A. A. Bessarabenko, Ye. P.

Card 2/4 3

Krasheninnikova, V. R. Negina, N. V. Shuvanova, S. Ye. Sanina and E. A. Kozyreva for the radiochemical separation. A. N. Protopopov (Atomnaya energiya, 5, vyp. 2, 1958) is mentioned. There are 6 figures, 2 tables, and 19 references: 5 Soviet and 14 non-Soviet. The four most recent references to English-language publications read as follows: Fong P., Phys. Rev., 102, 434 (1956); Katcoff S., Nucleonics, 16, 4 (1958); Bunney L. R., Scadden E. M., Abriam J., Ballou N. O., report no. 643, held at the Second International Conference on the Peaceful Uses of Atomic Energy, Geneva, 1958; Hemmendinger A., report no. 663, held at the Second International Conference on the Peaceful Uses of Atomic Energy, Geneva, 1958.

Table 2. Total fragment yield, %.
Legend: (1) isotope, (2) fission spectrum, (3) 14.5 Mev.

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BONYUSHKIN, Ye.K.; ZAMYATNIN, Yu.S.; SPEKTOR, V.V.; RACHEV, V.V.; REGINA, V.R.; ZAMYATNINA, V.N.

Yields of fragments from the fission of U^{233} and Pu^{239} induced by fast neutrons. Atoms. energ. 10 no.1:13-18 Ja '61. (MIRA 13:12)
(Uranium—Isotopes) (Plutonium) (Fission products)

S/824/62/000/000/003/004
B164/B102

AUTHOR: Zamyatnin, Yu. S.

TITLE: Fission prompt neutrons and γ-rays

SOURCE: Fizika deleniya atomnykh yader. Ed. by N. A. Perfilov and V. P. Eysmont. Moscow, Gosatomizdat, 1962, 98 - 120

TEXT: A review is given on the results obtained by experiments on prompt neutrons and γ-quanta emitted from excited fission fragments of heavy nuclei. The papers under reference cover the period of the last five years. The following matters are considered in detail: The dependence of number and spectrum of prompt neutrons, evaporated from the fragments, on Z and A of the initial nucleus and on the energy of the fission-inducing neutron; Angular and energy distributions, anisotropy effects. Fission γ-quantum yields and spectra as regards their dependence on fission parameters, e.g. on fragment mass ratio. Finally some open questions are discussed. It is urged that experiments on spectra and angular anisotropy in the c.m.s. and on spectra of neutrons emitted from fragments of different mass are very desirable. There are 14 figures and 3 tables.

Card 1/1

KORSHAK, V.V.; ZAMYATINA, V.A.; BEKASOVA, N.I.

Polycondensation of 1,2-diphenyldiborane with diamines. Izv. AN SSSR. Ser.khim. no.9:1648-1651 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Diborane) (Amines)

KORSHAK, V.V.; BEKASOVA, N.I.; CHURSINA, L.M.; ZAMYATINA, V.A.

Reaction of 1,2-diphenyldiborane with amines and organoborodiamines. Izv. AN SSSR. Ser.khim. no.9:1645-1648 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Diborane) (Amines) (Boron organic compounds)

BONYUSHKIN, Ye.K.; ZAMYATNIN, Yu.S.; SPEKTOR, V.V.; RACHEV, V.V.; REGINA, V.R.; ZAMYATNINA, V.N.

Yields of fragments from the fission of U^{233} and Pu^{239} induced by fast neutrons. Atom. energ. 10 no.1:13-18 Ja '61. (MIRA 13:12)
(Uranium—Isotopes) (Plutonium) (Fission products)

NEGINA, V.R.; ZAMYATNINA, V.N.; YEGOROVA, A.A.; Prinimali uchastiye: PRESNYAKOVA, M.A.; CHIKISHEVA, L.S.; SHEVCHENKO, P.P.; TRUBIN, I.A.; MAL'KOV, V.I.

Determination of chlorine, arsenic, and phosphorus impurities in some organic materials by the activation method. Radiokhimiia 5 no.2:270-272 '63. (MIRA 16:10)

NEGINA, V.R.; ZAMYATNINA, V.N.

Quantitative determination of traces of barium, nickel, copper, antimony, molybdenum, manganese, cadmium, tin, gold, arsenic in metallic beryllium by the radioactivation method. Zhur.anal. khim. 16 no.2:209-212 Mr-Ap '61. (MIRA 14:5)
(Metals--Analysis)
(Activation analysis)

ZAMYATNINA, V.N.; CHIKISHEVA, L.A.

Quantitative determination of the sum of rare-earth elements, ruthenium, palladium, and platinum in metallic beryllium using the activation method. Radiokhimiia 5 no.3:294-298 '63. (MIRA 16:10)

(Radioactivation analysis) (Radioisotopes—Analysis)
(Beryllium—Analysis)

ZAMYATNINA, V.N.

S/089/60/010/001/002/020
B006/B063

AUTHORS: Ronyushkin, Ye. K., Zamyatnin, Yu. S., Spektor, V. T., Nachev, V. V., Negina, V. R., Zamyatnina, V. N.

TITLE: Fragment Yields From U^{235} and Pu^{239} Fissions Induced by Fast Neutrons

PERIODICAL: Atomnaya energiya, 1960, Vol. 10, No. 1, pp. 15 - 18

TEXT: The authors applied radiochemical methods to determine the absolute fragment yields of U^{235} and Pu^{239} fissions induced by 14.5-Mev neutrons and neutrons of the fission spectrum. A report of the results is made here. Specimens of $U_3^{235}O_3$ and metallic Pu^{239} foils (120 - 150 mg) were irradiated in hermetically sealed brass cells - both with 14.5 Mev neutrons (from the target of an accelerator, by means of a t,d-reaction) and neutrons of the fission spectrum (from a non-moderated U^{235} arrangement). The total flux hitting the specimens was $\sim 5 \cdot 10^{14}$ neutrons. Thereupon, the fragments were

Card 1/2

Fragment Yields From U^{235} and Pu^{239} Fissions Induced by Fast Neutrons

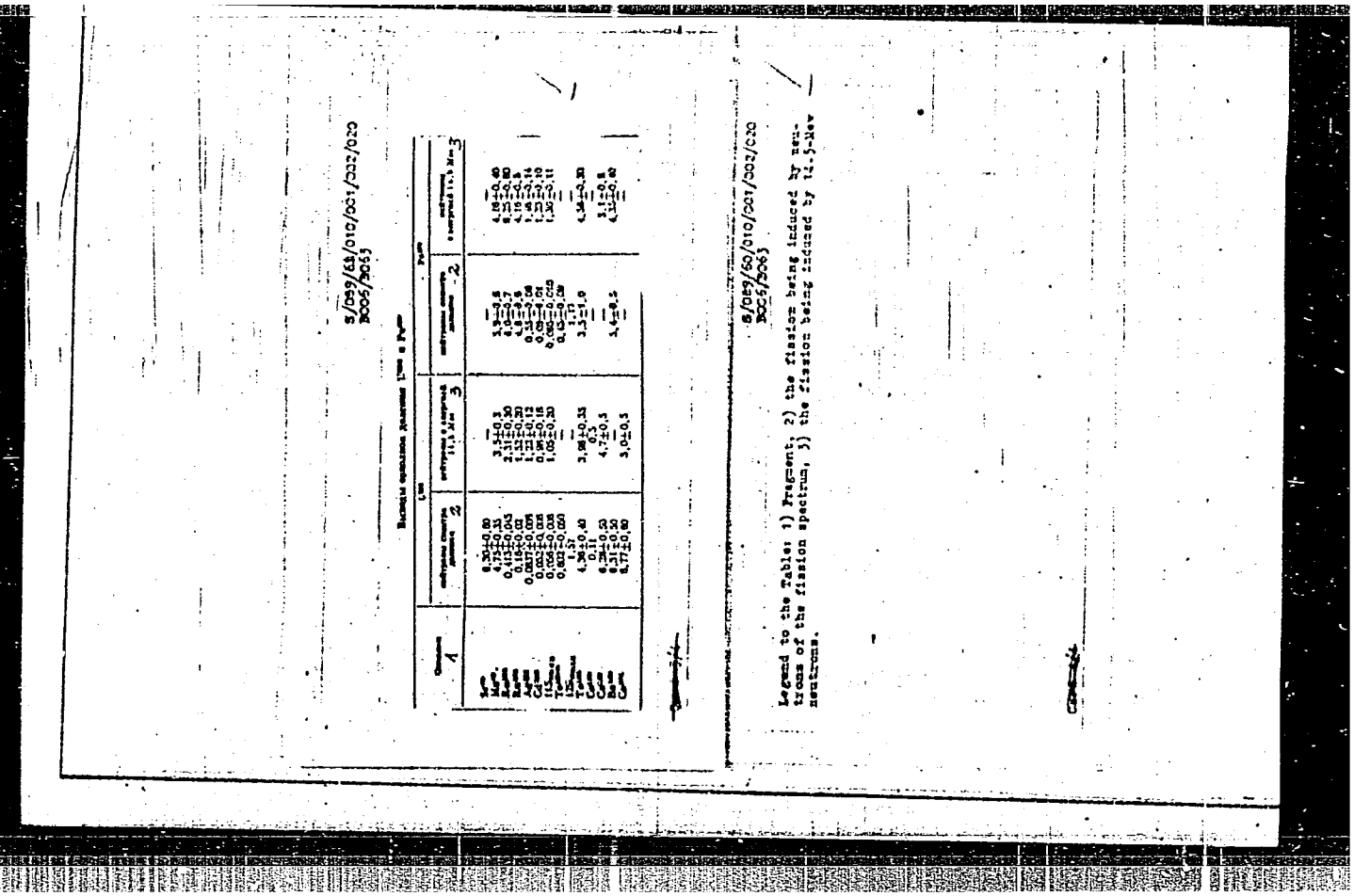
S/089/60/010/001/002/020
B006/B063

separated chemically, and their beta activity was measured. The mass distributions of fragments were determined for the irradiated specimens. The curves are basically symmetric, i. e., the minimum between A = 110 - 120 is flanked by two maxima at A = 90 - 100 and A = 135 - 145. The simple linear correlation between the difference Δm of the average masses of the heaviest and the lightest fragment and the atomic weight of the nucleus undergoing fission was independent of the neutron energy but dependent on whether A was even or odd:

$\Delta m = 288 - 1.04 A + \delta$, $\delta = \begin{cases} 0 \text{ (even A)} \\ -2 \text{ (odd A)} \end{cases}$. A. A. Malinkin, Yu. A. Vasil'yev, and V. I. Shamarukhin are thanked for neutron irradiation of the specimens; P. N. Moskalev, N. V. Shuvanova, A. A. Yegorova, and K. N. Borodina for chemical operations; and V. V. Zakatilov and L. N. Sorokina for assistance in physical measurements. Numerical results are tabulated. There are 5 figures, 1 table, and 12 references: 5 Soviet and 7 US.

SUBMITTED: April 16, 1960

Card 2/2



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B006/B063

Legend to the Table: 1) Fragment; 2) the fission being induced by neutrons of the fission spectrum; 3) the fission being induced by 14.5-Mev neutrons.

REGINA, V.R.; ZAMYATNINA, V.N.; PRENTYAKOVA, M.A.; CHIKISHEVA, L.A.

Radioactivation method for determining the total of rare earth elements, manganese, nickel, copper, antimony, arsenic, molybdenum, cadmium, and gold in lithium compounds. Radiokhimiia 3 no.4:473-477 '61. (MIRA 14:7)
(Radioisotopes--Analysis)

KARATAYEV, N.K., prof.; POLYANSKIY, F.Ya., prof.; REUEL', A.L., prof.; AFANAS'YEV, V.S., dotsent; BOBKOVA, K.I., dotsent; ZAMYATNINA, V.N., dotsent; RYNDINA, M.N., dotsent; BAKOVETSKIY, O., red.; CHEPELEVA, O., tekhn.red.

