"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

POKALOV, V.T.; PASTUKHOVA, Ye.S.

Age and genetic characteristics of the Sora molybdenum deposit. Sov. geol. 4 no.7:107-122 Jl '61. (MIRA 14:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

(Uybat Mountain--Molybdenum ores)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KRUGLOVA, V.G.; CHERNOV, B.S.; YEVDOKHIN, A.G.; PASTUKHOVA, Ye.S.

Characteristics of the molybdenum stockwork deposit in eastern Transbaikalia. Sov. geol. 8 no.3:118-124 '65. (MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

IL'YUCHENOK, R.Yu.; PASTUKHOV, Yu.F.

Electrophysiological study of the effect of piridrol on the central nervous system. Zhur. nevr. i psikh. 62 no.12:1821-1831 '62. (MIRA 16:11)

1. Laboratoriya farmakologii (zav. - kand.med.nauk. R.Yu. Il'yuchenok) Instituta eksperimental'noy biologii i meditsiny (dir. - prof. Ye.N.Meshalkin) Sibirskogo otdeleniya AN SSSR, Novosibirsk.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 36848-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/JG/GD

ACC NR: AT6017920 (A) SOURCE CODE: UR/0000/65/000/000/0036/0043

AUTHOR: Pastukhova, Zh. P. (Engineer)

ORG: None

TITLE: Trace alloying as a method of raising the reliability and durability of nonferrous spring alloys

SOURCE: Leningradskiy dom nauchno-tekhnicheskoy propagandy. Povysheniye nadezhnosti pruzhin (Increasing the reliability of springs); sbornik. Leningrad, 1965, 36-43

TOPIC TAGS: alloy system, bronze, plastic deformation, stress relaxation, annealing, recrystallization, phosphorus, titanium containing alloy, boron containing alloy, beryllium containing alloy

ABSTRACT: The authors study the effect of trace alloying on the properties of Br.A7 and Br.KMts3-1 alloys after deformation and subsequent precrystallization annealing. The following trace alloying components were chosen for Br.A7: phosphorus (0.02%-0.1%), boron (0.005%-0.02%), beryllium (0.005%-0.05%); for Br.KMts3-1: phosphorus (0.02%-0.2%), boron (0.003%-0.02%), titanium (0.05%-0.2%). The use of phosphorus is explained by the fact that it reduces the energy of packing defects in copper and by analogy it should act similarly with respect to copper alloys. Beryllium and titanium were added in order to form atmospheres with strong chemical bonds characterized by increasing

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 36848-66

ACC NR: AT6017920

stability. Resistance to small plastic deformations was used for determining the effect of these admixtures on increasing stability and reliability of the alloys. Relaxation stability was determined from relaxation stresses. It is shown that the addition of these metals raises the strength of the alloys in the deformed state. The strengthening effect of the admixtures shows up most clearly after supplementary prerecrystallization annealing. All of the alloys with admixtures and without admixtures acquired maximum resistance to small plastic deformation after prerecrystallization annealing. Br.A7 is annealed at 280° for 20 minutes, and Br.KMts3-1 is annealed at 300° for 30 minutes. This shows that the admixtures do not affect the basic structural strengthening mechanism. Beryllium and phosphorus have the most beneficial effect on increasing relaxation stability in Br.A7, while phosphorus and boron are most effective in Br.KMts3-1. The production of alloys with admixtures does not cause any difficulties since these alloys can be produced by the same process as alloys without admixtures. Trace alloying of bronze A7 and KMts3-1 is an efficient means for increasing the durability and reliability of elastic elements made of spring alloys. Orig. art. has: 4 figures.

SUB CODE: 11/ SUBM DATE: 19Oct65/ ORIG REF: 003/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 45377-65 EWT(m)/EWP(w)/EWA(d)/EPR/T/EWP(t)/EWP(z)/EWP(b) Ps-4 IJP(c) MJW/JD

ACCESSION NR: AP5007002 S/0129/65/000/003/0022/0028

AUTHOR: Pastukhova, Zh. P.; Ivanova, T. V.; Puchkov, B. I.; Rakhshtadt, A. G.; Rogel'berg, I. L.

TITLE: Effect of microalloying on the properties of aluminum bronze

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 3, 1965, 22-28

TOPIC TAGS: aluminum alloy, aluminum bronze, hardening, mocroanalysis

ABSTRACT: The influence of microalloying on the properties of bronze Br.A7 after deformation and prerecrystallization annealing were studied. Phosphorus, boron, and beryllium were used as the alloying elements. The alloys contained 7% Al and 0.03, 0.07, 0.13% P; or 0.0053, 0.0095, 0.0188% B; or 0.0055, 0.009, 0.06% Be. From a deformed strip, specimens were prepared on which the elastic limit, relaxation resistance, and hardness were measured. The greatest effect of phosphorus on the properties of bronze is manifested after prerecrystallization annealing; the hardening produced is apparently due to the formation of segregations and even regions of excess phase. Introduction of boron increases the elastic limit only slightly, and the greatest hardening is also observed after prerecrystallization

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 45377-65

ACCESSION NR: AP5007002 4

annealing. As in the case of phosphorus, the optimum annealing temperature is independent of the boron concentration. In the case of beryllium, in contrast to boron and phosphorus, a maximum hardening at low Be concentrations (about 0.005%) is followed by a decline, and then by another increase. The first maximum is due to the formation of segregations, and the second, to the separation of an excess phase whose particles prevent dislocation movement. For the same atomic concentration of the three elements tested, the hardening produced by phosphorus is the most pronounced. Relaxation tests confirmed the high thermal stability of the alloyed bronzes. Orig. art. has: 8 figures.

ASSOCIATION: MVTU im. Baumana, GIPROTSVETMETOBRABOTKA

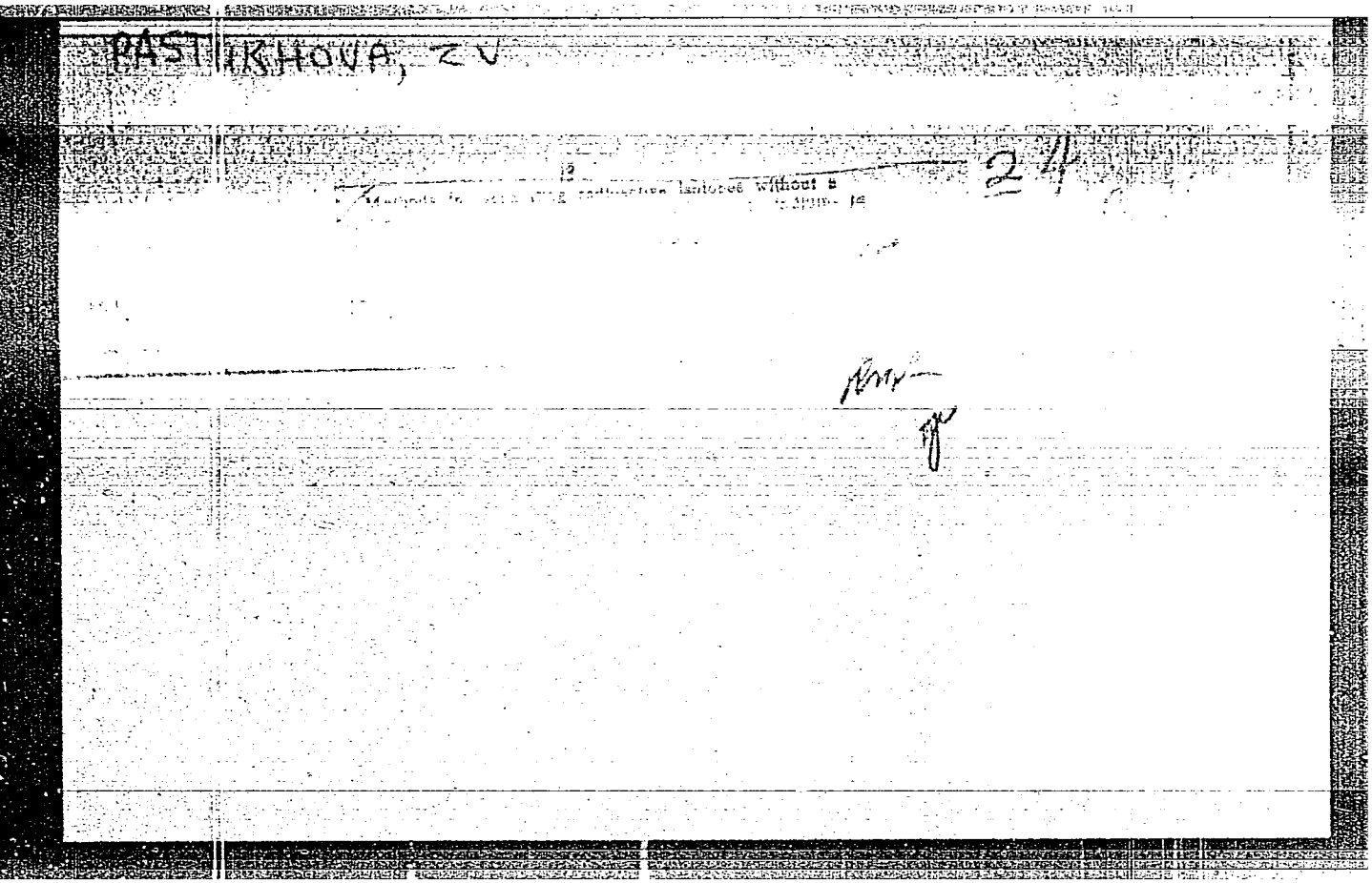
SUBMITTED: 00 ENCL: 00 SUB CODE: MM

NO REF SOV: 005 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

AUTHORS: Estulin, I. V., Chernov, B. M., SOV [illegible]
Pastukhova, Z. V.

