"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 17600-63 EWT(1)/EWP(q)/EWT(m)/BDS/ES(s)-2 S/056/63/044/003/001/053
AFFTC/ASD/ESD-3/IJP(C)/SSD Pt-4 JD

70
69

AUTHOR: Savchenko, M. K. and Sinegubov, V. I.

TITLE: Investigation of boundary layers between domains in ferromagnetic substances

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 3, 1963, 781-792

TEXT: Following the pioneering work of L. D. Landau and Ye. M. Lifshitz (Ref. 2: Phys. Zs. Sowjetunion, 8, 153, 1935) on uniaxial crystals, various other researchers developed a theory of boundary layers for ordinary and magnetized multi-axial crystals. Because of the small dimensions of the boundary layers, earlier experiments yielded only certain approximate values for the size of these layers. To test the theory more closely, the authors studied in their previous experiments (Ref. 12: Iz. AN SSSR, seriya fiz., 25, 599, 1961; 25, 1449, 1961) the width of the layers as well as the distribution of magnetization within the layers using the polar Kerr effect. In the present paper they use essentially the same tape registering method for the study of basic boundary

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L 17600-63 S/056/63/044/003/001/053

Investigation of boundary layers...

types of transformer steel, nickel, and cobalt crystals. They found that along the sections of boundaries delineating the change in orientation of spontaneous magnetization there is a fair agreement with the results of theoretical calculations. The width and the shape of the boundary depend on the properties of the separated domains and the boundary in iron silicide is one order of magnitude larger than in cobalt, and another order of magnitude smaller than in nickel. An increase in temperature widens the boundary, and at temperatures at which the anisotropy constant becomes zero or changes its sign, the boundary "dissolves." Mechanical stresses substantially change the distribution of spin orientation within the layer as well as the size of the layers. There are 11 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Physics Institute of the Siberian Branch of the Academy of Sciences USSR)

SUBMITTED: July 20, 1962

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 36623-65 EWT(1)/EWT(m)/EWP(w)/EWA(d)/EEC(t)/T/EWP(t)/EWP(b)/EWA(c)/ Pad/Peb/
ACCESSION NR: AP5002341 S/0126/64/018/006/0832/0839
IJP(c) JD/HW

AUTHOR: Antipin, I. P.; Savchenko, M. K.

TITLE: Domain structure of nickel upon magnetization

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 6, 1964, 832-839

TOPIC TAGS: nickel, magnetization, domain structure, reverse magnetization, magnetization mechanism

ABSTRACT: Changes in the domain structure in nickel in different crystallographic planes upon magnetizing in different directions were studied by the powder method. Observations were made on the (110) and (211) planes (direction of easy magnetization) of fine crystalline samples of electrolytic nickel, vacuum annealed at 1000C, upon applying a magnetic field along the main crystallographic direction. Magnetization in the easy direction occurred by means of boundary displacement. Toward the end of the process, movement of the boundaries was retarded due to their interaction. This in nickel can lead not only to intermittent

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L 36623-65
ACCESSION NR: AP5002341

alternating magnetization of the domains (as in siliceous firon), but also to rearrangement of the domain structure and alternating magnetization of the domains by penetration of regions of reverse magnetization. Rotation, which is not necessarily the same in all crystals, is possible long before the end of the boundary displacement. Increase in nucleation and a small shift and rotation of the domain boundaries occurs simultaneously with rotation magnetization. The rotation processes are relatively easy in nickel due to the small amount of its natural crystallographic anisotropy. Using domain structures after annealing as the starting material, after magnetizing to saturation and removing the field, the domain structure can be restored to its original form if there was no rearrangement, but cannot be restored if rearrangement took place. Apparently islands of the domain structure are retained after magnetizing almost to saturation; these determine the form of the entire structure after the field is removed. "We take the opportunity to thank professor L. V. Kirensko for interest in our work and valuable advice." Orig. art. has: 6 figures

ASSOCIATION: Institut fiziki SO AN SSSR (Institute of Physics SO AN SSSR)

SUBMITTED: 06Apr64 ENCL: 00 SUB CODE: MM

NR REF SOV: 001 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ACCESSION NR: AP4039408 S/0070/64/009/003/0429/0432

AUTHORS: Antipin, I. P.; Kirenskiy, L. V.; Savchenko, M. K.

TITLE: The domain structure of nickel crystals, associated with mechanical deformations

SOURCE: Kristallografiya, v. 9, no. 3, 1964, 429-432

TOPIC TAGS: nickel, domain structure, domain reorganization, powder method, magnetization, plastic deformation, reorganization irreversibility

ABSTRACT: In nickel, in view of the large increase of magneto-stricture and the small anisotropic constant associated with an increase in stress, a significant reorganization of the domain structure takes place. The existence of 71 and 109 degree spatial relationships of the domains determines the unique character of this reorientation. The nickel samples used here were parallelepipeds with a maximum grain diameter of 4 mm selected from a list of electrolytic nickel. The crystals were chosen with surfaces lying on or near to the (211) and (110) planes, in accordance with the criterion of M. Yamamoto and T. Iwata (Sci. Repts Res Inst. Tohoku Univ. A5, 433, 1958; A8, 293, 1956). Observations were made by the powder method. All stresses were unidirectional. Four sets of pictures showed the

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ACCESSION NR: AP4039408

disappearance of domain structure under stress and its failure to reappear when the load was removed. Two sets of pictures dealt with the (211) plane which has one axis of simple magnetization along which the domain structure lay. Stress was applied parallel to the domain boundary line in one case and perpendicular in another. The other two sets of pictures dealt with the (110) plane in which there are two directions of simple magnetization lying at 71 or 109 degrees to each other. Stress, in this case, produced at first dendritic domain structures when applied perpendicular to the original domain. The domain structure in nickel crystals is very sensitive to mechanical stress. The distinctive property of the domain structure is its irreversibility. Even after the action of very small stresses (less than 0.01 kg/mm^2), the domain structure did not return to its initial state. The irreversibility was explained by plastic deformation which probably could not be observed except by the powder method. Orig. art. has: 4 figures.