[Curriculum for the course "History of economic theory"; for economic institutions of higher learning and faculties] Programma kursa "Istoriia ekonomicheskikh uchenii" dlia ekonomicheskikh vysshikh uchebnykh zavedenii i fakul'tetov. Moskva, Izd-vo sotsial'no-ekon.lit-ry, 1960. 48 p. (MIRA 14:1)

1. Russia (1923- U.S.S.R.) Upravleniye prepodavaniya obshchestvennykh nauk. 2. Komissiye Upravleniya prepodavaniya obshchestvennykh nauk Ministerstva vysshego i srednego spetsial'nogo obrazovaniya SSSR (for all, except Bakovetskiy, Chigina).
(Economics--Study and teaching)

ZAMYCHKIN, K.S., GRODZENSKIY, D.E.

Turnover of organic phosphorus compounds in animal bile [with summary in English]. Vop.med.khim. 4 no.3:175-181 My-Je '58 (MIRA 11:6)

1. Laboratoriya fiziologii i patologii pishchevareniya Instituta normal'noy i patologicheskoy fiziologii AMN SSSR i TSentral'nyy institut usovershenstvovaniya vrachey.

(PHOSPHORUS, metabolism
turnover of organic phosphorus cpds. in bile of dogs (Rus))
(BILE,
organic phosphorus cpds. in bile of dogs after oral admin. of radiophosphorus (Rus))

ZAMYCHKIN, S.

AID P - 383

Subject : USSR/Aeronautics

Card 1/4 Pub. 58 - 1/4

Periodical : Kryl. rod., 8, 1-24, Ag 1954

Abstract : Three articles from this issue have been processed on separate cards (indicated below). The remainder are not considered of any special value and are listed only on the following Table of Contents:

AID P - 383

Kryl. rod., 8, 1-24, Ag 1954

Card 2/4 Pub. 58 - 1/4

AID P - 383

Kryl. rod., 8, 1-24, Ag 1954

Card 3/4 Pub. 58 - 1/4

Kryl. rod., 8, 1-24, Ag 1954 AID P - 383

Card 4/4 Pub. 58 - 1/4

Institution : None

Submitted : No date

ZAMYCHKIN, S.

SMIRNOV, B., geroy Sovetskogo Soyuza; PROTCHEV, V., geroy Sovetskogo Soyuza; ZAMYCHKIN, S., geroy Sovetskogo Soyuza, sportsmen 1-go razriada; SEMEL'NIKOVA, A., geroy Sovetskogo Soyuza, sportsmen 1-go razriada; KOMAROV, A., geroy Sovetskogo Soyuza, sportsmen 1-go razriada; PONOMARENKO, Ya., geroy Sovetskogo Soyuza, sportsmen 2-go razriada; KHLOPTSEV, I., geroy Sovetskogo Soyuza, sportsmen 2-go razriada; SOKOLOVSKIY, A., geroy Sovetskogo Soyuza, sportsmen 2-go razriada; POSTNIKOVA, Z., geroy Sovetskogo Soyuza, sportsmen 1-go razriada.

Make a sport model jet airplane; letter to the editor. Kryl.rod. 6 no.1:8 Ja '55. (MLRA 8:3)
(Jet planes)

ZAMYCHKIN,S.

In intraclub competitions. Kryl.rod. 6 no.9:11 S'55. (MIRA 8:11)

1. Predsedatel' parashyutnoy sektsii 1-go Moskovskogo gorodskogo aerokluba

(Parachutists)

ZAMYCHKIN, S., rekordsmen SSSR po samoletnomu sportu; MEYLAKHS, M., rekordsmen SSSR po samoletnomu sportu.

Record flight on the An-2 airplane. Kryl. rod. 8 no.12:10 D '57.
(Aeronautics--Flights) (MIRA 10:12)

85-57-12-11/29

AUTHORS: Zavychkin, S. and Meylakhs, M., USSR Record Holders in Airplane Sports

TITLE: Record Flight in an An-2 Plane (Rekordnyy polet na samolete An-2)

PERIODICAL: Kryl'ya rodiny, 1957, Nr 12, p 10 (USSR)

ABSTRACT: The authors describe their flight in an An-2 plane, designed by O.K. Antonov, by which they established 4 USSR records on a triangular route Tushino - Tikhonova Pustynya - Vyaz'ma. The flying time was 8 hours 27 minutes; the distance covered on a closed route was 2,013.192 km., which established the first record; the speed of 238.244 km./hr. on a 2,000-km. closed route established the second record; the speed of 264.891 km./hr. on a 500-km. closed route, the third record, and the speed of 252.716 km./hr. on a closed 1,000-km. route the fourth record. Personalities mentioned include: engineers N. Alimov and A. Myachkov; technicians V. Novikov and A. Yevseyev; L.Ya. Oshurkov, deputy chairman of the DOSAAF Moscow Committee; sports commissars N. Kol'tsov and N. Babayev; N. Loginov, honorary Master of Sports, of the TsAK SSSR imeni V.P. Chkalova

Card 1/2

Record Flight in an An-2 Plane

85-57-12-11/29

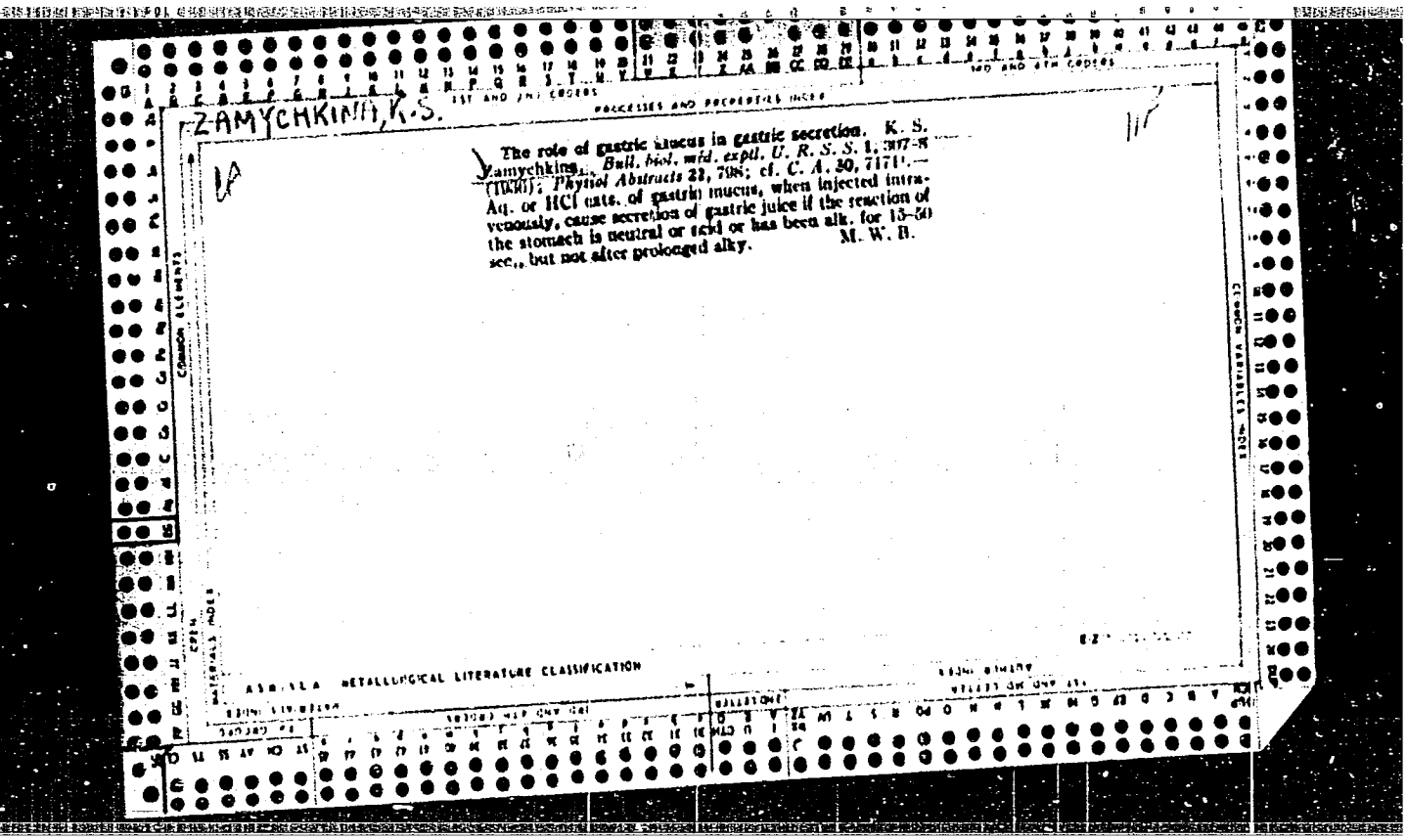
(Central Aeroclub of the USSR imeni V.P. Chkalov); and R. Volkov, sportsman 1st rank. There is one photograph showing N. Kol'tsov, chief of the precision instruments laboratory at the Central Aeroclub of the USSR imeni V.P. Chkalov, and the two authors, S. Zamychkin and M. Meylakhs.

AVAILABLE: Library of Congress

Card 2/2 1. Aviation-USSR

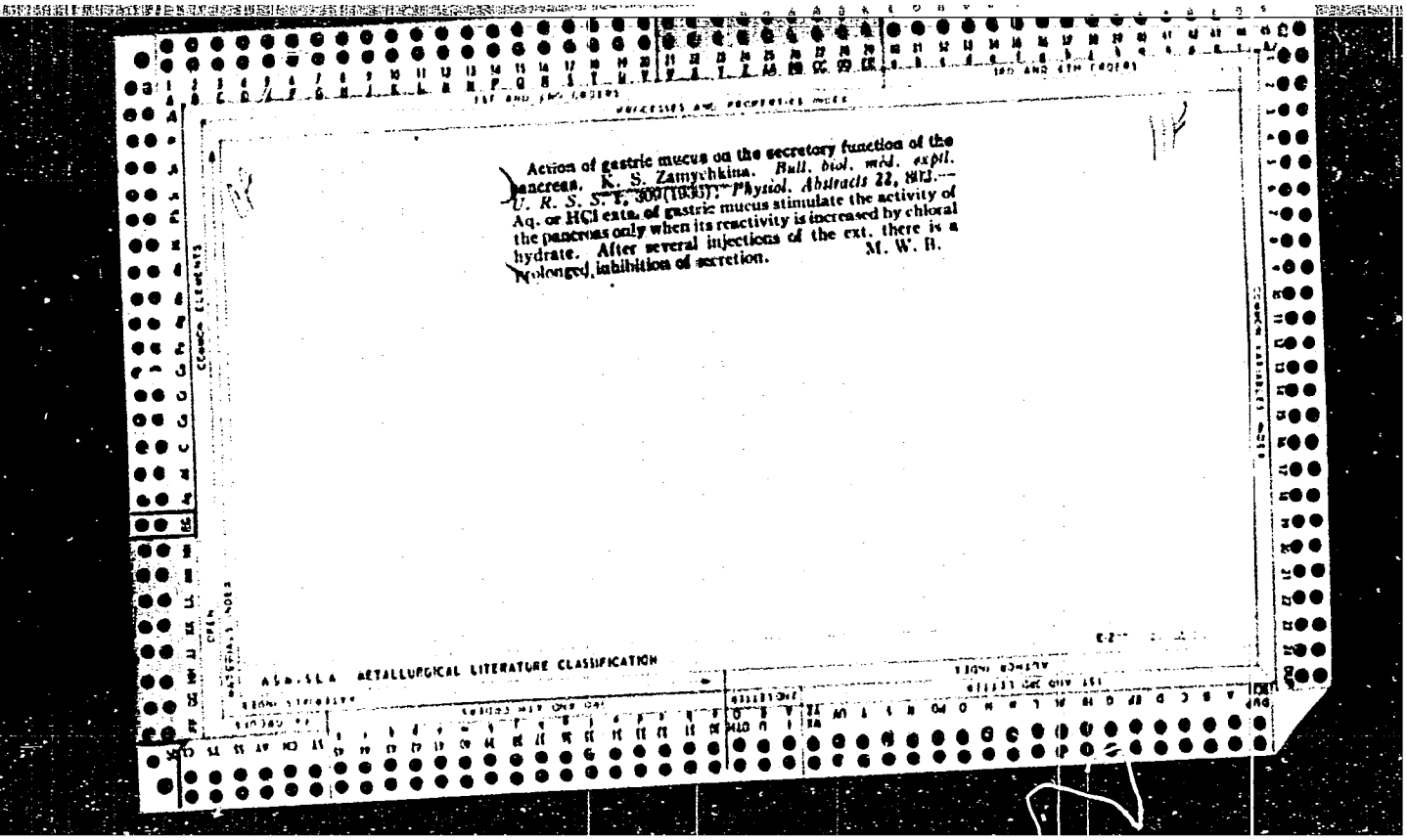
ZAMYCHKIN, S., sud'ya respublikanskoy kategorii.