TITLE: On the Mo^{99}-Decay Scheme (O skheme raspada Mo^{99})

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, [illegible], Vol 35, Nr 1, pp 71 - 77 (USSR)

ABSTRACT: In a number of earlier papers the decay scheme of Tc^{99} was already investigated at excitation energies of 140 and 142 keV (Refs 1-3), 180 and 922 keV (Refs 5-7), and β-transitions of Mo^{99} (Refs 1,5,8). In the present paper the authors deal with the investigation of the angular correlations of the 742 - 180 keV-γ-quanta which are emitted at the decay of Mo^{99}. The decay scheme is given in figure 1(levels: 922, (780), (509), 180, 142, 140 keV). Figure 2 is a schematic representation of the measuring arrangement used. It consists essentially of two luminescence counters with stilb crystals of 20 mm thickness and a photomultiplier FEU -19; the coincidence had a resolving power of $\tau = 3.10^{-8}$sec. The luminescence crystals were housed in lead containers of 3 mm thickness. Control

Card 1/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

tests were carried out with a Cs^{137} source. Before the window of the lead containers there were lead filters of 1 mm thickness. Results for the transitions 922-180-C keV (a_2 = coefficient of angular correlation, $W(\theta)$ = correlation function):

		$W(\theta)/W(\pi/2)$: 90^0	140^0	165^0
3/2(D)5/2(Q)9/2	a_2 = -0,0714	1,00	0,95	0,9[illegible]
3/2(Q)7/2(D)9/2	-0,0716	1,00	0,94	0,90
7/2(D)7/2(D)9/2	-0,0667	1,00	0,94	0,9[illegible]
5/2(Q)9/2(D)9/2	-0,119	1,00	0,90	0,84
5/2(D)7/2(M1+E2)9/2	$-0,17 < a_2 < +0,32$			
experiment	$-0,07 \pm 0,015$	1,00	$0,93 \pm 0,02$	
			$0,92 \pm 0,02$	

For δ^2, i.e.the ratio of the emission intensities E2:M1 it holds that

$(1+\delta^2)a_2 = 0,050+0,097\delta^2 + 0,486\delta$ The chemical separation of Tc^{99m} showed that the β-transition in Mo^{99} with E_β=1,23 MeV leads to an isomeric equilibrium in Tc^{99} and $(7 \pm 1)\%$ of the 140 keV intensity is not connected with the isomeric transition. In conclusion the autnors thank I.S.Shapiro

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

On the Mo^{99}-Decay Scheme

for discussing results. There are 5 figures, 1 table, and 17 references, 5 of which are Soviet.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: February 27, 1958

Card 3/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUKHOVA, Z.V.; RUDENKO, N.P.

Methods of separating radioactive isotopes with a carrier.
Part 7: Separation of the radioactive isotope in ^{115m}, formed in the β-decay of Cd^{115}, by means of an electric field.
Radiokhimiia 1 no.3:273-276 '59. (MIRA 12:10)
(Indium--Isotopes)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

RUDENKO, N.P.; PASTUKHOVA, Z.V.

Methods of separating radioactive isotopes without a carrier. Part 8: Separation of the radioactive isotope Tc^{99m} by means of an electric field and investigation of the possibility of separating the radioactive isotopes Nb^{97} and Nb^{95} by this method. Radiokhimiia 1 no.3:277-282 '59. (MIRA 12:10)
(Niobium--Isotopes) (Technetium--Isotopes)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KURCHATOV, B.V.; KUPENKO, N.[illegible]; PAKTUKHOVA, Z.V.

Study of the reaction [illegible] on cadmium isotopes. Vest. Mosk. un. Ser. 2: Khim. [illegible] (MIRA 19:1)

1. Laboratoriya radioaktivnykh [illegible] Nauchno-issledovatel'skogo instituta yadernoy fiziki Moskovskogo universiteta. Submitted May 29, 1965.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

RUDENKO, Nikolay Pavlovich; PASTUKHOVA, Zinaida Vasil'yevna; SOLDATENKOVA, T.A., red.

[Radioactive molybdenum isotopes] Radioaktivnye izotopy molibdena. Moskva, Atomizdat, 1965. 46 p. (MIRA 18:12)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

S/120/62/000/006/026/029
E039/E535

AUTHOR: Pastukhova, Z.V.

TITLE: The manufacture of targets and radioactive sources of cobalt, copper and silver

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1962, 126-127

TEXT: As platinum is sometimes unsuitable as a backing material for targets and sources, data has been collected on the electrolytic deposition of the above elements on aluminium. In the case of Co a glass electrolyser was used and for Cu and Ag perspex. The aluminium cathode is fixed to the base of the electrolyser with vacuum cement and after electrolysis is removed by means of alcohol or CCl_4. Initially, the aluminium is treated with CCl_4, concentrated HNO_3 and dilute HCl. In the case of Ag particular care is necessary; the treatment is as follows: clean with fine emery cloth: 10 min in 3N. NaOH solution : wash in water; 2 to 3 min dilute HCl : wash in water : dry and weigh. This method has been used for the preparation of Co^{60} sources 0.1 and 0.4 mg/cm^2, a Cu^{64} target 1.4 mg and an enriched Ag^{109} target 48.1 mg for the investigation of the radiation trapping of thermal neutrons. The

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PODURAYEV, V.N., kand. tekhn. nauk, dotsent; PASTUNOV, V.A., inzh.; VEYLER, S. Ya., doktor khim. nauk

Lubricating and cooling fluids as means for increasing the productivity in vibratory drilling of stainless and heat-resistant steels. Izv. vys. ucheb. zav.; mashinostr. no. 10: 194-198 '65 (MIRA 19:1)

1. Submitted February 28, 1964.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 45607-66 EWT(m)/EWP(t)/ETI/EWP(k) LIP(c) JD

ACC NR: AP6013815 SOURCE CODE: UR/0145/65/000/010/0194/0198

AUTHOR: Podurayev, V. N. (Candidate of technical sciences, Lecturer); Pastunov, V. A. (Engineer); Veyler, S. Ya. (Doctor of chemical sciences)

ORG: None

TITLE: Coolants as a means for increasing productivity in vibration drilling of stainless and high-temperature steels

SOURCE: IVUZ. Mashinostroyeniye, no. 10, 1965, 194-198

TOPIC TAGS: stainless steel, high temperature steel, drilling machine, metal machining, COOLING, MECHANICAL VIBRATION

ABSTRACT: The process of vibration drilling in special media is studied to develop means for increasing the efficiency of this machining method applied to high-temperature and stainless steels and alloys. Coolants containing molybdenum disulfide were used in stability tests of conventional and vibration drilling. The results were compared with those of control tests with coolants ordinarily used for drilling heat-resistant materials in industry. The material tested was EI654 high-temperature steel. Twist drills made from R18 high-speed steel 1.5 mm in diameter were used. The vibration drilling conditions were: spindle speed--1500 rpm, feed--15 mm/min, spindle vibration frequency--125 cps and spindle vibration amplitude--0.01 mm. A microscope was

Card 1/2 UDC: 621.979.063

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 45607-66

ACC NR: AP6013815

used for inspection of grinding and measurement of drill wear. The compositions of the various coolants tested are tabulated. A molybdenite suspension (60% oleic acid, 30% kerosene and 10% molybdenum disulfide) was found to be most effective for vibration drilling. The effectiveness of this fluid increases considerably with a transition from conventional to vibration drilling. The effectiveness of this suspension also increases in direct proportion to drilling depth. Orig. art. has: 4 figures, 1 table, 1 formula.