ASSOCIATION: Institut fiziki SO AN SSSR (Institute of Physics, SO AN SSSR)

SUBMITTED: 17Jul63 DATE ACQ: 18Jun64 ENCL: 00

SUB CODE: MM NO REF SOV: 001 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.K.

Structure and energy of ferromagnetic domain boundaries. Fiz. met. i metalloved. 18 no.3:368-372 S '64. (MIRA 17:11)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ANTIPIN, I.P.; SAVCHENKO, M.K.

Domain structure of nickel during magnetization. Fiz. met. i metalloved. 18 no.6:832-839 D '64.

(MIRA 18:3)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

AP4010312 S/0048/64/028/001/0157/0160

AUTHOR: Pak, N.G.; Kan, S.V.; Savchenko, M.K.

TITLE: Hysteresis loops and domain structure of ferromagnetic films at different temperatures [Report, Symposium on Questions of Ferro- and Antiferromagnetism held in Krasnoyarsk, 25 June to 7 July 1962]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.1, 1964, 157-160

TOPIC TAGS: thin films, ferromagnetic films, hysteresis loop, domain structure, cobalt, iron, molybdenum permalloy, coercive force, magnetic anisotropy

ABSTRACT: Although there have been many experimental investigations of the temperature dependence of the magnetic properties of ferromagnetic films, most of these, however, have been concerned with the temperature dependence of the saturation magnetization. Yet the temperature dependence of other magnetic properties of thin films are also of interest, particularly in view of the fact that thin film memories are required to operate at temperatures in the range from -100 to 300°C. The present work was concerned with investigation of the hysteresis loops and domain structure of thin films of iron, cobalt and Mo permalloy (17% Fe, 80% Ni and 3% Mo)

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at different temperatures. The domain structure was observed by means of the meridional Kerr effect. The permalloy and cobalt films were prepared by vacuum evaporation from a tungsten crucible in a 100 Oe field. The iron films were evaporated directly from an iron wire heated by passage of current. The films were deposited on cover glasses heated to 150°C. The vacuum curing the evaporation operation was about 8×10^{-6} mm Hg. The hysteresis loops were recorded in the direction of the axis of easy magnetization for different directions of the applied field. The hysteresis loops for a 1600 Å thick cobalt film at temperatures from 20 to 320°C and different directions of the switching field are reproduced in a figure. At room temperature the best squareness ratio and the greatest value of the coercive force in the easy magnetization direction are observed with the field applied in the same direction ($\alpha = 0°$). Slight rotation of the reversing field gives rise to distortion of the horizontal sections of the loop, which is indicative of rotation processes. With increase in temperature the loops narrow. The initial properties of the film are not re-established upon cooling to room temperature. The behavior of Mo permalloy films is different: these films retain their anisotropy after heating and cooling. The coercive force versus temperature curves obtained for the different films are reproduced in Fig.1 of the Enclosure. Photographs of the domain structure of 1600 Å thick cobalt and iron films in the process of magnetization re-

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versal at different temperatures are reproduced in the text. On the basis of the experimental results it is concluded that cobalt films become isotropic at about 320°C but do not return to the initial anisotropic state upon subsequent cooling. Permalloy films, on the contrary, regain their initial properties after cooling. In iron films, there form two mutually perpendicular groups of domains. Orig.art.has: 4 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Institute of Physics, Siberian Division, Academy of Sciences, SSSR); Krasnoyarskiy pedagogicheskiy institut (Krasnoyarsk Pedagogical Institute)

SUBMITTED: 00 DATE ACQ: 10Feb64 ENCL: 01

SUB CODE: PH, CP NR REF SOV: 003 OTHER: 006

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

LAPTEY, D.A.; SAVCHENKO, M.K.; SUDAKOV, N.I.; IZOTOVA, T.P.

Anisotropy and magnetic structure of thin iron films. Izv. AN SSSR. Ser. fiz. 28 no.1:187-190 Ja '64. (MIRA 17:1)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR i Institut tsvetnykh metallov im. M.I.Kalinina.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ACCESSION NR: AP4023407 S/0048/64/028/003/0559/0567

AUTHOR: Kirenskiy, L.V.; Savchenko, M.K.; Degtyarev, I.F.; Kan, S.V.; Antipin, I.P.; Tropin, Yu.D.; Edel'man, I.S.

TITLE: Domain structure of ferromagnetic crystals, films, and whiskers, and changes of the structure under the influence of different factors /Report, Symposium on Ferromagnetism and Ferroelectricity held in Leningrad 30 May to 5 June 1963/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.3, 1964, 559-567

TOPIC TAGS: crystal domain structure, film domain structure, whisker domain structure, domain structure variation, demagnetization condition domain influence, iron crystal domains, iron film asymmetric hysteresis, iron whisker domain

ABSTRACT: This paper summarizes a large amount of information concerning the domain structure of crystals, films, and whiskers, and its change under the influence of magnetizing fields, stress, temperature, and conditions of demagnetization. The topics discussed include the changes in the domain structure of silicon iron crystals during magnetization in various directions; the effect of mechanical stress on the domain structure of silicon iron crystals; the influence of mechanical stress

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ACCESSION NR: AP4023407

on the domain structure in the (110) and (211) faces of nickel crystals; the effect of demagnetization rate on domain size in thin cobalt films; the effect of temperature on the variation of domain structure under the influence of magnetizing fields in thin cobalt films; the variations of domain structure in thin iron films during traversal of an asymmetric hysteresis loop in a transverse field; and the domain structure on the (001) surface of iron whiskers (100 to 200 micron diameter) grown in the [110] direction. The report is illustrated with 47 reproductions of domain structure photographs. Among the different kinds of behavior of domain structure mentioned or discussed are the following. When iron crystals are magnetized in the easy direction, the process of domain wall motion stops short of saturation, and the remaining narrow unfavored domains disappear suddenly. When the magnetizing field makes a sufficiently great angle with the preferred magnetization direction, initial magnetization takes place by domain wall shift; this is followed by a restructuring of the domains, after which further wall shifting occurs. The final approach to saturation is by ordinary rotation. The herring bone or fir tree domain structure on the (110) face of nickel crystals gives way under the influence of mechanical stress to a simple structure. At greater stresses the domains disappear entirely. At still greater stresses a simple domain structure reappears, but the domains are now relat-