For the Kryl'ia Rodiny" Cup. Kryl. rod. 8 no.7:26 Jl '57.
(Moscow--Parachutists) (MLRA 10:9)

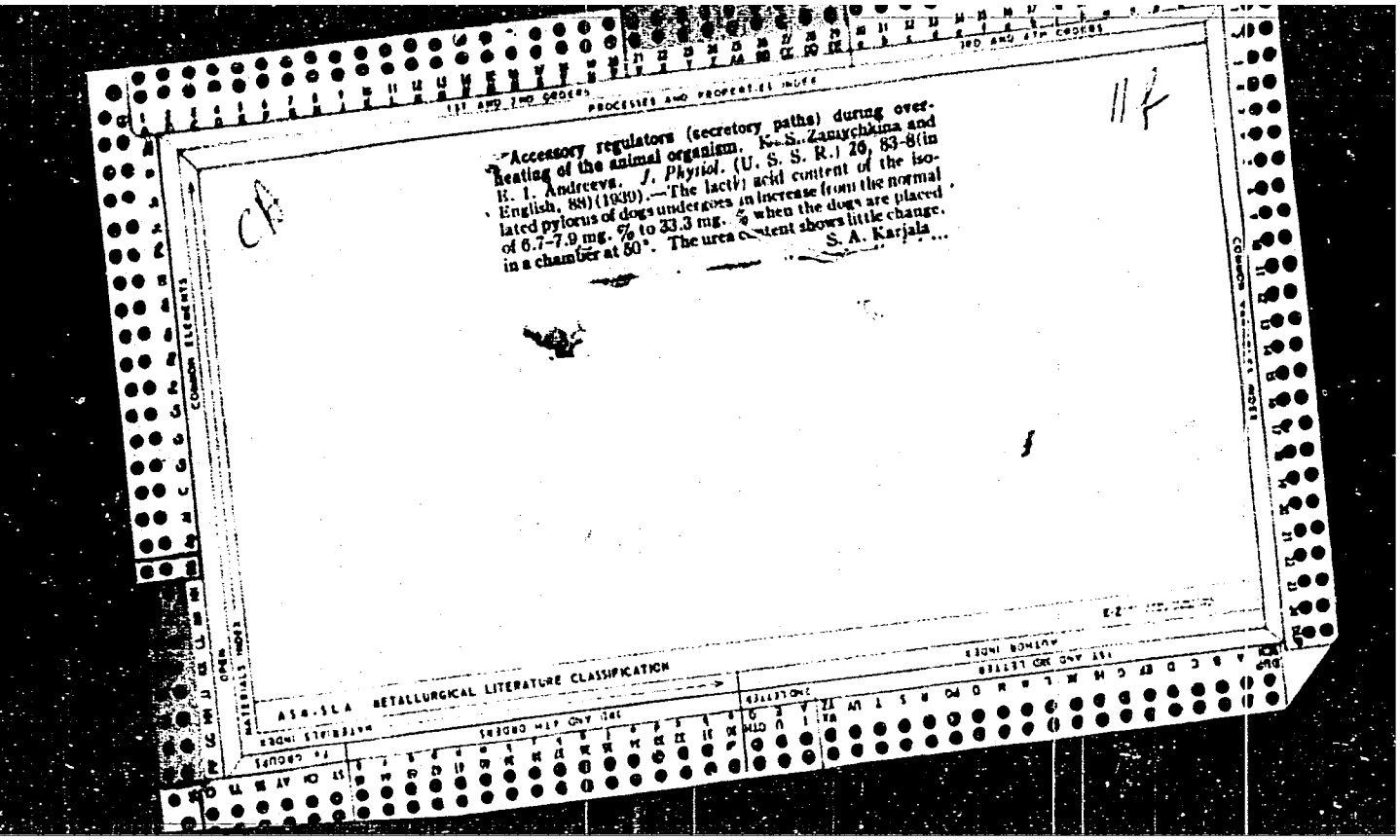


ZAMYCHKIN, K.S.

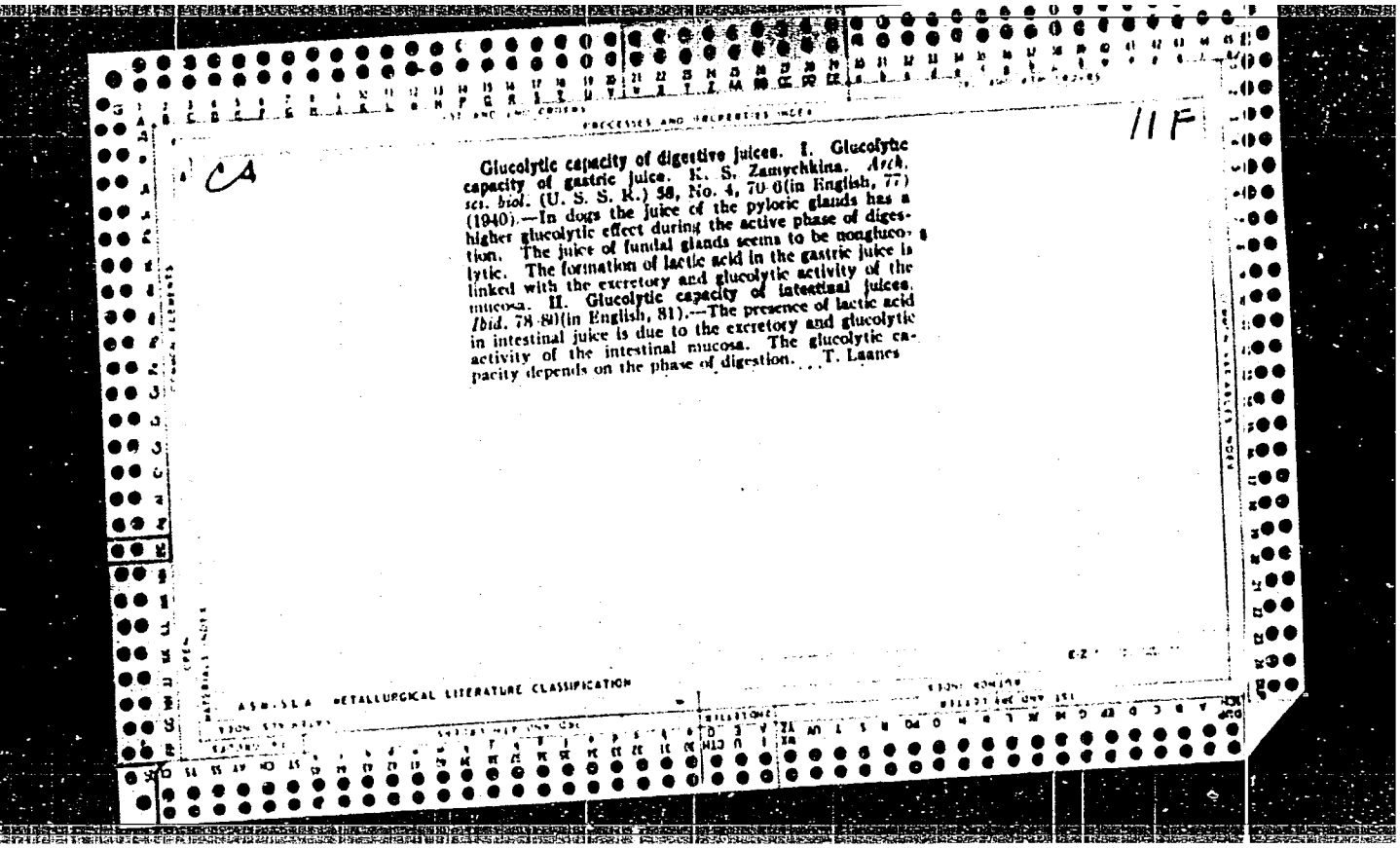
The role of gastric mucus in gastric secretion. K. S. Zamychkina. *Bull. biol. méd. exptl. U. R. S. S.* 1, 317-8 (1936); *Physiol Abstracts* 21, 708; cf. *C. A.* 30, 7171.—Aq. or HCl ests. of gastric mucus, when injected intravenously, cause secretion of gastric juice if the reaction of the stomach is neutral or acid or has been alk. for 15–50 sec., but not after prolonged alky. M. W. B.



Action of gastric mucus on the secretory function of the pancreas. K. S. Zamyrkina. *Bull. biol. méd. expil. U. R. S. S.* 1, 309(1935); *Physiol. Abstracts* 22, 813.—Aq. or HCl extn. of gastric mucus stimulate the activity of the pancreas only when its reactivity is increased by chloral hydrate. After several injections of the ext. there is a prolonged inhibition of secretion. M. W. B.



"Accessory regulators (secretory paths) during overheating of the animal organism. K. S. Zanaychkina and R. I. Andreeva. *J. Physiol.* (U. S. S. R.) 26, 83-8(in English, 88)(1939).—The lactic acid content of the isolated pylorus of dogs undergoes an increase from the normal of 6.7–7.9 mg. % to 33.3 mg. % when the dogs are placed in a chamber at 50°. The urea content shows little change.
S. A. Karjala ...



CA

11F

Glucolytic capacity of digestive juices. I. Glucolytic capacity of gastric juice. K. S. Zamyrchkina. *Arch. sci. biol.* (U. S. S. R.) 58, No. 4, 70-6(in English, 77) (1940).—In dogs the juice of the pyloric glands has a higher glucolytic effect during the active phase of digestion. The juice of fundal glands seems to be nonglucolytic. The formation of lactic acid in the gastric juice is linked with the excretory and glucolytic activity of the mucosa. II. Glucolytic capacity of intestinal juices. *Ibid.* 78-80(in English, 81).—The presence of lactic acid in intestinal juice is due to the excretory and glucolytic activity of the intestinal mucosa. The glucolytic capacity depends on the phase of digestion. . . T. Laanes

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Zamychkina, K. S.