SUB CODE: 13/ SUBM DATE: 28Feb64/ ORIG REF: 003/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

ACC NR: AP6036889 (N) SOURCE CODE: UR/0122/66/000/011/0065/0068

AUTHOR: Podurayev, V. N. (Candidate of technical sciences); Pastunov, V. A. (Engineer)

ORG: none

TITLE: Increasing the efficiency of a vibration drill by the use of active lubricating-cooling media

SOURCE: Vestnik mashinostroyeniya, no. 11, 1966, 65-68

TOPIC TAGS: drilling machine, metal machining, inorganic lubricant

ABSTRACT: The experiments were carried out in the following manner. An aggressive liquid medium of appropriate viscosity is sprayed on the cutting zone. This medium comes into contact with and etches the cutting edges. A neutral solution is then applied. After this, the cutting is stopped. By examining the cutting edges under a microscope, it is possible to determine the boundaries of the etched zone, and the size of the zone in which the liquid or its vapors have penetrated the contact surface. The experiments were made during conventional and vibration drilling of Kh18N9T steel with a straight through cutter made of R18 steel, under the following conditions: $v = 6.7$ meters/min; $t = 2$ mm; $s = 0.2$ mm/rev; vibration frequency $f = 40$ cycles; vibration amplitude $A = 0.2$ mm. The direction of the vibration was along the X-X axis. The aggressive liquid medium was a mixture of oxalic and nitric acids, and the

Card 1/2 UDC: 621.951.1.048.6

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

ACC NR: AP6036889

neutralizer was a saturated soda solution. The article shows microphotos of the type of the cutter following conventional and vibration cutting under the above conditions. The conclusion from the above preliminary experiments was that, with vibration cutting, it is possible for larger size particles in suspension to penetrate between the cutting tool and the surface being machined. To test the effect of various lubricating and cooling media, tests were carried out on heat resistant steel EI481, using a large variety of such media. As a result of the experiments, the most effective media were found to be those which contained graphite and molybdenum disulfide powders in suspension. Orig. art. has: 2 figures and 1 table.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 001

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

HRADIL, Ilja; JIRASEK, Karel; KUBES, Ladislav; PASTUSKOVA, Alena

A contribution to the submicroscopic structure of reticular tissue in the spleen of healthy rats. Sborn. ve.d prac. lek. fak. Karlov. Univ. 8 no.4:485-488 '65.

1. Katedra histologie s embryologii (prednosta: prof. MVDr. et RNDr. V. Vrtis), Karlovy University v Hradci Kralove.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUOVIC, N.

Rating-scale as a method for obtaining a comparable measure of job proficiency. Arh. hig. rada 15 no.2:173-182 '64.

1. Konfekcija "Naprijed", Zagreb.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

ACCESSION NR: AR4014764 S/0058/63/000/012/E032/E032

SOURCE: RZh. Fizika, Abs. 12E268

AUTHOR: Kosevich, A. M; Pastur, L. A.

TITLE: Dislocation model of a thin twin at the surface of a crystal

CITED SOURCE: Sb. Fiz. shchelochno-galoidn. kristallov. Riga, 1962, 482-485

TOPIC TAGS: crystal, twin, twin dislocation, dislocation interaction, Peierls force, stacking fault, twin profile, screw dislocation

TRANSLATION: The equilibrium distribution of twinning dislocations along a thin twin layer $\rho(x)$ of length L is determined from the condition

$$\int_a^L \rho(y)\, dy/(y - x) + \int_a^L K(y, x)\rho(y)\, dy - f(x) = 0.$$

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

ACCESSION NR: AR4014764

The first term describes the elastic interaction of the dislocations, the second the force of attraction to the surface of the body, and the third the inelastic forces (the Peierls force and the surface tension force of the stacking fault behind the dislocation); a is of the order of the height of the jog at the energence of the twin to the surface. The profile of the twin was investigated in the following cases: (a) inner end of the twin free, (b) stopped, (c) plane-parallel (through) twin, (d) outer end of the twin wedged in at the point x = a near the surface. For the case of screw dislocations in the twinning plane normal to the external surface of the crystal, an explicit form of $\rho(x)$ was obtained. The errors in the earlier papers of the authors are corrected (RZhFiz, 1961, 9E74, 11E54). A. Orlov.

DATE ACQ: 24Jan64 SUB CODE: PH ENCL: oo

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KOSEVICH, A.M. (Khar'kov); PASTUR, L.A. (Khar'kov)

Twins in equilibrium near the plane surface of an isotropic medium. PMTF no.5:77-82 S-O '63. (MIRA 16:11)

1. Fiziko-tekhnicheskiy institut nizhnikh temperatur AN SSSR.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KOSEVICH, A.M.; PASTUR, L.A.

A thin twin near the plane surface of an anisotropic body. Fiz. tver. tela 4 no.6:1679-1680 Je '62. (MIRA 16:5)

1. Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR, Khar'kov.
(Dislocations in crystals) (Elasticity)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

S/181/62/004/009/031/045
B102/B186

AUTHORS: Pastur, L. A., Fel'dman, E. P., Kosevich, A. M., and Kosevich, V. M.

TITLE: Rectilinear dislocation in the plane of discontinuity of elastic constants in an unbounded anisotropic medium

PERIODICAL: Fizika tverdogo tela, v. 4, no. 9, 1962, 2585 - 2592

TEXT: Calculations of the stress and displacement field of a dislocation line are based on a model which assumes an isotropic medium, as investigated by A. K. Head (Proc. Phys. Soc., B66, 793, 1953). The dislocation line is assumed as running parallel ($\parallel z$) to the plane of discontinuity (x0z) of the elastic constants and situated near this plane, with the Burgers vector oriented in an arbitrary direction. The dislocations are in the upper semispace ($y > 0$), and the dislocation line is assumed to cut the x0y plane at the point $(0, y_0)$ where the stress tensor σ^0_{ik} is acting. In this model, the stress tensor and displacement vector are given by

$$\sigma_{ik} = \begin{cases} \sigma^0_{ik} + \sigma^+_{ik}, & y > 0 \\ \sigma^-_{ik}, & y < 0 \end{cases} \quad (i, k = 1, 2, 3), \qquad (1)$$

Card 1/5

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

Rectilinear dislocation in...

and

$$u_i = \begin{cases} u_i^0 + u_i^+, & y > 0 \\ u_i^- , & y < 0 \end{cases} \quad (i = 1, 2, 3). \qquad (2)$$

σ_{ik}^0 and u_{ik}^0 are assumed to be known; they are defined by

$$\left.\begin{aligned} \sigma_{i2}^0 &= \frac{1}{4\pi} 2\mathrm{Re} \sum_{\alpha=1}^{3} f_{i\alpha} M_{\alpha j} d_j (z_\alpha - z_{0\alpha})^{-1}, \\ u_i^0 &= \frac{1}{4\pi} 2\mathrm{Re} \sum_{\alpha=1}^{3} p_{i\alpha} M_{\alpha j} d_j \ln (z_\alpha - z_{0\alpha}), \end{aligned}\right\} \qquad (10)$$

(A. N. Stroh, Phil. Mag., 3, 625, 1958). In this case, the complex representation

$$\left.\begin{aligned} \sigma_{i1} &= -\frac{\partial \varphi_i}{\partial y}, \quad \sigma_{i2} = \frac{\partial \varphi_i}{\partial x}; \\ \varphi_i &= 2\mathrm{Re} \sum_{\alpha=1}^{3} f_{i\alpha} \Phi_\alpha (z_\alpha); \\ u_i &= 2\mathrm{Re} \sum_{\alpha=1}^{3} p_{i\alpha} \Phi_\alpha (z_\alpha), \end{aligned}\right\} \qquad (6)$$

Card 2/5

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

Rectilinear dislocation in...

is used, where $z_\alpha = x + \mu_\alpha y$; μ_α, $f_{i\alpha}$, and $p_{i\alpha}$ are complex numbers, unambiguously connected with the elastic constants; $\Phi_\alpha(z_\alpha)$ are certain functions of a complex variable; $(M_{\alpha j})$ is a matrix inverse to $(f_{j\alpha})$, the d_j are real numbers uniquely determinable by the elastic constants and the Burgers vector and by $z_{o\alpha} = \mu_\alpha^+ y_o$.

$$\left.\begin{aligned} \sigma_{i2}^-(x, 0) - \sigma_{i2}^+(x, 0) &= \sigma_{i2}^0(x, 0), \\ u_i^-(x, 0) - u_i^+(x, 0) &= u_i^0(x, 0). \end{aligned}\right\} \quad (5)$$

presents the problem in such a way that the plane of discontinuity becomes the interface of two anisotropic media of different elastic constants, and

Card 3/5

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

$$\left.\begin{aligned}
\sigma_{i1}^{+} &= -\frac{1}{2\pi}\,\mathrm{Re}\left\{\sum_{\alpha,\beta=1}^{3}\frac{1}{\Delta}\,f_{i\beta}^{+}k_{\beta}^{+}M_{\alpha j}^{+}d_{j}^{+}\Delta_{\beta\alpha}(z_{\beta}^{+}-z_{0\alpha})^{-1}\right\},\\
\sigma_{i2}^{+} &= \frac{1}{2\pi}\,\mathrm{Re}\left\{\sum_{\alpha,\beta=1}^{3}\frac{1}{\Delta}\,f_{i\beta}^{+}M_{\alpha j}^{+}d_{j}^{+}\Delta_{\beta\alpha}(z_{\beta}^{+}-z_{0\alpha})^{-1}\right\},\\
\sigma_{i1}^{-} &= -\frac{1}{2\pi}\,\mathrm{Re}\left\{\sum_{\alpha,\beta=1}^{3}\frac{1}{\bar{\Delta}}\,f_{i\beta}^{-}k_{\beta}^{-}M_{\alpha j}^{+}d_{j}^{+}\Delta_{\beta\alpha}^{(1)}(z_{\beta}^{-}-z_{0\alpha})^{-1}\right\},\\
\sigma_{i2}^{-} &= \frac{1}{2\pi}\,\mathrm{Re}\left\{\sum_{\alpha,\beta=1}^{3}\frac{1}{\bar{\Delta}}\,f_{i\beta}^{-}M_{\alpha j}^{+}d_{j}^{+}\Delta_{\beta\alpha}^{(1)}(z_{\beta}^{-}-z_{0\alpha})^{-1}\right\},
\end{aligned}\right\} \qquad (13)$$

is finally obtained from these relations. In (13), $\bar{\Delta}$ is a conjugate complex to the determinant Δ, and $\Delta_{\beta\alpha}^{(1)}$ are obtained from $\bar{\Delta}$ by substituting the $(\beta+3)$th column by the $f_{i\alpha}^{+}$ and $p_{i\alpha}^{+}$ column, constructed in the same manner as for $\Delta_{\beta\alpha}$. The formulas obtained are used to

Card 4/5

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

calculate stresses in the symmetry plane of a twin crystal and the stresses of a dislocation on an otherwise stress-free surface of an anisotropic semispace. A general formula is derived for the force acting on a dislocation in a plane of discontinuity. This formula becomes transformed into Head's formula if the Poisson ratio is equal in the two semispaces.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute imeni V. I. Lenin)

SUBMITTED: March 2, 1962 (initially) May 25, 1962 (after revision)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

38926
S/181/62/004/006/050/051
B178/B104

24750

AUTHORS: Kosevich, A. M., and Pastur, L. A.