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ACCESSION NR: AP4023407

ed to the other magnetization axis. The net result is thus a 109° rotation of the domains. The size of the domains in cobalt films increases with the rate of demagnetization by alternating field. This is related to the formation of wedge shaped domains, one within another. When a thin cobalt film is cooled from above the Curie point in a field free environment, an equilibrium domain structure is not formed. The domain structure of a thin iron film was found to change largely by wall shift during traversal of an asymmetric hysteresis loop in the presence of a constant transverse field. This is not in accord with the explanation of these asymmetric hysteresis loops given by V.V.Kobelev (Petli gisterezisa odnoosny*kh ferromagnitny*kh plenok. ITM i VT AN SSSR,M.,1961) on the basis of a model in which the magnetization was assumed to rotate uniformly. Orig.art.has: 9 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR(Institute of Physics, Siberian Division, Academy of Sciences,SSSR); Krasnoyarskiy pedagogicheskiy institut (Krasnoyarsk Pedagogical Institute)

SUBMITTED: 00 DATE ACQ: 10Apr64 ENCL: 00

SUB CODE: PH NR REF SOV: 005 OTHER: 003

Card 3/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 50959-65 EWT(1)/EPA(s)-2/EWT(m)/EWP(i)/EWA(d)/T/EWP(t)/EEC(b)-2/EWP(z)/EWP(b) Pt-7/Pi-4 IJP(c) JD/GG

ACCESSION NR: AP5011440 UR/0048/65/029/004/0604/0609

51
49
B

AUTHOR: Kirenskiy, L.V.; Izotova, T.P.; Salanskiy, N.M.; Savchenko, M.K.

TITLE: Multiple layer thin ferromagnetic films /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk, 10-15 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 604-609

TOPIC TAGS: ferromagnetic thin film, magnetic property, hysteresis loop, ferromagnetic material

ABSTRACT: There have, to date, been few experimental and therotical studies of the magnetic properties and potential applications of multiple layer ferromagnetic films, yet such films have certain advantages as compared with single layer films for computer memories and other uses (better pulse characteristics, for example). The present paper describes a procedure developed for preparing multiple layer (mostly two-layer) films and gives some of the properties of such films. The coercive force was determined from oscillographed hysteresis loops; the thickness was measured by means of a universal UM-2 monochromator. The films were prepared by vacuum evaporation onto heated substrates in the presence of a 100 Oe field to produce anisotropy. The interlayers consisted of SiO_2. The three-layer films were

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ACCESSION NR: AP5011440

deposited at 300° and were composed of 43% Fe, 50% Ni and 7% Mo, and 17% Fe, 79% Ni and 4% Mo alloys and Co (the middle layer). The two-layer films were made of 30% Fe, 45% Ni and 25% Co (high-coercivity material) and 80% Ni and 20% Fe (low-coercivity material). The film thickness in each case was determined by the crucible charge (complete evaporation). The high-coercivity alloy was deposited first at a substrate temperature of 300°; then the low-cercivity alloy at a substrate temperature of 200°C. The lower temperature was used to avoid significant magnetic anneal of the first film. The magnetic properties of the films were found to depend on the vacuum cooling regime. Films fully cooled in vacuum had a higher coercive force than films cooled in vacuum to 100°; the former also were characterized by a greater scatter of H_c values and more Barkhausen jumps in reversal. The oscillographic hysteresis loops of the double layer films are compared with the loops of single layer films of the same materials. Some of the characteristics of the films (saturation field and H_c) are given in tables and presented in the form of curves (H_c of the high-coercivity layer versus its thickness with a constant thickness low-coercivity layer and versus thickness of the low-coercivity layer with a constant h-c layer, etc.) It is concluded that it is feasible to prepare multiple layer films with reasonably stable magnetic parameters. Films consisting of layers with different coercivity exhibit stepped

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L 50959-65

ACCESSION NR: AP5011440

hysteresis loops. Generally multiple layer films have lower values of H_c than comparable single layer films. The value of H_c depends on the materials, the angle of the molecular beam, the order in which the successive layers are deposited and on the thickness of the layers. Orig. art. has: 4 figures and 3 tables.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Physics Institute, Siberian Division, Academy of Sciences, SSSR); Krasnoyarskiy gosudarstvennyy pedagogicheskiy institut (Krasnoyarsk Pedagogical Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: EM, EC

NR REF SOV: 000 OTHER: 015

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 50962-65 EWT(1)/EWT(m)/EWP(i)/T/EWP(t)/EEC(b)-2/EWP(b) Pl-4 IJP(c) JD/GG

ACCESSION NR: AP5011443 UR/0048/65/029/004/0617/0619

34
32
B

AUTHOR: Savchenko, M. K.; Sinegubov, V.I.; Kazulin, V.A.; Turpanov, I.A.

TITLE: The Bloch wall considered as a thin magnetic film /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk, 10-15 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 617-619

TOPIC TAGS: ferromagnetic thin film, domain structure

ABSTRACT: It has long been known that individual Bloch walls may consist of sections of different polarity. Recently a theoretical explanation of the observed indications of varying polarity of wall sections has been advanced by S. Shtrikman and D.Treves (J. Appl. Phys., 31, Suppl. 147, 1960). The calculations of these authors are briefly reviewed. The experimental part of the present study consisted of observation of domain walls by means of the scanning apparatus developed by the authors and used earlier for recording the distribution of magnetization across domain walls (M.K.Savchenko and V.I.Sinegubov, Zhur. eksp. i teor. fiz., 44, 781, 1963). The equipment is based on use of the polar Kerr effect, and incorporates a

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ACCESSION NR: AP5011443

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narrow slit under which the specimen is slowly displaced. The results of the observations are summarized in schematic form in the figure (Enclosure 01). The intervals of wall polarity (T in the figure) were found to be very nearly identical along a given wall, in some crystals T equalled 40 to 42 microns. As compared with the results of Shtrikman and Treves, the observed domain width proved to be about half the predicted value, which may be taken as reasonably good agreement in view of the fact that the calculations were performed for uniaxial crystals, whereas the observed silicon iron was, as usual, triaxial. The conclusion is that regular domain structure also obtains in the Bloch walls themselves; accordingly, a Bloch wall may be regarded as a distinctive type of thin film. Orig. art. has: 2 formulas and 4 figures.