✓ Elimination of phosphorus 32 via the intestinal juices II. D. E. Gri[illegible], K. S. Zamychkina, and E. I. Kondeva. *Trudy Primenen. Radioakt. Izotop. v Med.* (Moscow: Medgiz) 1953, 230-3; *Referat. Zhur. Khim. Biol. Khim.* 1955, No. 7052.—Dogs with fistulas to the small intestine were used and the juice was obtained following mechanical stimulation. A neutral isotonic $NaHP^{32}O_4$ soln. was injected intravenously. P^{32} compounds were found circulating in the blood 20 days after the intravenous injection. In 15 days 11.65% of the P^{32} had been eliminated via the kidneys, and 3.75% via the intestine. At the end of the first hr. 0.75% of it had been eliminated via the intestinal juices. More than 50% of the total P in the intestinal juice is in the form of inorganic P. It is believed that P entering the intestine with the bile is largely reabsorbed into the blood.

B. S. Levine

(2)

ZAMYCHKINA, K. S. and GRODSENSKIY, D. Ye.

"The Role of Radioactive Isotopes in Investigating the Physiology and Biochemistry of Digestion," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

ZAMYATCHKINA, K.S.

The fate of per os administered phosphoorganic compounds of bile. K. S. Zamychkina and D. E. Grodze [illegible] Physiol. [illegible] Med. [illegible] [illegible] Physicians, Moscow). *Biokhimiya* 20, 353-9 (1955).—Radioactive dog bile was administered per os to other dogs. Shortly thereafter radioactive P was demonstrated in the blood serum; 50-60% of such P was extractable with an alc.-ether mixt. The magnitude of specific activity of the fraction of inorg. P following the administration of radioactive bile was considerably lower than in the case of administration of radioactive Na phosphate. The specific activity of the serum was of a higher magnitude and the appearance of the specific activity max. was considerably delayed. The appearance times of the max. specific activity of the inorg. serum P and of the total P were not coincidental. The specific activity curve of bile following per os administration of radioactive bile is identical with the one following the administration of radioactive Na_2HPO_4, the max. of specific activity appearing in 24 hrs. in both instances. In the case of *in vitro* expts. the org. P compds. of bile are not hydrolyzed by the mixts. of duodenal digestive juices of the dog. The content of total and inorg. P and the concn. of bilirubin in the blood serum remain unchanged. The org. P compds. of bile are absorbed by the intestines of the dog without the splitting of P into inorg. form.

B. S. Levine

(1)

ZAMYCHKINA, K.S.

Reflex influence from the digestive tract on its absorptive capacity under normal conditions and in pathology of the liver. Biul. eksp. biol. i med. 54 no.9:50-53 S '62.
(MIRA 17:9)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav.- prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir.- deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva. Predstavlen deystvitel'nym chlenom AMN SSSR V.V. Parinym.

ZAMYCHKINA, K.S.

Effect of atropine on the rate of absorption from the gastrointestinal tract of inorganic phosphate ($Na_2HP^{32}O_4$) and the rate of its utilization from the blood under normal conditions and in liver pathology. Biul. eksp. biol. i med. 54 no.8:44-46 Ag '62. (MIRA 17:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvetel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva.

GRODZENSKIY, D.E.; ZAMYCHKINA, K.S.

Use of the isotope method for the study of absorption from the digestive tract. Med.rad. no.1:71-76'63. (MIRA 16:10)
(ALIMENTARY CANAL) (ABSORPTION (PHYSIOLOGY)
(TRACERS (BIOLOGY))

ZAMYCHKINA, K.S.; KRYUKOVA, L.V.

Absorptive capacity of the digestive tract at different periods of time following the partial resection of the small intestine. Biul. eksp.biol.i med. 54 no.7:22-26 Jl '62. (MIRA 15:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I.Filipovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V.Parin) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(INTESTINES--SURGERY) (METHIONINE) (DIGESTIVE ORGANS)

FILIPPOVICH, S.I.; AMIROV, N.Sh.; VOLKOVA, T.V.; ZAMYCHKINA, K.S.; MALKIMAN, I.V.; MARTSEVICH, M.S.; NILOVA, N.A.; GOLUBYKH, L.I., red.; BUKOVSKAYA, N.A., tekhn. red.

[Compensatory processes in the digestive system following resection of the stomach and the small intestine; experimental studies] Kompensatornye protsessy v pishchevaritel'noi sisteme posle rezektsii zheludka i tonkogo kishechnika; eksperimental'nye issledovaniia. Moskva, Medgiz, 1963. 290 p. (MIRA 17:3)

ZAMYCHKINA, K.S.; KRYUKOVA, L.V.

Absorption of casein—I^{13} and methionine—S^{35} from the digestive tract at various times after the resection of two-thirds of the stomach. Biul. eksp. biol. i med. 51 no.4:43-47 Ap '61. (MIRA 14:8)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I.Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - akademik V.N.Chernigovskiy) AMN SSSR, Moskva. Predstavlena akademikom V.N.Chernigovskim.

(STOMACH—SURGERY) (CASEIN) (METHIONINE)

ZAMYCHKINA, K.S.

Effect of subtotal resection of the stomach on the absorption from the digestive tract of sodium phosphate P^{32} and its utilization in the organism. Biul. eksp. biol. i med. 51 no.5:48-52 My '61.
(MIRA 14:8)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - akademik V.N.Chernigovskiy) AMN SSSR, Moskva. Predstavlena akademikom V.N.Chernigovskim.
(STOMACH) (PHOSPHORUS METABOLISM).

PARIN, V.V., red.; FILIPPOVICH, S.I., prof., red.; ZAMYCHKINA, K.S., red.; MALKIMAN, I.V., red.; SOVETOV, A.N., red.; BEL'CHIKOVA, Yu.S., tekhn. red.

[Activity of the digestive system and its regulation under normal and pathological conditions] Deiatel'nost' pishchevaritel'noi sistemy i ee reguliatsiia v norme i patologii. Pod obshchei red. V.V.Parina. Moskva, Medgiz, 1961. 259 p. (MIRA 14:11)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Institut normal'noy i patologicheskoy fiziologii. 2. Deystvitel'nyy chlen AMN SSSR (for Parin). 3. Laboratoriya fiziologii i patologii pishchevareniya Instituta normal'noy i patologicheskoy fiziologii AMN SSSR, Moskva (for Zamychkina).
(DIGESTION) (DIGESTIVE ORGANS—SURGERY) (STOMACH—ULCERS)

ZAMYCHKINA, K.S.

Effect of qualitatively different food loads on the synthesis of phosphorus compounds in the liver and on their secretion with the bile. Vop. med. khim. 6 no. 6:579-583 N-D '60. (MIRA 14:4)

1. Institute of Normal and Pathological Physiology Academy of Medical Sciences of the U.S.S.R., Moscow.
(BILE) (LIVER) (PHOSPHORUS METABOLISM)

ZAMYCHKINA, K.S.

Material on the absorptive capacity of the gall bladder [with summary in English]. Biul.eksp.biol. i med. 46 no.9:9-12 S'58 (MIRA 11:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(GALL BLADDER, metab.
phospholipid & sodium phosphate labeled with radiophosphorus absorp. (Rus))
(PHOSPHOLIPIDS, metab.
gallbladder, absrop. of radiophosphorus labeled prep. (Rus))
(PHOSPHATES, metab.
sodium phosphate labeled with radiophosphurus, absorp. by gallbladder (Rus))

ZAMYCHKINA, K.S.; RUDIK-GNUTOVA, Ye.A.; MARTSEVICH, M.S.

Effect of sodium salicylate on the digestive organs. Biul.eksp. biol. i med. 42 no.11:19-23 N '56. (MLRA 10:1)

1. Iz instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.N.Chernigovskiy) AMN SSSR, Moskva. Predstavleno deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.
(GASTROINTESTINAL SYSTEM, eff. of drugs on, sodium salicylate (Rus))
(SODIUM SALICYLATE, effs on gastrointestinal system (Rus))

Zamychkina, K. S.

The use of labeled atoms in the study of the secretory functions of digestive glands. I. D. E. Grodzenskii, K. S. Zamyehkina, and E. I. Koroleva. *Trudy Primenen. Radioaktiv. Izotopov Med.* (Moscow: Medgiz) 1953, 225-9; *Referat. Zhur., Khim., Biol. Khim.* 1955, No. 5349.—In the bladder and liver bile of the dog P varies between 90 and 105 mg. %. Intravenously injected P^{32} appears in the bile in 30 min. and reaches its max. on the following day. The disproportionately low level of P^{32} in the feces indicates that it is absorbed from the bile in the intestinal tract.

B. S. Levine

MD

2

ZAMYCHKINA, K.S

The elimination of phosphorus-32 via the bile obtained from a fistulated biliary duct in post-operative cholecystitis cases. III. D. E. Grodzenskii, K. S. Zamychkina, E. I. Koroleva, and R. Ya. Poleeva. *Trudy Vsesoyuz. Konf. Med. Radiol. Eksptl. Med. Radiol.* (Moscow: Medgiz) 1953, 231-8; *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 7083.—Each of two such fistulate patients received per os doses of $Na_2HP^{32}O_4$. At time intervals P^{32} was detd. in the whole blood, the plasma, the bile, the urine, and the feces. Specific activity was detd. from the ratios of $P^{32}:P^{31}$. Max. activity appeared in a portion of the bile collected within the first hr. of its per os intake. A considerable part of the P^{32} was eliminated *via* the urine.

B. S. Levine

PLZAK,M.; DOBRY,J.; ZAMYKAL,A.

The Jarosz method of tissue therapy in the treatment of depressive neurasthenic forms of cerebral arteriosclerosis. Cesk. psychiat. 59 no.5:319-322 O'63.

1. Psychiatricka klinika fakulty vseobecneho lekarstvi KU, Praha a Psychiatricka lecebna v Hornich Berkovicich.

CZECHOSLOVAKIA

PLZAK, M.; DOBRY, J.; ZAMYKAL, A.; Psychiatric Clinic of the Faculty of General Medicine of the Charles University [Psychiatricka Klinika Fakulty Vseobecneho Lekarstvi KU], Prague; Psychiatric Hospital [Psychiatricka Lecebna], Horni Berkovice.

"Tissue Therapy According to Jarosz in the Treatment of the Depressive Neurasthenic Type of Arteriosclerosis of the Cerebral Arteries."

Prague, Ceskoslovenska Psychiatrie, Vol 59, No 5, 1963, pp 319-322

Abstract: Jarosz' modification of tissue therapy was tested in a group of 23 patients. All had confirmed symptoms of depressive neurasthenic arteriosclerosis of the cerebral arteries. The results were very encouraging. Treatment does not involve any complications and is very easily applied.
2 Tables, no references.

1/1

ZAMYKAL, Antonin

Analysis of gerontopsychiatric cases. Cesk. psychiat. 58 no.2:95-97 Ap '62.

1. Psychiatricka lecebna v Hornich Berkovicich.

(PSYCHOSES SENILE statist)
(PSYCHOSES INVOLUTIONAL statist)

ZAMYSHEVSKAYA, N.N.; YAROSHINSKAYA, N.P.

Methodology for a rapid determination of moisture and glycerin in cellophane films. Khim. volok. no.6:67-68 '65.
(MIRA 18:12)

1. Barnaul'skiy filial Opytno-konstruktorskogo byuro avtomatiki.
Submitted April 13, 1965.

YAROSHINSKAYA, N.P.; ZAMYSHEVSKAYA, N.N.; ISAYEVA, D.D.