TITLE: A thin twin of the flat surface of an anisotropic body

PERIODICAL: Fizika tverdogo tela, v. 4, no. 6, 1962, 1679 - 1680

TEXT: The dislocation model of a two-dimensional twin is studied. In order to calculate the equilibrium conditions, the stress tensor of each dislocation must be known

$$\sigma_{i1}=-\frac{\partial\varphi_i}{\partial y},\quad \sigma_{i2}=\frac{\partial\varphi_i}{\partial x},$$

$$\varphi_i=2Re\sum_{\alpha=1}^{3}f_{i\alpha}\Phi_\alpha(z_\alpha),\quad z_\alpha=x+\mu_\alpha y, \qquad (1).$$

wherein $f_{i\alpha}$ and μ_α are complex numbers clearly determined by the elastic modulus of the substance, and $\Phi(z)$ is a function of complex variables. For $\Phi_\alpha(z)$ the following are valid:

$$\Phi_\alpha(z)=\frac{1}{4\pi}M_{\alpha j}d_j\ln(z-z_\alpha^0)+\Phi_\alpha^{(1)}(z). \qquad (2)$$

Card 1/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

A thin twin of the flat...

and $$\Phi_\alpha^{(1)}(z)=\frac{1}{4\pi\Delta}\sum_{\beta=1}^{3}\Delta_{k\alpha}\overline{f_{k\beta}M_{\beta j}}\,d_j\ln(z-z_\beta^0), \quad (3)$$

where $z_\alpha^0 = x_0 + \mu_\alpha y_0$; $M_{\alpha j}$ = inverse matrix of $f_{i\alpha}$; d_j is defined by the elastic modulus of the substance and the Burgers vector $\vec{b}$ of the dislocation. $\Delta = \det\|f_{i\alpha}\|$ $\Delta_{k\alpha}$ = algebraic complement of the matrix elements $f_{i\alpha}$; (x_0, y_0) are the coordinates of the point of application of the dislocation lines. The stress field of the rectilinear dislocations is obtained from equations (1) - (3)

$$\int_a^L \frac{\rho(\xi)\,d\xi}{\xi-\eta}+\int_a^L K(\eta,\xi)\rho(\xi)\,d\xi=\frac{1}{N}\{b_1\sigma_{\xi\eta}^\infty+b_2\sigma_{\xi y}^\infty+S\}, \quad (4)$$

$$K(\eta,\xi)=\frac{1}{2\pi\Delta N}\mathrm{Re}\sum_{\alpha=1}^{3}\left\{b_1\left[f_{1\alpha}\cos 2\vartheta-(f_{1\alpha}\mu_\alpha+f_{2\alpha})\frac{\sin 2\vartheta}{2}\right]-b_2 f_{3\alpha}\mu_\alpha'\right\}Y_\alpha(\eta,\xi),$$

$$Y_\alpha(\eta,\xi)=\sum_{\beta=1}^{3}\Delta_{k\alpha}\overline{f_{k\beta}M_{\beta j}}\,d_j[\eta\mu_\alpha'-\xi\mu_\beta']^{-1},$$

$$N=\frac{1}{2\pi}\mathrm{Re}\sum_{\alpha=1}^{3}\left\{b_1\left[f_{1\alpha}\cos 2\vartheta-(f_{1\alpha}\mu_\alpha+f_{2\alpha})\frac{\sin 2\vartheta}{2}\right]-b_2 f_{3\alpha}\mu_\alpha'\right\}\frac{M_{\alpha j}d_j}{\mu_\alpha'}.$$

Card 2/3

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

holds for the displacement density on the twinning line, where γ is the angle between the twinning plane and the normal to the surface; b_1 and b_2 are the components of the Bürgers vector along the twinning line and perpendicular to it. $\mu'_\alpha = \sin\gamma + \mu_\alpha \cos\gamma$; σ^e_{ik} are the components of the external stress tensor; S = inelastic force. In an isotropic neighborhood equation (4) goes over into the equation for $\varrho(\eta)$ obtained by A. M. Kosevich and L. A. Pastur (FTT, 3, 1871, 1961). If $L-a \ll L \cdot a$ and $K(\eta,\xi) = 0$, (4) goes over into the equation for the equilibrium of thin twins in an unbounded anisotropic medium obtained by L. M. Lifshits (ZhETF, 18, 1134, 1948).

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur AN USSR Khar'kov (Physicotechnical Institute of Low Temperatures AS UkrSSR Khar'kov)

SUBMITTED: March 2, 1962

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KOSEVICH, A.M.; PASTUR, L.A.

Dislocation pattern of a twin. Fiz.tver.tela 3 no.4:1290-1297 Ap '61. (MIRA 14:4)

1. Fiziko-tekhnicheskiy institut AN USSR i Khar'kovskiy politekhnicheskiy institut.
(Dislocations in crystals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUR, L.A.; FEL'DMAN, E.P.; KOSEVICH, A.M.; KOSEVICH, V.M.

Straight-line dislocation near the plane of discontinuity of the elastic constants in an infinite and anisotropic medium. Fiz. tver. tela 4 no.9:2585-2592 S '62. (MIRA 15:9)

1. Khar'kovskiy politekhnicheskiy institut imeni Lenina.
(Dislocations in crystals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 18121-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD/IJP(C) JD
ACCESSION NR: AP3003897 S/0181/63/005/007/1970/1978

AUTHORS: Kosevich, A. M.; Pastur, L. A.

TITLE: Relationship between the dislocation theory of twins and the macroscopic theory of Lifshits

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 1970-1978

TOPIC TAGS: dislocation theory, twin, macroscopic theory, Lifshits, thermodynamic equilibrium, mechanical equilibrium, phenomenological theory, twinning angle, elastic stress, interaction

ABSTRACT: The authors established a correspondence between the dislocation theory of fine twins and the phenomenological theory proposed by I. M. Lifshits (ZhETF, 18, 1134, 1948). They have investigated the actual physical sense, the microscopic nature, of a number of parameters involved in the macroscopic theory. These parameters are complex, involving surface stresses acting on dislocations, twinning angle, deformation ratio in twinned and untwinned crystals, and related factors that do not permit easy physical representation. The authors have found the form of mechanical equilibrium of twins in a crystal corresponding to the thermodynamic equilibrium for a given external load. It is shown that the stress of a twin in a

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 18121-63
ACCESSION NR: AP3003897

crystal, as computed by Lifshits, is comparable to that obtained in the dislocation model. "The authors thank I. M. Lifshits for his advice and useful discussions." Orig. art. has: 5 figures and 33 formulas.

ASSOCIATION: none

SUBMITTED: 15Mar63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 010 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KOSEVICH, A.M.; PASTUR, L.A.

Relation between the dislocation theory of twins and Lifshits' macroscopic theory. Fiz. tver. tela 5 no.7:1970-1978 Jl '63. (MIRA 16:9)

(Dislocations in crystals)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 18121-63 EWT(l)/EWP(q)/EWT(m)/BDS AFFTC/ASD/IJP(C) JD
ACCESSION NR: AP3003897 S/0181/63/005/007/1970/1978

59
58

AUTHORS: Kosevich, A. M.; Pastur, L. A.

TITLE: Relationship between the dislocation theory of twins and the macroscopic theory of Lifshits

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 1970-1978

TOPIC TAGS: dislocation theory, twin, macroscopic theory, Lifshits, thermodynamic equilibrium, mechanical equilibrium, phenomenological theory, twinning angle, elastic stress, interaction

ABSTRACT: The authors established a correspondence between the dislocation theory of fine twins and the phenomenological theory proposed by I. M. Lifshits (ZhETF, 18, 1134, 1948). They have investigated the actual physical sense, the microscopic nature, of a number of parameters involved in the macroscopic theory. These parameters are complex, involving surface stresses acting on dislocations, twinning angle, deformation ratio in twinned and untwinned crystals, and related factors that do not permit easy physical representation. The authors have found the form of mechanical equilibrium of twins in a crystal corresponding to the thermodynamic equilibrium for a given external load. It is shown that the stress of a twin in a

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 18121-63
ACCESSION NR: AP3003897

crystal, as computed by Lifshits, is comparable to that obtained in the dislocation model. "The authors thank I. M. Lifshits for his advice and useful discussions." Orig. art. has: 5 figures and 33 formulas.