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Physics Institute, Siberian Division, Academy of Sciences, SSSR); Krasnoyarskiy gosudarstvennyy pedagogicheskiy institut (Krasnoyarsk State Pedagogical Institute)

SUBMITTED: 00 ENCL: 01 SUB CODE: EM, EC

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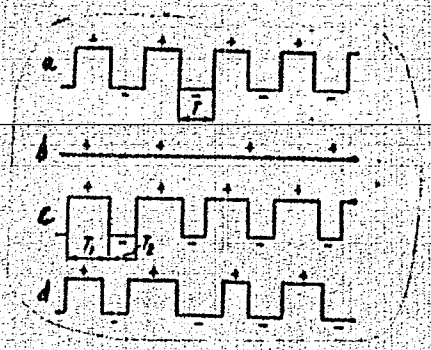
ACCESSION NR: AP5011443

ENCLOSURE: 01



Structure of domain walls in different states: a - after annealing, b - in a field, c - after removal of the field, d - after demagnetization by an alternating field of diminishing amplitude.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 50961-65 EWT(1)/EPA(s)-2/EWT(m)/EWP(i)/EWA(d)/T/EWP(t)/EEC(b)-2/EWP(z)/EWP(b)
Pt-7/Pi-4 IJP(c) JD/HW/GG

ACCESSION NR: AP5011444 UR/0048/65/029/004/0620/0625 60

AUTHOR: Antipin, I.P.; Yefimov, V.I.; Savchenko, M.K.; Edel'man, I.S. 21

TITLE: Domain structure and hysteresis loops of thin ferromagnetic films subjected to strain /Report, Second All-Union Symposium on the Physics of Thin Ferromagnetic Films held in Irkutsk, 10-15 July 1964/ III

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 4, 1965, 620-625

TOPIC TAGS: ferromagnetic thin film, magnetic property, hysteresis loop, permalloy, iron, cobalt 27 18

ABSTRACT: Mechanical stresses of some magnitude (depending on a number of factors) are inevitably present in ferromagnetic films deposited on substrates. These stresses must necessarily affect and alter the magnetic properties and behavior of the films. Obviously, for investigating the magnetic characteristics of films it is important to know the effects of such stresses, yet hitherto there have been only a few studies devoted to this factor. Accordingly, the present study was undertaken for the specific purpose of determining the effects of strain on the domain structure and hysteresis loops of Permalloy (50% Ni - 50% Fe), iron and

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ACCESSION NR: AP5011444

cobalt films. The films were prepared by vacuum (10^{-5} mm Hg) evaporation of the material onto 20 x 20 mm glass substrates heated to 250°C. The dimensions of the deposited films were 15 x 15; the thickness varied in the range from 400 to 1000 Å. The tensile stress was applied to the films by bending the substrate glass plates; the value of the stress was calculated on the basis of the deflection, length of the plate between supports, and the elastic moduli of the film and glass. The domain structure was observed by the powder patter technique; the hysteresis loops were recorded oscillographically on a setup utilizing the Faraday effect (at 50 cps). A number of powder patters and the corresponding hysteresis loops are reproduced. The inference is that by and large the domain structure in thin films behaves in the same way as the domain structure of bulk specimens. Where no change in the domain structure under stress occurs, the hysteresis loop also remains the same, but the coercive force increases, presumably owing to increase of the wall energy because of increase of the effective anisotropy constants of the film. After rearrangement of the structure under strong stress, the initial easy direction becomes the hard direction and the loop acquires the corresponding "hard direction" shape. To avoid the influence of stresses one must use a material, such as 80% Ni Permalloy, with near zero magnetostriction. Orig. art. has: 1 formula, 5 figures, and 1 table.

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APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 50961-65

ACCESSION NR: AP5011444

ASSOCIATION: Institut fiziki Sibirskogo otdeleniya Akademii nauk SSSR (Physics Institute, Siberian Division, Academy of Sciences, SSSR); Krasnoyarskiy gosudarstvennyy pedagogicheskiy institut (Krasnoyarsk State Pedagogical Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: EM, EC

NR REF SOV: 000 OTHER: 003

Card 3/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M. Kh

EPP.
.R93041

OPYT POLUCHENIYA VYSOKIKH UDOYEV MOLOKA NA KOLKHOZNOY FERME. MOSKVA, IZD-VO ZNANIYE, 1952. 14 p. TABLES (VSESOYUZNOYE OBSHCHESTVO PO RASPROSTRANENIYU POLITICHESKIKH I NAUCHNYKH ZNANIY. 1952, SERIYA 3, NO. 37)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

1. SAVCHENKO, M. KH.

2. USSR (600)

4. Dairy Cattle

7. My work practice in feeding dairy cattle.
Dost. sel'khoz. no.1, 1952

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

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M. KH.

Dairying

Record-breaking milking. Nauka i zhizn', 19, No. 1, 1952.

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

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M. KH.