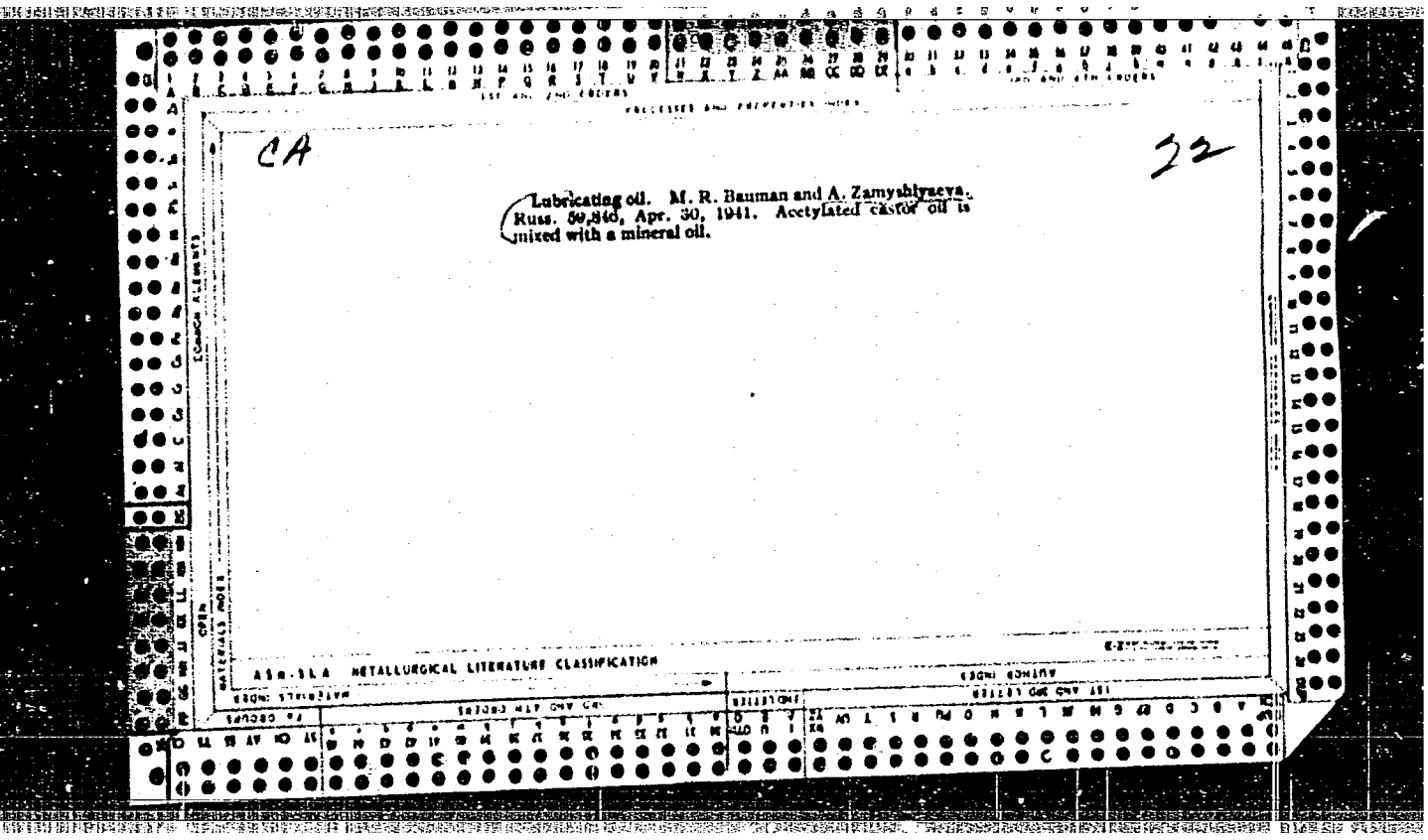
Paste for repairing rubberized apparatus. Khim. volok. no.6:69 '64. (MIRA 18:1)

1. Barnaul'skiy filial Opytno-konstruktorskogo byuro avtomatiki.

ZAMYSHEVSKAYA, N.N.; RYZHAKOVA, L.A.

Methods of rapid determination of the degree of polymerization of alkali cellulose. Khim.volok no.4:69-71 '62. (MIRA 15:8)

1. Opytno-konstruktorskoye byuro avtomatiki, Barnaul'skiy filial.
(Cellulose) (Polymerization)

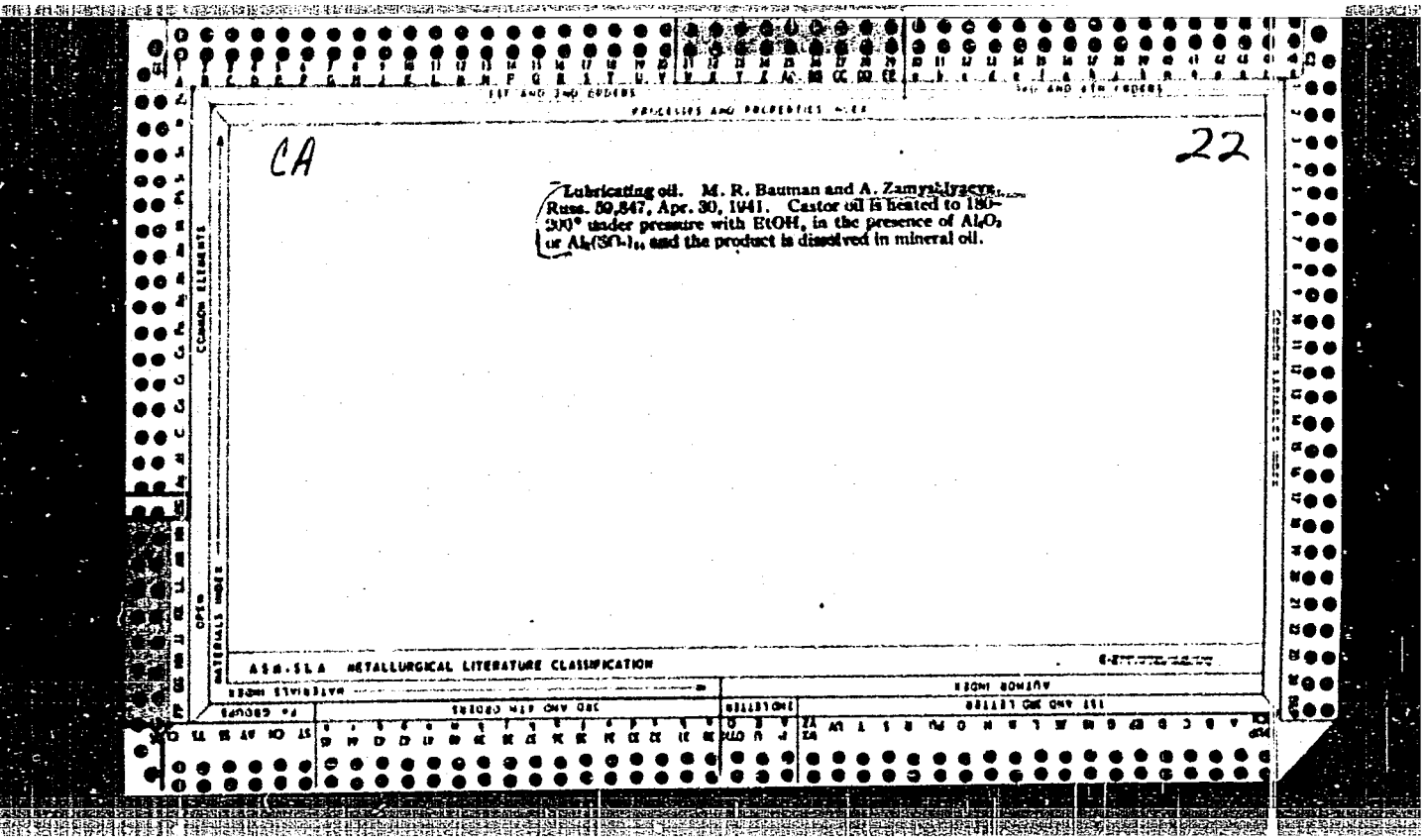


CA

32

Lubricating oil. M. R. Bauman and A. Zamyshlyaeva. Russ. 59,840, Apr. 30, 1941. Acetylated castor oil is mixed with a mineral oil.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

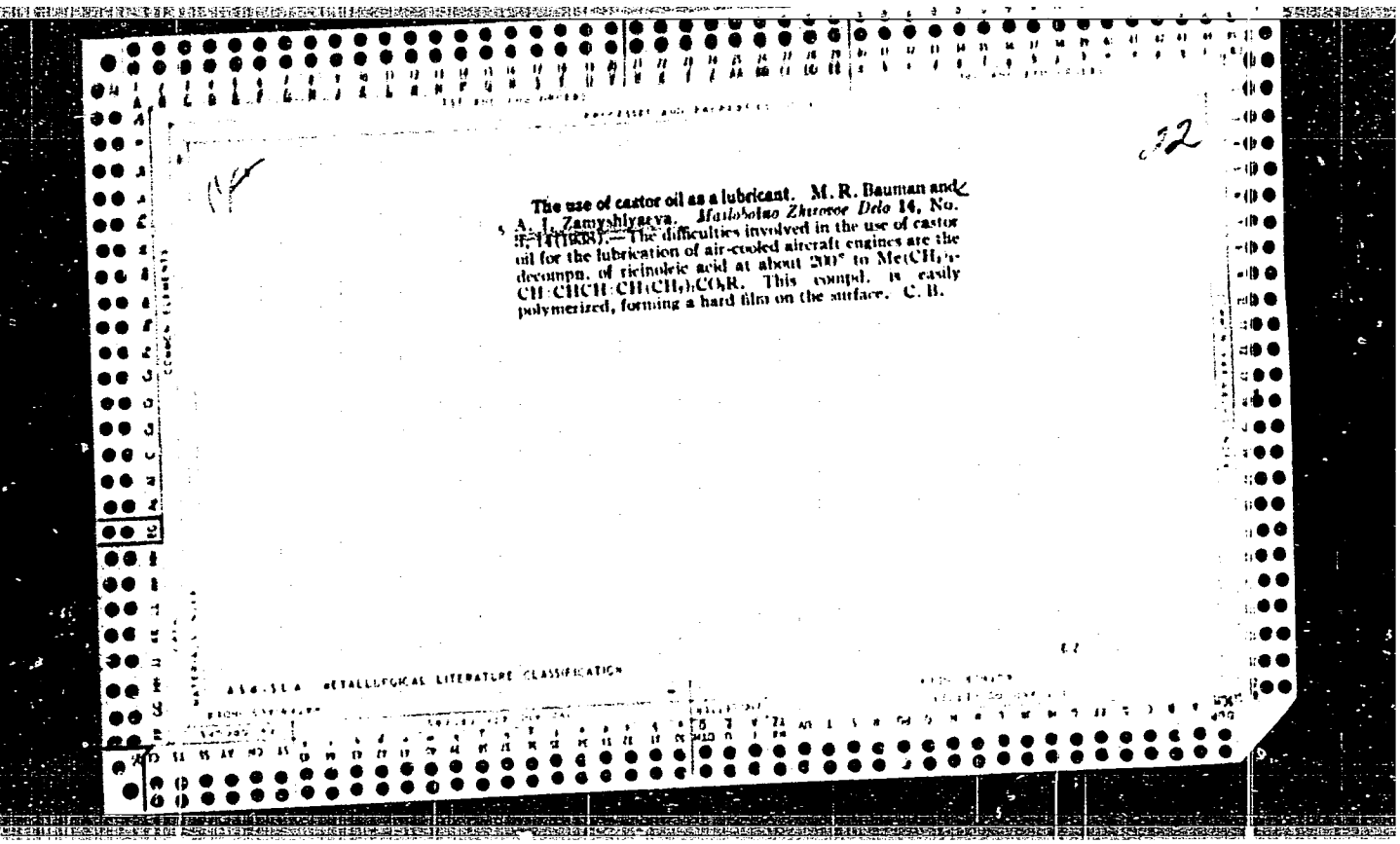


CA

22

Lubricating oil. M. R. Bauman and A. Zamyslovskaya. Russ. 59,847, Apr. 30, 1941. Castor oil is heated to 180–200° under pressure with EtOH, in the presence of Al_2O_3 or $Al_2(SO_4)_3$, and the product is dissolved in mineral oil.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The use of castor oil as a lubricant. M. R. Bauman and A. I. Zamyshlyaeva. *Maslobolno Zhirovoe Delo* 14, No. 11-14(1938).—The difficulties involved in the use of castor oil for the lubrication of air-cooled aircraft engines are the decompn. of ricinoleic acid at about 200° to $Me(CH_2)_5CH{:}CHCH{:}CH(CH_2)_7CO_2R$. This compd. is easily polymerized, forming a hard film on the surface. C. B.