ASSOCIATION: none

SUBMITTED: 15Mar63 DATE ACQ: 15Aug63 ENCL: 00

SUB CODE: PH NO REF SOV: 010 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KOSEVICH, A.M.; PASTUR, L.A.

Shape of a thin twin situated at an angle to the surface.
Fiz. tver. tela 3 no.6:1871-1875 Je '61. (MIRA 14:7)

1. Fiziko-tekhnicheskiy institut AN USSR i Khar'kovskiy politekhnicheskiy institut, Khar'kov.
(Crystal lattices)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

KONSTANTINOVA, Bl.; PASTURMADZHIEVA, M.

A case of echinococcosis of the pelvic bones. Khirurgiia, Sofia 13 no.12:1092-1094 '60.

1. Iz Katedrite po Patologichna anatomiia i Optopediia i travmatologiia pri ISUL
(ECHINOCOCCISIS case reports)
(PELVIC BONES dis)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHAK, N.O.; DOMBROVSKIY, A.V.; MUKHOVA, A.N.

Haloarylation of unsaturated compounds by aromatic diazo compounds. Part 23: Chloroarylation of α,β-chloromethylacrylate and the production of α,β-unsaturated acids and esters. Zhur.org.khim. 1 no.3:572-575 Mr '65. (MIRA 18:4)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHAK, N.G.; [illegible], A.V.

Haloarylation of unsaturated compounds by aromatic diazonium salts. Part 20: Chloroarylation of α-methylacrylonitrile. Ukr. khim. zhur. 34 no.9:910-914 '68. (MIRA 21:9)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHAK, N.O.; DOMBROVSKIY, A.V.; ROGOVIK, L.I.

Haloarylation of unsaturated compounds with aromatic diazo compounds. Part 19:Chloroarylation of α-chloroacrylonitrile. Zhur. ob. khim. 34 no.7:2243-2246 Jl '64 (MIRA 17:8)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHCHAK, G.I., sanitarnyy vrach

Hygienic evaluation of house-to-house sanitary services. Gig. i san. 26 no.10:60-62 O '61. (MIRA 15:5)

1. Iz Leninskoy rayonnoy sanitarno-epidemiologicheskoy stantsii L'vova i kafedroy obshchey gigiyeny Kiyevskogo meditsinskogo instituta.
(REFUSE AND REFUSE DISPOSAL)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHCHAK, G.I., sanitarnyy vrach

Methods of study of the effectiveness of sanitation in populated areas. Gig. i san. 28 no.7:76-81 Jl '63. (MIRA 17:1)

1. Iz sanitarno-epidemiologicheskoy stantsii Shevchenkovskogo rayona L'vova.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHCHAK, G.I., sanitarnyy vrach; MUROVANNAYA, S.I., kandidat meditsinskikh nauk

Hygiene and epidemiological council of scientific society. Concerning S.V.Pevzner's article on "Hygienic and epidemiological council in the work system of a hygienic and epidemiological station." Gig. i san. 22 no.1:82-83 Ja '57. (MLRA 10:2)

1. Iz Moskovskoy gorodskoy sanitarno-epidemiologicheskoy stantsii (for Murovannaya)
(PUBLIC HEALTH)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHAK, N.O.; DOMBROVSKIY, A.V.

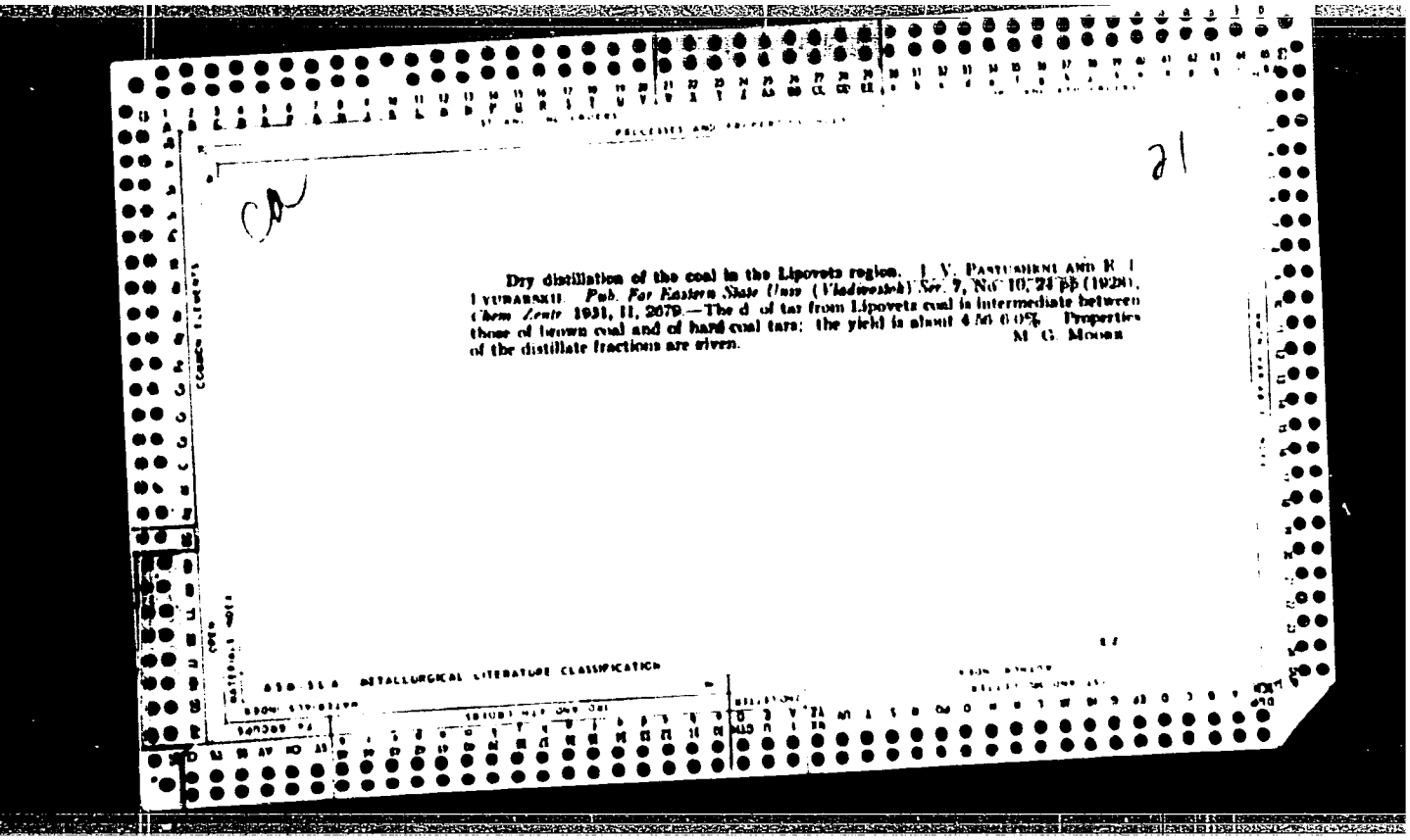
Production of some unsaturated aliphatic-aromatic aldehydes by the reduction of β-arylacrylic nitriles. Zhur.org.khim. 1 no.2: 323-325 F '65. (MIRA 18:4)

1. Chernovitskiy gosudarstvennyy universitet.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

21



Dry distillation of the coal in the Lipovets region. I. V. Pastushkni and R. I. Lyubarskii. *Pub. Far Eastern State Univ. (Vladivostok) Ser.* 7, No. 10, 24 pp (1928). *Chem. Zentr.* 1931, II, 2679.—The d. of tar from Lipovets coal is intermediate between those of brown coal and of hard coal tars; the yield is about 4.56-6.0%. Properties of the distillate fractions are given. M. G. Moore