SPIVAK, M.S., glavnyy redaktor; BELOZUB, V.G., redaktor; VASILENKO, P.M., redaktor; ZORIN, I.G., redaktor; IL'CHENKO, I.K., redaktor; KOVAL', A.G., redaktor; KRYLOV, A.F., redaktor; PUKHAL'SKIY, A.V., redaktor; SIDORENKO, A.P., redaktor; FEDCHENKO, A.N., redaktor; ANGELINA, P.N., redaktor; BUZANOV, I.F., redaktor; BOYKO, D.V., redaktor; BURKATSKAYA, G.Ye., redaktor; VASILENKO, A.A., redaktor; VLASYUK, P.A., redaktor; GORODNIY, N.G., redaktor; DEMIDENKO, T.T., redaktor; DUBKOVETSKIY, F.I., redaktor; KIRICHENKO, F.G., redaktor; LITOVCHENKO, G.P., redaktor; OZERNYY, M.Ye., redaktor; PERSHIN, P.N., redaktor; POPOV, F.A., redaktor; POSMITNYY, M.A., redaktor; PSHENICHNYY, P.D., redaktor; RADCHENKO, B.P., redaktor; ROMANENKO, I.N., redaktor; RUBIN, S.S., redaktor; SAVCHENKO, M.Kh., redaktor; SOKOLOVSKIY, A.N., redaktor; TSYBENKO, K.Ye., redaktor; KOVAL'SKIY, V.F., tekhnicheskiy redaktor

[Practical collective farm encyclopedia] Kolkhoznaia proizvodstvennaia entsiklopediia. Izd.2-oe, ispr. i dop. Kiev, Gos.izd-vo sel'khoz. lit-ry USSR. Vol.1. Abrikos - liutserna. 1956. 688 p. (MLRA 10:9)
(Agriculture--Dictionaries)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M. L.

"Development and Arrangement of Chyle-Vessel System in Taraxacum Kok-Saghyz," Dok. AN, 27, No. 9, 1940. Mbr., Anatomy Lab. Inst. Plant Cultivation, Pushkin, -1940-.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ACCESSION NR: AP4042927 S/0057/64/034/008/1409/1416

AUTHOR: Delone, G. A.; Savchenko, M. M.

TITLE: Motion of plasmoids in external magnetic fields

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 34, no. 8, 1964, 1409-1416

TOPIC TAGS: moving plasma spread, plasma loss, plasma beam density, plasma beam geometry, plasma beam parameter, plasmoid, plasma gun, plasmoid magnetic interaction

ABSTRACT: In order to reduce spreading and losses of particles by a plasmoid during its motion from the source (a spark-type gun) in magnetic fields of different configurations, and thus obtain plasmoids of small size at large distances from the gun, the parameters (density, and geometry) of a plasmoid during its motion were investigated. Longitudinal, transverse, and quadrupole magnetic fields were used. The experimental apparatus consisted of a glass tube 100 cm long and 8 cm in diameter. One end of the tube was closed by a flange with a plasma gun in it. The tube was evacuated to $1-2 \times 10^{-6}$ mm Hg through the other end, which contained measuring probes. The magnetic

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ACCESSION NR: AP4042927

fields were generated by a system of conductors mounted on the tube, through which a battery of capacitors was discharged. The plasma gun, which produced 1—3 x 10^{15} particles, was similar to the usual spark gun described by W. H. Bostick in the Physical Review, v. 104, no. 2, 292, 1956. The temperature of electrons in the plasma at a distance of 15 cm from the gun was 10 ev. The strength of the longitudinal, transverse, and quadrupole magnetic fields varied from 0 to 5000, from 0 to 1500, and from 0 to 1100 oersteds, respectively. The experiments showed that the form of the plasmoid changed little with distance, and that total losses of particles are small only in a quadrupole magnetic field. In addition, a lack of axial symmetry during motion in a longitudinal magnetic field and strong dependence of the character of motion in a transverse field on the mutual orientation of the field and the current through the gun were observed. The authors express gratitude to E. Ya. Gol'ts for valuable discussions. Orig. art. has: 9 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR, Moscow (Physics Institute, AN SSSR)

Card 2/3

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 51299-65 EWT(1) IJP(c)

ACCESSION NR: AP5013664 UR/0386/65/001/001/0009/0015

AUTHOR: Askar'yan, G. A.; Rabinovich, M. S.; Savchenko, M. M.; Smirnova, A. D.

TITLE: Light spark in a magnetic field

21 31 30 B

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 1, 1965, 9-15

TOPIC TAGS: laser, laser induced spark, laser air breakdown, laser induced plasma, controlled fusion reaction

ABSTRACT: The first results of experiments with a laser-induced spark in an external magnetic field are presented. The magnetic field made it possible to study the development of spark plasma based on diamagnetic induction signals, and to study the spark-field interaction as applied to plasma containment, acceleration, and injection into mirror machines. A Q-switched laser was used in the experiments. The external d-c magnetic field was 10 koe. The most striking result of the experiments was the long duration of the diamagnetic plasma (of the order of several microseconds), which was bracketed by initiation and damping signal pulses on a baseline 5 μsec long. The mechanism of formation of the prolonged magnetic moment is not

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ACCESSION NR: AP5013664

clear. However, the effect may be utilized in attempts to inject additional energy into the spark plasma by h-f external fields or by longer-pulse lasers with a higher energy input. Orig. art. has: 4 formulas and 1 figure. [SK]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute of the Academy of Sciences, SSSR)

SUBMITTED: 03Feb65 ENCL: 00 SUB CODE: EC, EM

NO REF SOV: 006 OTHER: 003 ATD PRESS: 4014

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Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 64154-65 EWA(k)/FBD/EWG(p)/EWT(1)/EPF(c)/EEC(k)-2/EPA(w)-2/T/EEC(b)-2/EWP(k)/EWA(m)-2/EWA(h) WG
ACCESSION NR: AP5019591 SCTB/IJP(c) UR/0386/65/001/006/0018/0023

AUTHOR: Askar'yan, G. A.; Rabinovich, M. S.; Savchenko, M. M.; Smirnova, A. D.