ZAMYSHKINA, K.S., DURINYAN, R.A.

Absorption and assimilation of radioactive iron by erythrocytes in anemia induced by partial denervation of the stomach [with summary in English]. Biul.eksp.biol. i med. 45 no.3:51-56 Mr'58 (MIRA 11:5)

1. Iz Instituta normal'noy i patologicheskoy fiziologii (dir.-deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Chernigovskim.

(ANEMIA, experimental,
erythrocyte absorp. & assimilation of radioiron in anemia pord. by gastric denervation in dogs (Rus))
(IRON, radioactive,
same)
(STOMACH, physiology,
denervation causing exper. anemia, eff. on erythrocyte radioiron intake (Rus))
(ERYTHROCYTE, metabolism
radioiron, intake in exper. anemia prod. by gastric denervation (Rus))

TOMASHEVSKIY, L., gornyy inzh.; ZAMYSHLYAYEV, V.

Mining systems with flexible roofing. NTO 3 no.9:39-49 S '61.
(MIRA 14:8)

1. Predsedatel' soveta nauchno-tekhnicheskogo obshchestva shakhty 3-3-bis kombinata "Kuzbassugol'" (for Tomashevskiy).

(Coal mines and mining)

GEL'PERIN, N.I.; PEBALK, V.L.; ROZOV, V.N.; ZAMYSHLYAYEV, V.G.; MILOVANOVA, I.B.

Extractive refining of a nickel electrolyte from iron and copper. TSvet. met. 37 no.9:19-22 S '64. (MIRA 18:7)

GEL'PERIN, N.I.; PEBALK, V.L.; ROZOV, V.N.; ZAMYSHLYAYEV, V.G.; SOKOLOVA, T.O.; MILOVANOVA, I.B.; YEPISHEVA, M.S.

Fractional reextraction of metals from complex metal soaps. TSvet.met. 38 no.10:41-49 O '65. (MIRA 18:12)

8

OEL'PERIN, N. I.; PEBALK, V. L.; YURCHENKO, L. D.; ASZOUB, M. G.; BARANOVA, Z. P.; SHASIKOVA, M. N.; CHICKERINA, T. G.; ZAMYSHLYAYEV, V. G.; CHIGIHOMOV, Yu. K.; KUZNETSOVA, K. I.

"Investigations in the field of the technique of liquid extraction."

report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12 May 1964.

Moscow Inst of Light Chemical Technology.

GEL'PERIN, N.I.; PEBALK, V.L.; ZAMYSHLYAYEV, V.G.; CHICHERINA, T.G.

Cylindrical mixer-sedimentation extractor. Zhur.VKHO 10 no.4:462-463 '65. (MIRA 18:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

TOMASHEVSKIY, L.P., gornyy inzhener; ZAMYSHLYAYEV, V.N.

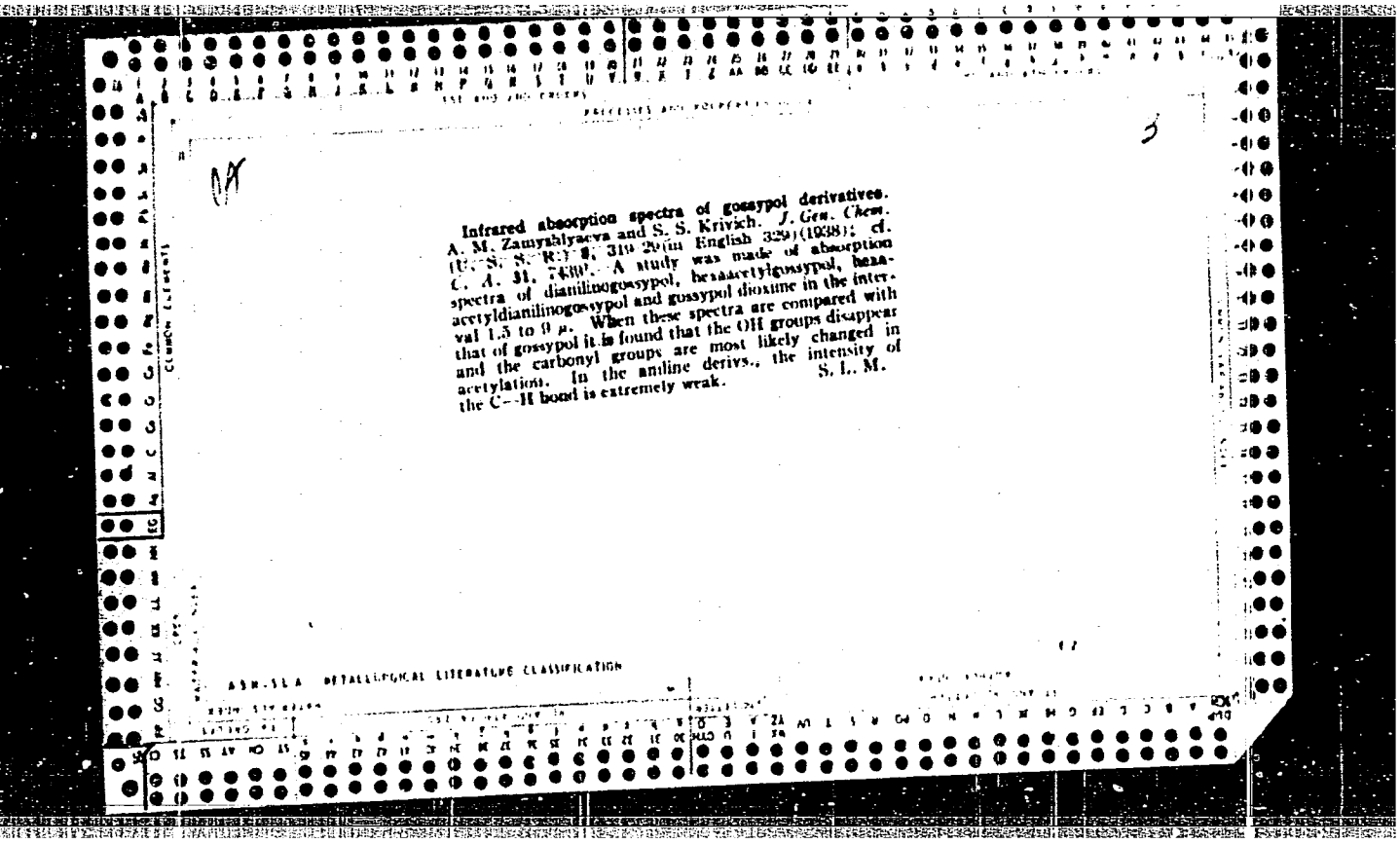
Using the mining system with flexible metallic roofing in mining out extra close contiguous thick seams. Ugol' 36 no.12:18-20 D '61. (MIRA 14:12)

1. Shakhta No.3 - 3-bis kombinata Kuzbassugol'.
(Kuznetsk Basin--Coal mines and mining)

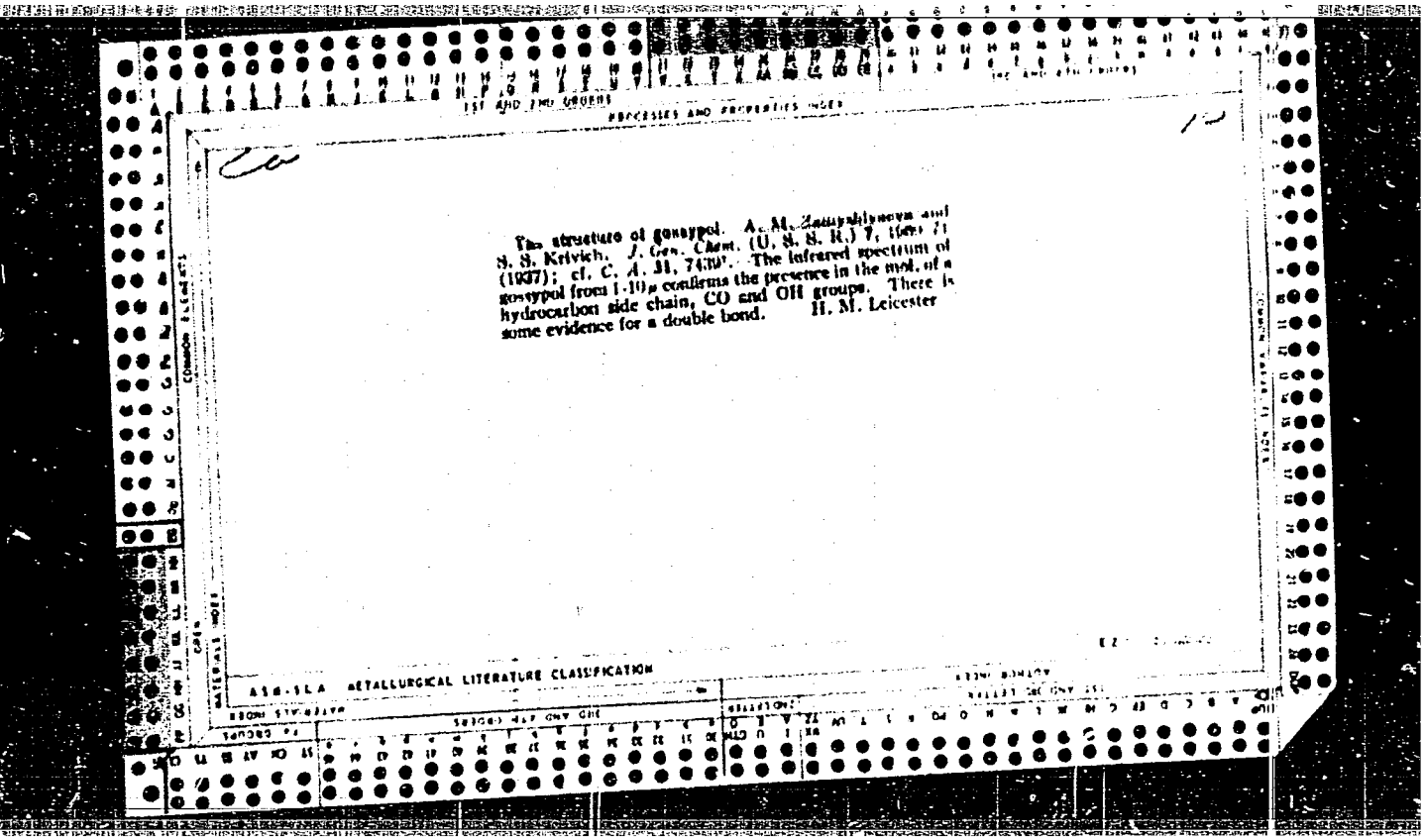
ZAMYSHLYAYEVA, A.M.