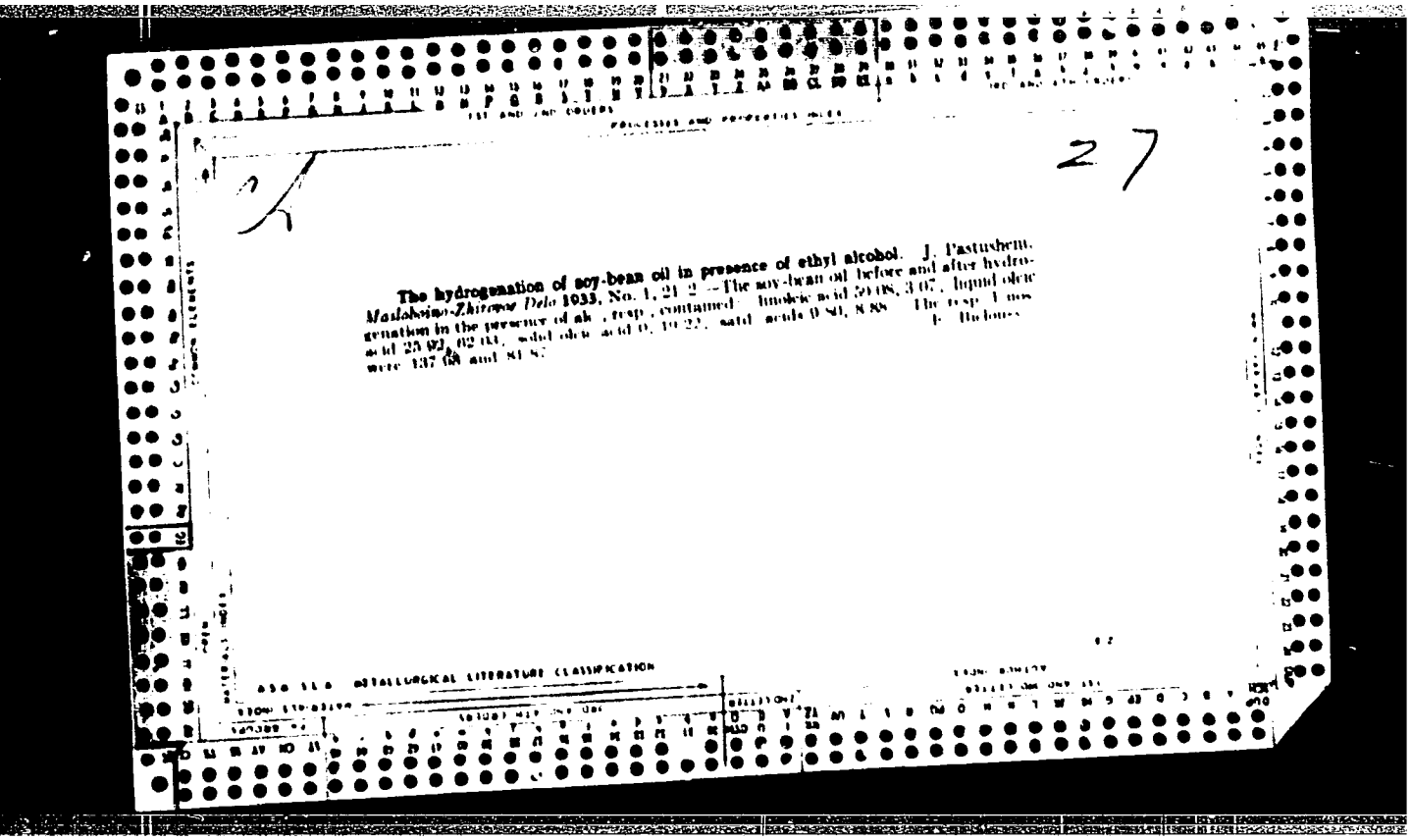
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX



27

The hydrogenation of soy-bean oil in presence of ethyl alcohol. J. Pastushenk. *Maslobojno-Zhirovoe Delo* 1933, No. 1, 21-2.—The soy-bean oil before and after hydrogenation in the presence of alc., resp., contained: linoleic acid 50.08, 3.07, liquid oleic acid 25.92, 62.03, solid oleic acid 0, 10.22, satd. acids 0.80, 8.88. The resp. I nos. were 137.68 and 81.87. F. Bielouss

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

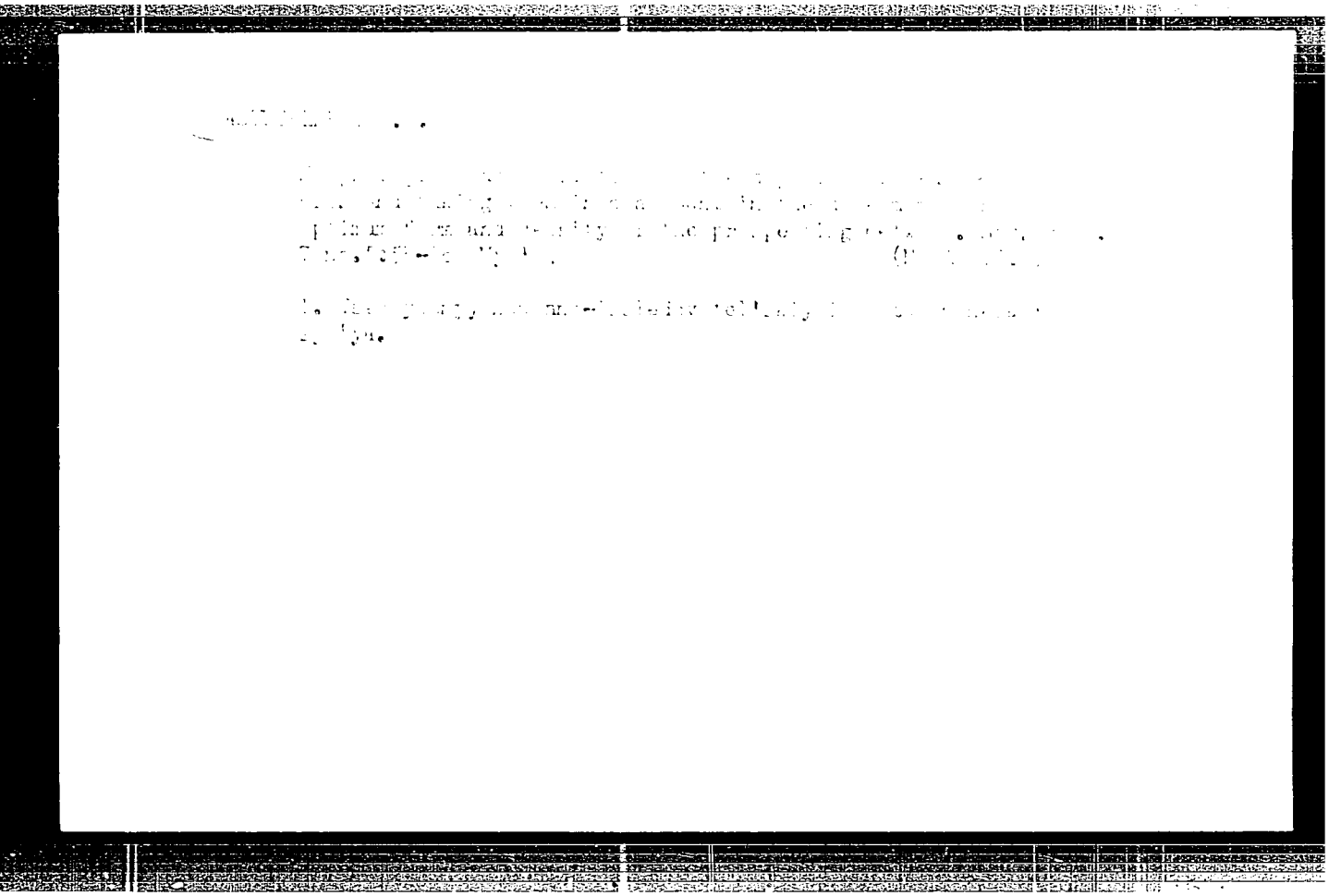
KORSUNSKAYA, A.L.; MISKIDZH'YAN, S.P.; PASTUSHENKO, A.A.

Conducting nonaqueous systems formed by nonconducting components.
Elektrokhimiia 1 no.7:800-805 Jl '65. (MIRA 18:10)

1. L'vovskiy gosudarstvennyy meditsinskiy institut.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123



APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

MOMDZHI, G.S.; PASTUSHENKO, I.I.

Hypothetical evaluation of iron ore reserves. Sov.geol. 6 no.12: 19-35 D '63. (MIRA 16:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, I.I.

Optimum density of prospecting nets for iron ore deposits with a complex structure. Razved. i okh. nedr no.7:16-22 Jl '63. (MIRA 16:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.
(Prospecting) (Iron ores)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.A.

Role of psychogenic moments in plain alcoholic intoxication.
Probl.sud.psikh. no.12:46-58 '62. (MIRA 16:4)
(ALCOHOLISM)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.A.; TORUBAROV, S.V.; KHOLODKOVSKAYA, Ye.M.

Survey of the state of forensic-psychiatric expertise and enforced treatment as per data of reports of psychoneurological hospitals and dispensaries for 1959. Prak.sudebnopsikh.ekspert. no.5:88-95 '61. (MIRA 16:4)
(FORENSIC PSYCHIATRY) (PSYCHIATRIC HOSPITALS)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.A.

Investigation of some unconditioned reflexes (orientation and defensive) in reactive stuporous conditions. Probl.sud.psikh. 8:109-123 '59. (MIRA 13:6)
(Reflexes) (Stupor)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.A. (Moskva)

Dynamics of reactive stuporous states. Probl.sud.psikh.
9:244-249 '61. (MIRA 15:2)
(STUPOR)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.D.

Founding in the school. Politekh. obuch. no.1:86-87 Ja '58.
(Founding) (Technical education) (MIRA 10:12)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

DETSIK, Yu.I., dotsent; PASTUSHENKO, L.F.; MONASTYRSKIY, V.A.; KOLOMIYETS, Ya.M.