TITLE: Discovery of a fast photoionization halo and a cloud of concentrated long-lived ionization from a shock wave of a breakdown in the laser beam

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 6, 1965, 18-23

TOPIC TAGS: laser, breakdown, photoionization, ionization, plasma, laser beam, multiphoton absorption, gas breakdown

ABSTRACT: The results are presented of an experimental study of the ionization halo produced during breakdown of a gas by a laser beam in the region of the breakdown. The laser beam from a Q-switched laser with a rotating prism was focused between a horn equipped with a detector and an antenna of an 8-mm oscillator by means of a lens with a 5-cm focal length. This arrangement made it possible to make simultaneous measurements of the transmitted and reflected microwave radiation displayed on an oscilloscope. A comparison of the degree of attenuation of the microwaves determined from the change in the detector current and the current corresponding to the voltage at the time of the appearance of the breakdown shows that microwave radia-

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L 64154-65

ACCESSION NR: AP5019591

tion is strongly dissipated in the plasma of the halo. The lifetime of the plasma in the halo is relatively long, reaching hundreds of μsec. The maximum attenuation occurs within a period less than 5 μsec after the breakdown. The authors also observed an ionization halo caused by radiation from the region heated by the laser beam, where the radiation is propagated ahead of the shock wave. The attenuation and scattering by this halo should increase with the wavelength of the microwave radiation. The high degree of ionization and heating due to photoionization and the shock wave near the region of the breakdown result in a relatively long lifetime of the plasma. Orig. art. has: 2 figures. [CS]

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute, Academy of Sciences, SSSR)

SUBMITTED: 10May65 ENCL: 00 SUB CODE: OP

NO REF SOV: 002 OTHER: 002 ATD PRESS: 4065

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 23868-65 EWT(1)/EWG(k)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EEC(b)-2/EWA(m)-2
Pz-6/Po-4/Pab-10/Pi-4 IJP(c) DM/AT

ACCESSION NR: AP5003998 S/0089/65/018/001/0014/0018

AUTHOR: Veksler, V. I.; Gekker, I. R.; Gol'ts, E. Ya; Delone, G. A.; Kononov, B.P.; Kudreyatova, O. V.; Luk'yanchikov, G. S.; Rabinovich, M.S. Savchenko, M.M.; Sarkisyan, K. A.; Sergeychev, K. F.; Silin, V. A.; Tsopp, L. E.

TITLE: Interaction of plasma bunches with an electromagnetic wave

SOURCE: Atomnaya energiya, v. 18, no. 1, 1965, 14-18

TOPIC TAGS: plasma clot, plasma clot acceleration, plasma clot radiative acceleration, H sub 01 wave, H sub 11 wave

ABSTRACT: Preliminary experimental results are given of an investigation of the radiative acceleration of plasma in circular waveguides. The investigation was conducted in a 10-cm range with H_{01} and H_{11} waves. Different plasma injectors were used. Plasma bunches with an initial particle concentration of 10^{12} cm^{-3} and higher were injected with a 5×10^6 cm/sec velocity from a spark source or were generated directly on the axis of the waveguide by means of a plasma source at a pressure drop of 10^{-7}—10^{-5} mm Hg of the operating vacuum in an accelerator. Electric detectors, superhigh-frequency methods, and an electrostatic analyzer of particle energy were used for the investiga-

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 23868-65

ACCESSION NR: AP5003998

tion. External magnetic fields with various configurations were used to confine the plasma. Accelerated ions with energies exceeding 10 kev were obtained regardless of the type of wave in the waveguide or the kind of plasma injector. The energy of the accelerated ions increased as the superhigh-frequency power increased. The total number of accelerated particles was of the order of 10^{12}. Maximum energy was 50 kev. The application of nonhomogeneous fields for the stabilization of the transverse dimensions of plasma bunches was shown to be feasible. There were practically no plasma losses on the waveguide walls when quadrupole or sextupole magnetic fields were used. Orig. art. has: 7 figures. [JA]

ASSOCIATION: none

SUBMITTED: 22Apr64 ENCL: 00 SUB CODE: ME, EM

NO REF SOV: 008 OTHER: 001 ATD PRESS: 3178

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 30389-66 EEC(k)-2/EWP(k)/EWT(1)/FBD/T IJP(c) WG
ACC NR: AP6020790 SOURCE CODE: UR/0386/66/003/012/0465/0468

AUTHOR: Askar'yan, G. A.; Rabinovich, M. S.; Savchenko, M. M.; Stepanov, V. K. 93 B

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences, SSSR (Fizicheskiy Institut Akademii nauk SSSR)

TITLE: Fast overlap of microwave radiation by an ionization aureole of a spark in a laser beam

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye v. 3, no. 12, 1966, 465-468

TOPIC TAGS: gas ionization, ionization phenomenon, ionized plasma, microwave plasma, SPARK SHOCK WAVE, LASER BEAM

ABSTRACT: This is a continuation of earlier investigations (Pis'ma ZhETF v. 1, no. 6, 18, 1965) of the ionization aureole behind the shock wave of a light spark in a laser beam. The present study deals with shorter times (tens and hundreds of nanoseconds), when the ionization leads the shock wave from the spark. The spark from a Q-switched laser beam was flashed in front of a radiating antenna fed from an 8-mm magnetron. The receiving antenna was placed either behind the spark (in aureole overlap investigations) or at different angles (in reflection investigations). The area of the microwave radiation overlap by the aureole was

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 10408-67 EWT(1) IJP(c) AT

ACC NR: AT6033037 SOURCE CODE: UR/2504/66/032/000/0080/0088

39
38

AUTHOR: Delone, G. A.; Savchenko, M. M.

ORG: none

TITLE: Characteristics of the motion of a plasma cluster in longitudinal, transverse, and two dimensional multipolar magnetic fields

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 32, 1966. Fizika plazmy (Plasma physics), 80-88

TOPIC TAGS: plasma beam, longitudinal magnetic field, transverse magnetic field

ABSTRACT: In the experiments, motion of the plasma clusters was created in a glass tube with an inside diameter of 7.7 cm and a length of 100 cm (see Fig. 1). A spark type plasma gun 1 was fastened to a flange covering one end of the tube; the other end of the tube was connected to a fitting which had a lateral opening for evacuation 4. Measuring electrical probes 3 were inserted through the end of the fitting. The work was done at a vacuum of (1-2) x 10^{-6} mm Hg. The magnitude of the longitudinal magnetic field was measured from zero to 5000 oersteds, and the magnitude of the transverse magnetic field was varied from zero to 1500 oersteds. It was observed that the configuration of the plasma cluster depends on the direction of the magnetic moment of the flow "loop" at the gun, with respect to the vector of the transverse