From the practice of communist labor brigades. Khim. volok. no. 6:59-60 '60. (MIRA 13:12)

1. Krasnoyarskiy zavod.
(Krasnoyarsk Territory--Textile fibers, Synthetic)



Infrared absorption spectra of gossypol derivatives. A. M. Zamyslyaeva and S. S. Krivich. *J. Gen. Chem.* (U.S.S.R.) 8, 310-20(in English 329)(1938); cf. *C. A.* 31, 7480. A study was made of absorption spectra of dianilinogossypol, hexaacetylgossypol, hexaacetyldianilinogossypol and gossypol dioxime in the interval 1.5 to 9 μ. When these spectra are compared with that of gossypol it is found that the OH groups disappear and the carbonyl groups are most likely changed in acetylation. In the aniline derivs., the intensity of the C—H bond is extremely weak. S. L. M.



The structure of gossypol. A. M. Zanyshlyaeva and S. S. Krivich. *J. Gen. Chem.* (U. S. S. R.) 7, 1667-71 (1937); cf. C. *A.* 31, 7470⁹. The infrared spectrum of gossypol from 1-10 μ confirms the presence in the mol. of a hydrocarbon side chain, CO and OH groups. There is some evidence for a double bond. H. M. Leicester

KOP'YEV, Sergey Fedotovich, prof., doktor tekhn. nauk; KACHANOV, Nikolay Filippovich, inzh.; ZAMYSHLYAYEVA, I.M., red.

[Principles of heat supply and ventilation] Osnovy teplogazosnabzheniia i ventiliatsii. Moskva, Stroiizdat, 1964. 227 p. (MIRA 17:8)

KOL'GUNENKO, Inna Ivanovna, vrach-kosmetolog; ZAMYSHLYAYEVA, I.M., red.izd-va; NAZAROVA, A.S., tekhn.red.

[Care for the skin of the hands, feet, and for the nails; manual for manicurists] Ukhod za kozhei ruk, nog i za nogtiami; posobie dlia manikiursh. Moskva, Izd-vo M-va kommun. khoz. RSFSR, 1961. 85 p. (MIRA 14:6)
(Foot—Care and hygiene) (Manicuring)

ZAMYSHLYAYEVA, L.I.; BALANDIN, A.A.; SLONIMSKOVA, T.A.

Effect of the thermal treatment of a nickel-alumina catalyst on the character of its activity in the catalytic transformations of 2-picoline in the atmosphere of water vapor. Vest. Mosk. un. Ser. 2: Khim. 20 no.1:38-41 Ja-F '65. (MIRA 18:3)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.

ZAMYSHLYAYEVA, L.I.; SLOVOKHOTOVA, T.A.; BALANDIN, A.A.

Activity of isomeric picolines, cresols, and xylenes in catalytic conversions with steam. Vest. Mosk. un. Ser. 2:Khim. 20 no.4:39-41 Jl-Ag '65. (MIRA 18:10)

1. Kafedra khimicheskoy kinetiki Moskovskogo gosudarstvennogo universiteta.

CHINA/Medicine - Typhus Sep 1947
Medicine - Bacteria, Protozoa Group

PA 26737

"Characteristics of Exanthematous Typhus in the Kwantung Peninsula," Lt Col N. I. Zamyshlyayev, Med Corps, Maj I. F. Prikhod'ko, Med Corps, 3 pp

"Voyenno-Meditsinskiy Zhurnal" No 9

Exanthematous typhus found on the Kwantung peninsula is either of the light or medium variety and is transmitted very easily. Some of the symptoms are headaches, febrile periods, characteristic exanthema, positive reaction to Vale-Felix test. Presence of all these symptoms shows the disease to be exanthematous typhus rather than rickettsia.

26737

CHINA/Medicine - Typhus (Contd) Sep 1947

Leukocytes are not necessarily present in cases of exanthematous typhus and many cases had normal count. In some cases the count was even subnormal, but it never went above 12,000 - 13,000. Cases must be isolated immediately upon detection of this disease.

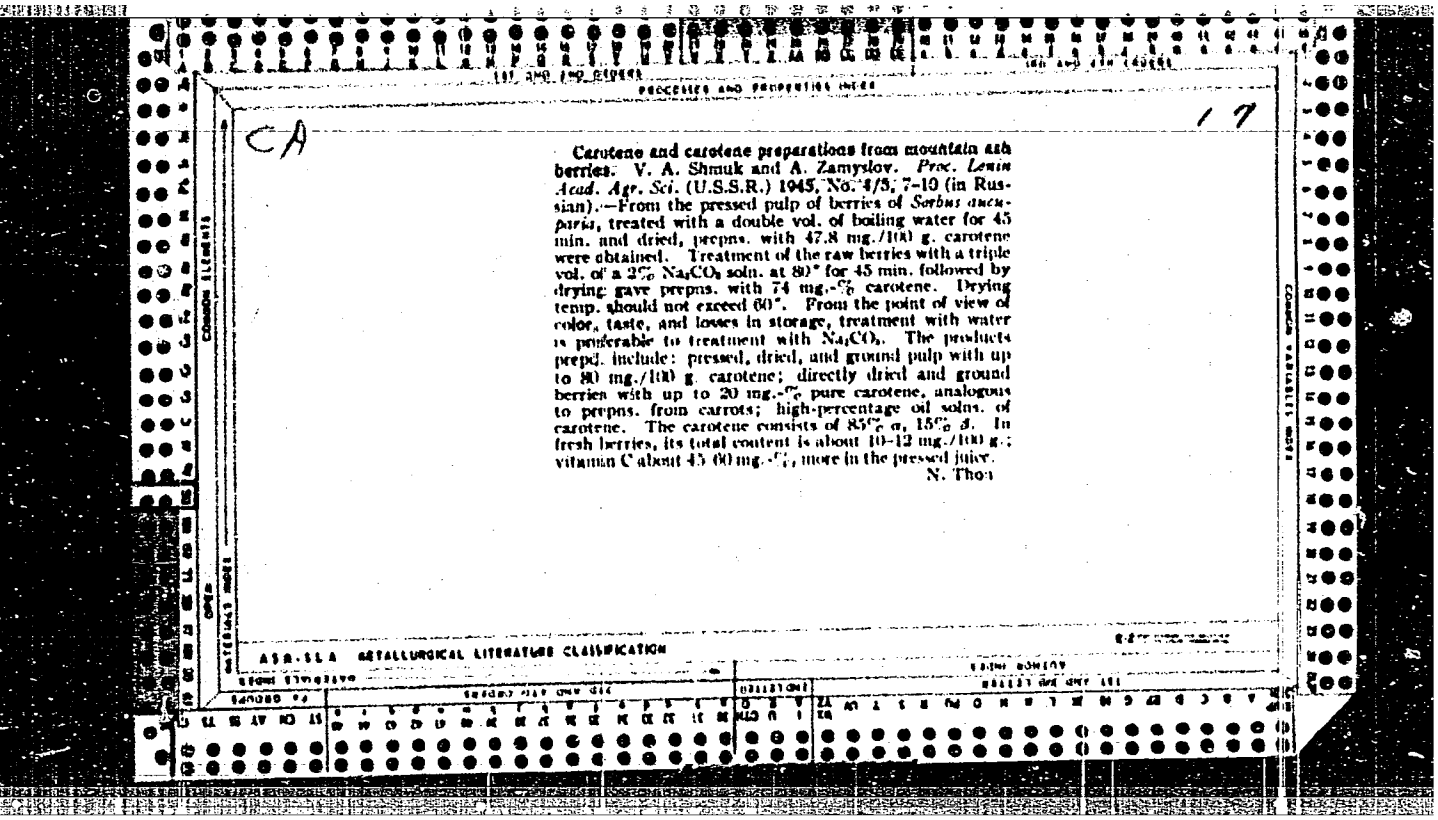
26737

ZAMYSHLYAYEV, N. I.

ZAMYSLJAEVA, A. M.

"Investigation of infra-red absorption spectra of derivatives of gossypol."
Zamyslaeva, A. M. and Krivic, S. S. (p. 329)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1938, Volume 8, No. 4



CA

17

Carotene and carotene preparations from mountain ash berries. V. A. Shmuk and A. Zamyslov. *Proc. Lenin Acad. Agr. Sci.* (U.S.S.R.) 1945, No. 4/5, 7–10 (in Russian).—From the pressed pulp of berries of *Sorbus aucuparia*, treated with a double vol. of boiling water for 45 min. and dried, prepns. with 47.8 mg./100 g. carotene were obtained. Treatment of the raw berries with a triple vol. of a 2% Na_2CO_3 soln. at 80° for 45 min. followed by drying gave prepns. with 74 mg.-% carotene. Drying temp. should not exceed 60°. From the point of view of color, taste, and losses in storage, treatment with water is preferable to treatment with Na_2CO_3. The products prepd. include: pressed, dried, and ground pulp with up to 80 mg./100 g. carotene; directly dried and ground berries with up to 20 mg.-% pure carotene, analogous to prepns. from carrots; high-percentage oil solns. of carotene. The carotene consists of 85% α, 15% β. In fresh berries, its total content is about 10–12 mg./100 g.; vitamin C about 45–60 mg.-%, more in the pressed juice.

N. Thon

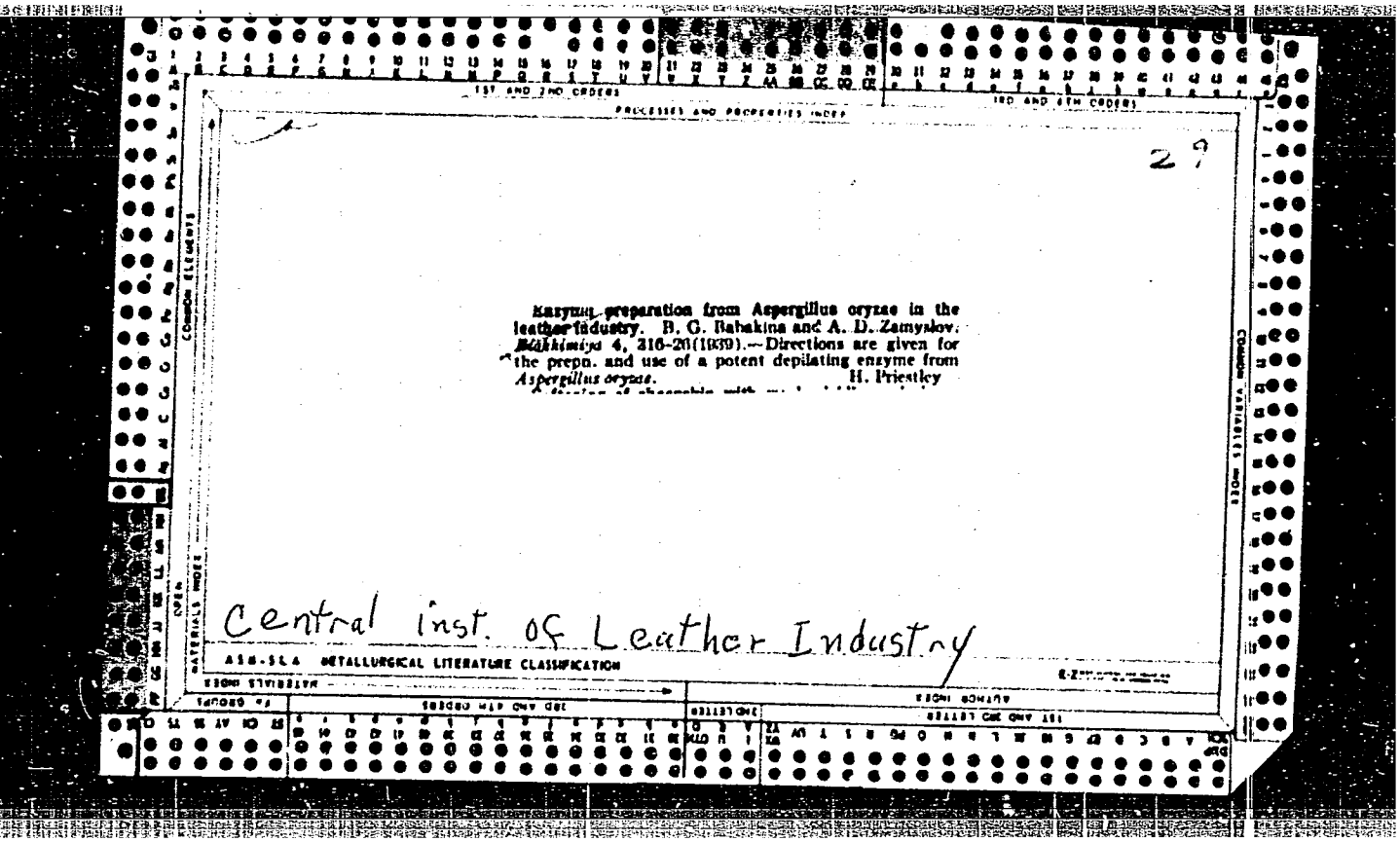
ZAMYSHLYAYEVA, L.I.; BALANDIN, A.A.; SLOVOKHOTOVA, T.A.