Ballistocardiogram and electrocardiogram in pulmo-cardiac insufficiency. Nauch.trudy L'vov.obl.terap.ob-va no.1:96-102 '61. (MIRA 16:5)

1. Kafedra propedevticheskoy terapii lechebnogo fakul'teta L'vovskogo meditsinskogo instituta i I terapevticheskoye otdeleniye Oblastnoy klinicheskoy bol'nitsy (zav. - dotsent V.I. Chernov).
(BALLISTOCARDIOGRAPHY) (ELECTROCARDIOGRAPHY)
(PULMONARY HEART DISEASE)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.T.

Bacterial diseases of annual forage grasses. Mikrobiol. zhur. 23 no.6:61-65 '61. (MIRA 15:4)
(GRASSES--DISEASES AND PESTS) (BACTERIA, PHYTOPATHOGENIC)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, L.T.

Bacterial stalk rot of sorghum, corn and sudan grass in the Ukraine. Mikrobiol.zhur. 24 no.2:34-39 '62. (MIRA 15:12)

1. Institut mikrobiologii AN UkrSSR.
(UKRAINE--SUDAN GRASS--DISEASES AND PESTS)
(UKRAINE--SORGHUM--DISEASES AND PESTS)
(UKRAINE--CORN(MAIZE)--DISEASES AND PESTS)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

BELTYUKOVA, K.I. [Bel'tiukova, K.I.]; PASTUSHENKO, L.T.

Effect of casantin 2 (from hemp) on phytopathogenic bacteria and certain plants. Mikrobiol. zhur. 22 no.4:1-7 '60. (MIRA 13:11)

1. Iz Instituta mikrobiologii AN USSR.
(PHENOTHIAZINE) (PHYTONICIDES) (HEMP)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

BEL'TSYUKOVA, K.I. [Bel'tiukova, K.H.]; PASTUSHENKO, L.T.

Effect of nupharine on phytopathogenic bacteria in vitro and in vivo. Mikrobiol. zhur. 25 no.2:36-42 '63. (MIRA 17:1

1. Institut mikrobiologii An UkrSSR.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

LANDSMAN, S.U.; PASTUSHENKO, L.V.

Economic efficiency of the utilization of Donets Basin gas coals for power production. Zbir.prats' Inst.tepl.AN URSR no.23:62-70 '61. (MIRA 15:2)

(Donets Basin--Coal)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

LAGIN, T.; PASTUSHENKO, M.

Development of the economy and foreign trade of Canada in 1955, [with summary in English]. Vnesh.torg 26 no.9:8-12 S '56. (MLRA 9:10)
(Canada--Commerce)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, M.N., inzh.-ekonomist.

Woodpulp and paper industry of Canada. Bum. prom. 33 no.12:25-26 D '58. (MIRA 11:12)

(Canada--Woodpulp industry)
(Canada--Paper industry)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

BONDARENKO, D.C., red.; BUGAYENKO, P.I. [Buhaienko, P.I.], red.; VASH, O.V., red.; KLIMPOTYUK, M.V., red.; PASTUSHENKO, M.S., red.; POVKH, V.O., vidp. red.; POLISHCHUK, V.P., red.; RUSIN, V.P., red.; [illegible]'KO, V.V., red.; LUCHKIV, M., tekhn. red.

[Soviet Transcarpathia; a handbook] Radians'ke Zakarpattia; dovidnyk. Uzhhorod, Zakarpats'ke obl. vyd-vo, 1957. 239 p. (MIRA 11:7)
(Transcarpathia)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

DUNAYEVSKIY, Vasiliy Nikodimovich [Dunaievs'kyi, V.N.]; PASTUSHENKO, V.O., kand. sel'khoz. nauk, otv. red.; STAROSTENKO, T.M., red.; MATVIICHUK, O.A., tekhn. red.

[Erosion control] Borot'ba z eroziieiu hruntiv. Kyiv, 1961. 47 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser. 5, no.4) (MIRA 14:8)

(Soil conservation)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V.O., kand.sel'skokhozyaystvennykh nauk

Crop rotations for soil conservation in sloping areas of the Ukrainian S.S.R. Zemledelie 23 no. 2:37-41 F '61.
(MIRA 14:2)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk.
(Ukraine--Soil convservation)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V.O., kand. sel'skokhoz. nauk

Field crop rotations in the Polesye of the Ukraine. Zemledelie 27 no.10:16-21 O '65. (MIRA 18:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

USSR/Cultivated Plants - General Problems. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15458

Author : V.O. Pastushenko, I.D. Popovich, M.A. Razgon
Inst : -
Title : The Effect of Preceding Drops on the Winter and Intertilled Crop Yield in Field Crop Rotations on the Right Side of the Forest-Steppe.
(Vliyaniye predshestvennikov na urozhay ozimykh i propashnykh kul'tur v polevykh sevooborotakh pravoberezhnoy Lesostepi).

Orig Pub : Kolgospnik Ukraini, 1956, No 8, 14-16

Abstract : In tests at the Chartoviysk Experimental Field (1951-1955) the best preceding crop to winter wheat was clover used one year for a single harvest. The wheat yield then became 22-25 contners per hectare. The black fallow (with 200 centners per hectare of manure applied) supplied a winter wheat harvest which was 2.4 centners per

Card 1/2

4

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

SKORODUMOV, Aleksandr Sergeyevich. kand. sel'khoz. nauk; PASTUSHENKO, Vasiliy Omufriyevich, kand. sel'khoz. nauk; DUNAYEVSKIY, Vasiliy Nikodimovich [Dunaievs'kyi, V.N.], starshiy nauchnyy sotr.; LOGGINOV, B.Y.[Lohhinov, B.I.], prof., doktor sel'khoz. nauk, red.; BLANINA, L.F., red.; KVITKA, S.P., tekhn. red.

[Soil erosion and its control] Eroziia hruntiv i borot'ba z neiu. Kyiv, Vyd-vo Ukrains'koi akad. sil'skohospodars'kykh nauk, 1961. 235 p. (MIRA 15:2)

1. Chlen-korrespondent Ukrainskoy akademii sel'skokhozyaystvennykh nauk (for Logginov).

(Ukraine--Erosion control)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, Vasiliy Onufriyevich, kand.sel'skokhoz.nauk; VERBIN, Ya.Ya. [Verbin, IA.IA.], doktor sel'skokhoz.nauk, red.; FRANCHUK, V.P., red.

[Correct crop rotations on collective farms of the Ukraine] Pro pravyl'ni sivozminy v kolhospakh Ukraine'koi RSR. Kyiv, 1958. 43 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukraine'koi RSR. Ser.3, no.7) (MIRA 12:2)
(Ukraine--Rotation of crops)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

USSR/Cultivated Plants - General Problems. M-1

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29634

Author : Pastushenko, V.O.

Inst : The Ukrainian Scientific Research Institute for Socialistic Agriculture.

Title : On the Agricultural System in the Mountainous Rayons of the Carpathians.

Orig Pub : Vestn. s.-kh. nauki, 1957, No 3, 11-16

Abstract : The fallow system of agriculture has been predominant in the mountainous rayons of the Carpathians up to recent times. Kolkhoz experimentation and research made at the Gornokarpatskiy Experimental Field of the Ukrainian Scientific Research Institute for Socialistic Agriculture are reported. An agricultural system has been created by these groups which embraces agrotechnical and agricultural

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V.O., kand.sel'skokhozyaystvennykh nauk; POPOVICH, I.D., kand.sel'skokhozyaystvennykh nauk; ZUBENKO, V.F.

Crop rotation system used on the grassy steppe of the Ukraine. Zemledelie 6 no.9:31-35 S '58. (MIRA 11:9)
(Ukraine--Rotation of crops)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

[illegible] : USSR

[illegible] : Cultivated Plants. General Problems.

[illegible] : [illegible] Biologiya, No. 5, [illegible], 191

Author : Pastushenko, V.O.; Popovich, I.D.; Zubenko, V.F.

[illegible] : --

[illegible] : Sequence of Crops in Crop Rotations on the Forest Steppes in the Ukraine

[illegible] : Zemledeliye, 1958, No. [illegible], [illegible]-35

[illegible] : No abstract

CARD : 1/1

8

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

1. PASTUCHENKO, V. O.
2. USSR (600)
4. Ukraine - Soil Binding
7. Measures for erosion control in sugar beet areas. Trudy UNDIGOZ, 6, 1951.

9. **Monthly List of Russian Accessions**, Library of Congress, May 1953. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V. O., kand. sel'skokhozyaystvennykh nauk

Rotation of crops in the Ukraine. Zemledelie 24 no.12:23-30 D '62. (MIRA 16:1)

(Ukraine—Rotation of crops)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V.O.; DUNAYEVSKIY, V.N.

Wheat

Effect of grass strips on increasing winter wheat yield on slopes. Sov.agron. 10 no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 1953. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V.O.; DUNAYEVSKIY, V.N.

Grasses

Effect of grass strips on increasing winter wheat yield on slopes. Sov.agron. 10 no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 ~~1953~~. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, V.O.; DUNAYEVSKIY, V.N.