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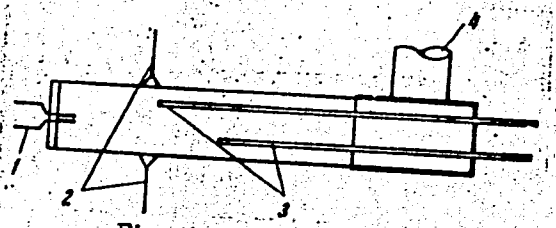

Fig. 1. Scheme of unit
1—gun; 2—superhigh frequency antennas;
3—electrostatic screened probes; 4—to pump.

magnetic field. The article then passes on to a mathematical consideration of the more complicated case of two dimensional multipolar magnetic fields. It was found experimentally that supply of a negative voltage to the electrode (approximately 500 volts) practically did not change the amount of plasma transported. However, if a positive voltage of the same magnitude is supplied to the electrode the amount of plasma passing through the electrode is decreased by one order of magnitude. "In conclusion the authors thank V. B. Studenov for his aid in the work." Orig. art. has: 10 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 003/ OTH REF: 002

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ACC NR: AP7003206

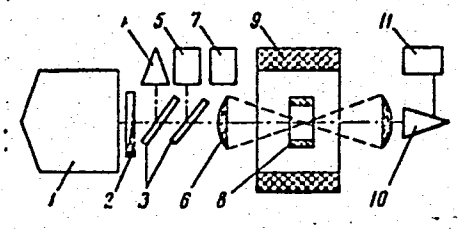

Fig. 1. Equipment setup

1 - Q-switched laser; 2 - variable filters; 3 - plane-parallel glass plates; 4 - first calorimeter; 5 - first photomultiplier; 6 - focusing lens; 7 - trigger photomultiplier; 8 - measuring coil; 9 - solenoid; 10 - second calorimeter; 11 - second photomultiplier.

the visible spark region, which extended 12 mm from the focus. The plasma generated during the breakdown moved radially in the positive direction, interacting with the longitudinal magnetic field. This interaction gave rise to ring currents, causing a diamagnetic plasma perturbation. The reduction of the lifetime of this perturbation to 30—40 μsec by the spark-generated shock wave resulted in the paramagnetic plasma perturbation. Assuming a 10^3-oe field and a shock wave velocity of 10^5 cm/sec, the mean spark plasma conductivity was estimated at 2.6×10^{15} sec^{-1}. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 11Jul66/ ORIG REF: 003/ OTH REF: 001/
ATD PRESS: 5113

Card 2/2

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M. P., Doc Agr Sci -- (diss) "Problems of the cultivation of durum wheat in Western Siberia." Omsk, 1958. 35 pp (Author's ~~report~~ abstract of a dissertation presented at Omsk Agr Inst), 150 copies (KL, 16-58, 121)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.P.

Effect of temperatures below the freezing point on the germinating capacity of stored hard wheat. Uch. zap. Omsk. gos. ped. inst. no.12:3-20 '59. (MIRA 14:6)
(WHEAT) (GERMINATION) (PLANTS, EFFECT OF TEMPERATURE ON)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.P.

Effect of mechanical injury of grain on the germinating capacity of hard wheat. Uch. zap. Omsk. gos. ped. inst. no.12:29-46 '59. (MIRA 14:6)

(WHEAT) (GERMINATION)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.P., kand.sel'skokhoz.nauk

Protein content of wheat kernels at various stages of maturity. Zemledelie 7 no.7:89-90 Jl '59. (MIRA 12:9)
(Wheat) (Proteins)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

YEROKHINA, L.G.; SAVCHENKO, M.S.

Diadynamic currents in the diagnosis and treatment of facial pain syndromes. Zhur. nevr. i psikh. 61 no.12:1813-1818 '61. (MIRA 15:7)

1. Klinika nervnykh bolezney II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova (zav. kafedroy - prof. N.K. Bogolepov) i kafedra fizioterapii II Moskovskogo meditsinskogo instituta imeni Pirogova (zav. - kafedroy - prof. Ye.I. Pasynkov).
(ELECTRODIAGNOSIS) (ELECTROTHERAPEUTICS)
(NEURALGIA, FACIAL)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 4241-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) OS/AT

ACCESSION NR: AT5007972 S/0000/64/000/000/1017/1022

AUTHOR: Veksler, V. I.; Gekker, I. R.; Gol'ts, E. Ya.; Delone, G. A.; Kononov, E. P.; Kudrevatova, O. V.; Lyk'yanchikov, G. S.; Rabinovich, M. S.; Saychenko, M. S.; Sarksyan, K. A.; Sergeychev, K. V.; Silin, V. A.; Tsopp, L. E.; Levin, M. L.; Muratov, R. Z.

TITLE: Radiational acceleration of plasma

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 1017-1022

TOPIC TAGS: high energy accelerator, plasma acceleration, plasma waveguide

ABSTRACT: The practical realization of the radiational method of plasma acceleration (Veksler, V. I. CERN Symposium, 1956; *Atomnaya energiya* 2, 427, 1957) is connected with the utilization of a different kind of waveguide structure, within which a plasma bunch moves under acceleration by an electromagnetic field. Two such waveguide structures, differing in type of accelerating wave and in method of plasma injection, were produced recently in the Physics Institute, AN SSSR. Initial experiments showed that radiational acceleration of plasma was achieved in both of the structures. At the same time the Radiotechnical Institute, AN SSSR,

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ACCESSION NR: AT5007972

carried out a theoretical study of the possibilities of the radiational method. The present report contains a brief exposition of all these investigations, under the two headings of: experimental results and theory of radiational acceleration. Both waveguide structures employed one and the same super high-frequency oscillator of 10 cm range which operated in the single- stage pulse regime of 8 microseconds duration; the average density of power flux through tube cross-section did not exceed $8 \cdot 10^3$ watts/cm^2, and the KSVN of the entire waveguide system (without plasma) was not worse than 1.3. The accelerating waveguides were tubes of circular cross-section with walls of noncorroding steel 1 mm thick; the vacuum in the tubes was of the order of 10^{-7} to 10^{-6} mm of mercury. The forces of the radiational pressure which act upon the plasma bunch are found by proceeding from the conservation laws. In the plane electromagnetic wave propagated in free space the density of pulse flux equals the average energy density. Orig. art. has: 7 figures, 26 formulas.