Conversion of methylated pyridines in the presence of water vapors on a nickel-alumina catalyst. Izv. AN SSSR Ser. khim. no.2:330-336 '65. (MIRA 18:2)

1. Moskovskiy gosudarstvennyy universitet.

ZAMYSLOV, A.D.

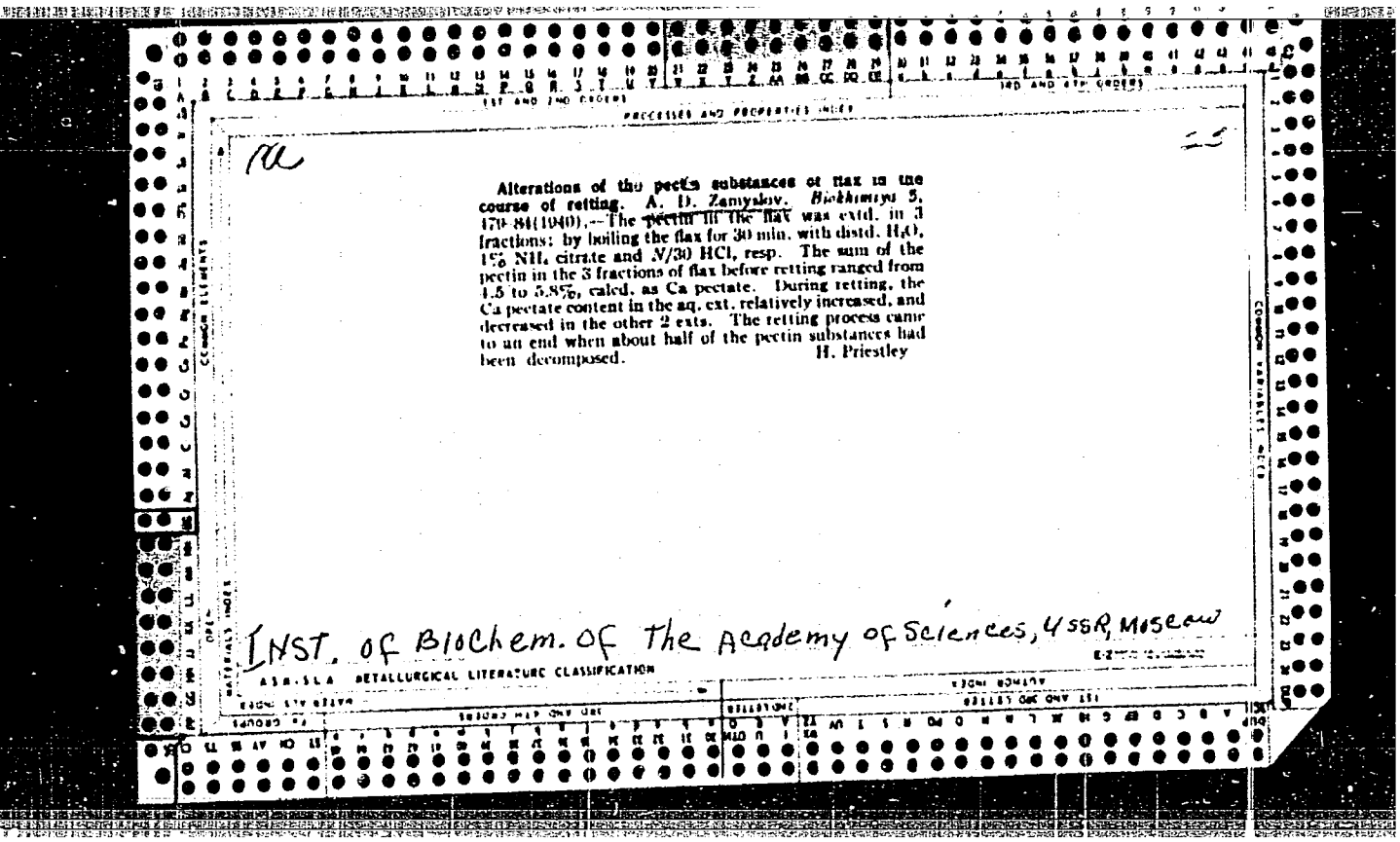
Proteolysis during the salting of herring. A.D. ZAMYSLOV, and S
SAVOST'YANOV, (BIOCHEMICAL LABORATORY OF THE VETERINARY INST., SARATOV)
vol.1, no.4, p.401, 1936



Karyum preparation from Aspergillus oryzae in the leather industry. B. G. Babakina and A. D. Zamyslov. *Mikhimiya* 4, 216-20(1939).—Directions are given for the prepn. and use of a potent depilating enzyme from *Aspergillus oryzae*. H. Priestley

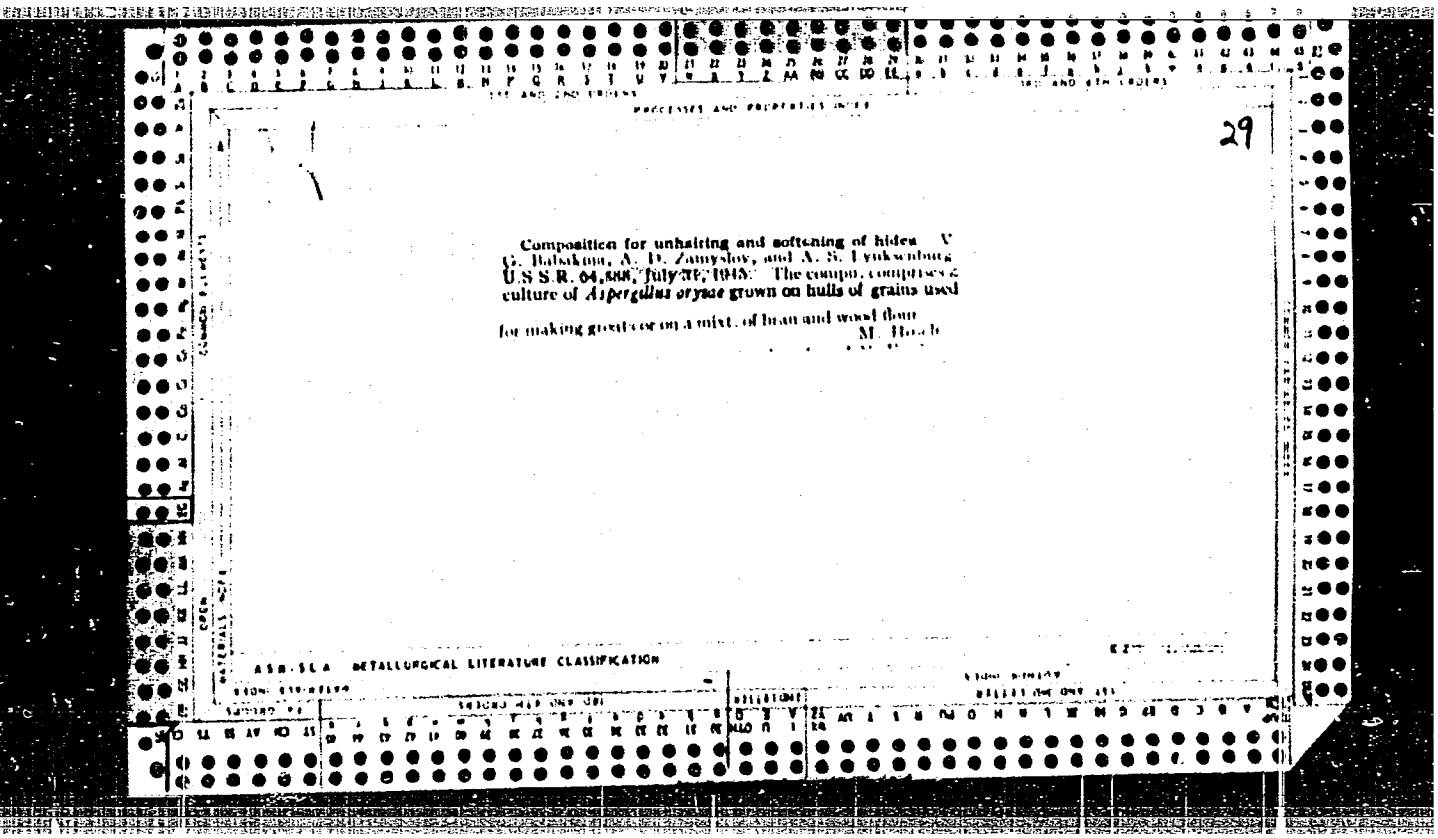
29

Central Inst. of Leather Industry



Alterations of the pectin substances of flax in the course of retting. A. D. Zamyslov. *Biokhimiya* 5, 170-84(1940).—The pectin in the flax was extd. in 3 fractions: by boiling the flax for 30 min. with distd. H_2O, 1% NH_4 citrate and $N/30$ HCl, resp. The sum of the pectin in the 3 fractions of flax before retting ranged from 4.5 to 5.8%, calcd. as Ca pectate. During retting, the Ca pectate content in the aq. ext. relatively increased, and decreased in the other 2 exts. The retting process came to an end when about half of the pectin substances had been decomposed. H. Priestley

INST. of Biochem. of The Academy of Sciences, USSR, Moscow



29

Composition for unhairing and softening of hides. V. G. Baloskin, A. D. Zamyslov, and A. S. Lyuksenburg. U.S.S.R. 64,688, July 31, 1945. The compn. comprises a culture of *Aspergillus oryzae* grown on hulls of grains used for making groats or on a mixt. of bran and wood flour.

M. Hoch

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZAMYSLOV, A. D.

"Proteases of Fishes". Thesis for degree of Dr. Biological Sci.
Sub 13 May 49, Inst. of Bio-chemistry imeni A. N. Bakh, Acad Sci USSR.

Summary 82, 18 Dec. 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

ZAMYSLOV, I., kand. ekon. nauk.

Agricultural practices taught to students on the farm. Nauka i pered. op. v sel'khoz 8 no.12:10-12 D '58. (MIRA 12:1)
(Agriculture--Study and teaching)