Erosion

Effect of grass strips on increasing winter wheat yield on slopes. Sov.agron. 10, no. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952 1953. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

1. PASTUSHENKO, V. C.
2. USSR (600)
4. Soil Binding - Ukraine
7. Measures for erosion control in sugar beet areas. Trudy UNDISCZ 6, 1951.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

CHERKESOV, L.V.; PASTUSHENKO, V.V.

Waves in a viscous fluid due to a periodic moving system of pressures. Dokl. AN BSSR 8 no. 1:18-20 Ja '64. (MIRA 17:4)

1. Institut matemtiki i vychislitel'noy tekhniki AN BSSR. Predstavleno akademikom AN BSSR V.I.Krylovym.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, Yu.N.

Ancient karst and its role in the hydrogeology of the Sochi region. Trudy Lab.gidrogeol.probl. 42:10-17 '62. (MIRA 15:8)
(Sochi region--Karst) (Sochi region--Mineral waters)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

PASTUSHENKO, Yu.N.

Upper Cretaceous magmatic complex in basins of the Psou, Mzymta, and Sochi Rivers in the southwestern Caucasus. Izv.AN SSSR.Ser.geol.21 no.12:29-37 D '56. (MLRA 10:1)

1.Institut imeni Stalina, Sochi.
(Caucasus--Rocks, Igneous)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

NUZHDIN, N.I.; DOZORTSEVA, R.L.; PASTUSHENKO-STRELETS, N.A.; SAMOKHVALOVA, N.S.

Effect of space flight factors on spindle tree (Evonymus europaea L.) seeds. Izv. AN SSSR. Ser. biol. no.4:576-580 Jl-Ag '65. (MIRA 18:7)

1. Institut genetiki AN SSSR.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

1. PASTUSHENKO-STPELETS, N. A.

2. USSR 600

4. Plant Breeding

7. Overcoming self-pollination of rye by interclonal cross-pollination, Agrobiologiia, No. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April, 19-3, Uncl.

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

LEPIN, T.K.; PASTUSHENKO-STRELETS, N.A.

Resistance of spring wheat to frit flies. Biul.Glav.bot.sada no.33:107-109 '59. (MIRA 12:10)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.
(Frit flies) (Wheat--Disease and pest resistance)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

NUZHDIN, N.I.; SHANGIN-BEREZOVSKIY, G.N.; PASTUSHENKO-STRELETS, N.A.

Change in the radiosensitivity of barley under changing life conditions. Trudy Inst. gen. no.31:55-79 '64. (MIRA 17:9)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 63555-65 EEO-2/EWG(j)/FSS-2/EWG(r)/EWT(1)/FS(v)-3/EEC(k)-2/EWG(v)/
EWA(c)/EWG(a)-2/EWG(c) Po-4/Pe-5/Po-4/Pac-4/Pae-2/Pi-4 TT/DD/GW

ACCESSION NR: AP5017766 UR/0216/65/000/004/0576/0580
581.167:629.195.2

AUTHOR: Nuzhdin, N. I.; Dozortseva, R. L.; Pastushenko-Strelets, N. A.; Samokhvalova, N. S.

TITLE: The effect of space-flight factors on seeds of the spindle tree (Evonymus europaea)

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 4, 1965, 576-580

TOPIC TAGS: manned space flight, Vostok 5, plant seed, germination, space flight, biological effect, weightlessness, gamma radiation, plant genetics, mitosis

ABSTRACT: Experiments were conducted to study the previously noted stimulating effect of space-flight factors on plant seeds. Air-dried seeds of the European spindle tree (Evonymus europaea) were kept at room temperature for 8 months and then irradiated with Co^{60} gamma rays (dose, 10 krad; intensity, 277 rad/min). Irradiated and unirradiated seeds were sent on the Vostok-5 flight. One control group of irradiated and unirradiated seeds was flown to the cosmodrome, and another was kept in Moscow. Spindle tree seeds were chosen for this study because they have a long germination period (12—18 months) and because they are in a state of forced dormancy,

Card 1/2

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 63555-65

ACCESSION NR: AP5017766

as opposed to organic dormancy. It had been suggested that space-flight factors do not stimulate germination, but only cause the transition of seeds from the state of organic dormancy. After the flight, it was necessary to stimulate germination of the seeds, which obscured the study of the space-flight effect. After germination, rootlets were fixed, and the number of cells with chromosome aberrations was counted. Cytological analysis of the first series of experiments (seeds not previously irradiated) showed a reliable difference between experimental seeds and both controls. However, with previously irradiated seeds, statistically reliable differences were observed only between experimental samples and the Moscow control. The increased frequency of abnormal cell divisions in experimental material is proof that space-flight factors cause chromosome injuries in cells of spindle tree seeds. It was concluded that preliminary gamma irradiation of seeds and the subsequent influence of space-flight factors have a supplemental effect on the formation of cells with abnormal mitoses. The increased number of chromosome aberrations among samples flown to the cosmodrome, which was approximately the same in both series of experiments, is unexplained and requires further study. Orig. art. has: 1 table. [JS]

ASSOCIATION: Institut genetiki AN SSSR (Institute of Genetics, AN SSSR)

SUBMITTED: 18Jan65 ENCL: 00 SUB CODE: LS

NO REF SOV: 018 OTHER: 001 ATD PRESS: 4050

Card 2/2 dm

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

1. PASTUSHENKO-STRELETS., N. A.

2. USSR (600)

4. Rye

7. Overcoming self-polination of rye by interclonal cross-polination. Agrobiologiia, No. 6, 1952.

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

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 3952-66

ACC NR: AT5024242 SOURCE CODE: UR/2670/65/000/032/0018/0068

AUTHOR: Nuzhdin, N. I. (Corresponding member AN SSSR); Pastushenko-Strelets, N. A.; Shangin-Berezovskiy, G. N.

ORG: Institute of Genetics, AN SSSR (Institut genetiki AN SSSR)

18
B+1

TITLE: The effect of ecological cultivation conditions and the physiological condition of seeds (degree of maturity) on radiosensitivity and the frequency and character of hereditary changes in gamma-irradiated barley

SOURCE: AN SSSR. Institut genetiki. Trudy, no. 32, 1965. Deystviye ioniziruyushchikh izlucheniy na rastitel'nyy i zhivotnyy organizmy (Effect of ionizing radiation on plant and animal organisms), 18-68

TOPIC TAGS: plant genetics, biologic mutation, heredity, plant physiology, radiation plant effect, plant ecology

ABSTRACT: Experiments were conducted to determine the effect of different ecological conditions on the sensitivity to irradiation of gamma-irradiated barley seeds. The dose of gamma rays varied but did not exceed 12 krad. Experimental and control seeds were sown in Moscow, Estonia, Khibiny, Odessa, Kharkov, Leninavan, Kedabek, Kelbedzhar, and Pamir. Results showed a definite relationship between the radiosensitivity of plants grown from irradiated seeds and their ecological cultivation conditions. Furthermore, the cultivation conditions for plants of the generation preceding ir-

Card 1/3 UDC: 577.391

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

radiation significantly influenced the radiosensitivity of seeds collected from them and sown under identical conditions. It is known that seeds of the same variety, irradiated at a different degree of maturity, have different radiosensitivity. It has also been established that different ecological conditions influence the variability of quantitative plant characteristics (such as height of the culm and length of the spike) differently in the first generation of barley grown from irradiated seeds. Important differences in these indices are also observed between control plants of the same variety grown under different conditions. Experiments showed that the influence of conditions of cultivation prior to irradiation on the variability of these quantitative indices is manifested fairly clearly and is retained in the second generation. Another part of this series of experiments showed that the number and character of structural changes in barley during irradiation frequently depends on the ecological conditions in which the plants grew prior to and after irradiation. The variability of quantitative and morphological features observed in the first generation of plants is a function of the different maturation phase of the seeds from which they grew. Structural changes in the barley spike are the result of irradiation. Thus, it was determined that the character of structural changes is connected with the maturation phase of irradiated seeds. The frequency and character of lethal chlorophyll mutations in the second generation of gamma-irradiated barley clearly depends on the cultivation conditions of the first generation. It was shown that cultivation conditions of the mother plants prior to irradiation have an essential influence on the frequency of appearance and character of lethal chlorophyll mutations in the second generation. Again, the frequency of appearance of chlorophyll mutations

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

L 3952-66

ACC NR: AT5024242

in the second generation of gamma-irradiated barley depends on the maturation phase of irradiated seeds. Viable mutations during gamma irradiation of barley are few, and thus no rule for their occurrence can be established. However, it must be noted that visible mutations occur most frequently when plants are cultivated prior to irradiation or afterwards under unnatural conditions. Orig. art. has: 15 figures and 43 tables.

[JS]

SUB CODE: LS/ SUBM DATE: none / ORIG REF: 047/ OTH REF: 046/

Card 3/3 DP

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239

"APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R00123

CHEKANNIKOV, N.I., inzh.; [illegible], A.[illegible]., inzh.; ZHURAVLEV, V.N., inzh.

Open pit coal mining system [illegible] transportation with the use of power excavators. Ugol' 36 no.2:21-24 F '61. (MIRA 14:2)

1. Trest Cheremkhovugol'.
(Strip mining) (Excavating machinery)

APPROVED FOR RELEASE: Wednesday, June 21, 2000 CIA-RDP86-00513R001239