ASSOCIATION: Fizicheskiy institut imeni P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR); Radiotekhnicheskiy institut AN SSSR (Radio Engineering Institute, AN SSSR)

SUBMITTED: 26May64 ENCL: 00 SUB CODE: NP

NO REF SOV: 008 OTHER: 003

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 52091-65 EPR/EWP(k)/EWT(m)/EPA(bb)-2/T-2/EWP(w)/EWP(f)/EWP(v) Pf-4
ACCESSION NR: AP5015242 EM UR/0286/65/000/009/0029/0029

AUTHORS: Barskiy, I. A.; Savchenko, M. V. 32

TITLE: A nozzle device for turbines. Class 14, No. 170532 B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 9, 1965, 29

TOPIC TAGS: nozzle, turbine, blade, turbine efficiency

ABSTRACT: This Author Certificate presents a nozzle device for turbines (such as gas turbines), containing rotary blades with a drive (see Fig. 1 on the Enclosure). These paddles are placed with their radial openings at the periphery and at the base. To diminish the losses at the base openings of the rotary blades and to increase the turbine efficiency, the drive of the rotary blades is provided with springs which exert a force on the blades from the periphery to the base, while the bases of the blades have the shape of dowels inserted into the opening of the frame. Orig. art. has: 1 diagram.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po oboronnoy tekhnike SSSR (Enterprise of the State Committee on Defense Technology SSSR)

Card 1/1 Submitted: 11 Jun 63

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.Ya., inzh.

Engine performance with a hydraulic gear transmission device during steady running. Sud.sil.ust. no.1:133-145 '61. (MIRA 15:7)

1. Odesskiy institut inzhenerov morskogo flota.
(Marine engines)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

AUTHOR: Savchenko, M.Ye. SOV/3-58-12-21/43

TITLE: We Study the Course: "Fundamentals of Atheism" (Izuchayem kurs "Osnovy ateizma")

PERIODICAL: Vestnik vysshey shkoly, 1958, Nr 12, pp 62 - 63 (USSR)

ABSTRACT: In the pedagogical vuzes of the Ukraine a new course - "Fundamentals of Atheism" - was introduced last year. The history of religion and the history of the struggle of scientists, philosophers and writers against religious dogma is given in the contents of the first large section of the course. After some general information on the subject, the author states that the Pedagogical Institute of Krivoy Rog encourages every instructor and student to carry on atheistic propaganda outside of the institute. Last year, the instructors read over 200 lectures on this subject to the working people of the town. Every chair of the institute has prepared a methodical report on the atheistic education of students during the lessons in biology, physics and chemistry.

ASSOCIATION: Krivorozhskiy pedagogicheskiy institut (Pedagogical Institute of Krivoy Rog)

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.Ye.

Investigation of the helminth fauna in chickens of the Krivoy Rog Basin. Nauch. dokl. vys. shkoly; biol. nauki no.1:7-8 '62. (MIRA 15:3)

1. Rekomendovana kafedroy zoologii Krivorozhskogo pedagogicheskogo instituta.
(KRIVOY ROG BASIN--POULTRY--DISEASES AND PESTS)
(WORMS, INTESTINAL AND PARASITIC)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.Ye.

Characteristics of individual variability and survival rate of the soilhelminth Heterakis gallinae in different population densities. Zhur.ob.biol. 23 no.4:318-319 Jl-Ag '62. (MIRA 15:9)

1. Krivorozhskiy pedagogicheskiy institut.
(NEMATODA) (PARASITES--POULTRY)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.Ye.

Effect of some abiotic environmental factors on the developmental rate and the survival of eggs of Heterakis gallinarum under natural conditions. Zool. zhur. 42 no.12:1869-1870 '63 (MIRA 17:7)

1. Chair of Zoology, Pedagogical College of Krivoy Rog.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, M.Z., inzh.

Evaluating machinery for potato cultivation. Mekh. sil'. hosp. 12 no. 2:14-15 F '61. (MIRA 14:4)
(Agricultural machinery) (Potatoes)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.; TROPP, I.; VOSKOBOYNIK, A.

Organization and safety of traffic. Avt. transp. 41 no.8: 43-48 Ag '63. (MIRA 16:11)

1. Starshiy inzh. po bezopasnosti dvizheniya Krasnodarskogo avtoupravleniya (for Savchenko). 2. Vneshtatnyy sotrudnik Gosudarstvennoy avtomobil'noy inspektsii (for Tropp). 3. Nachal'nik Gosudarstvennoy avtomobil'noy [illegible] inspektsii Upravleniya militsii g. L'vova (for Voskoboynik).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.; MOKHORT, V.

Fourth All-Union Conference of Urologists. Zdrav.Bel. 7 no.11: 66-67 N '61. (MIRA 15:11)

(UROLOGY--CONGRESSES)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A., redaktor; KUGUKALO, I.A., retsenzent; VINOGRADOVA, M.M. redaktor; GUBAREV, M.I., redaktor; BEGICHEV, M.N., tekhnicheskiy redaktor.

[The Dnieper river; a guide book] Dnepr; putevoditel'. Izd. 2-oe. Moskva, Izd-vo "Rechnoi transport,2 1955. 365 p. (MLRA 8:11)
(Dnieper river)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

LISNIK, A.G. [Lisnyk, A.H.]; LITOVCHENKO, S.G. [Lytovchenko, S.H.]; URSUL, D.A.; SAVCHENKO, N.A.

Effect of short-range order on electrical resistance of some binary alloys [with summary in English]. Ukr.fiz.zhur. 3 no.4:521-527 Jl-Ag '58. (MIRA 11:12)

1. Institut metallofiziki AN USSR.
(Alloys--Electric properties)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A., kand.sel'skokhozyaystvennykh nauk

Shortening the ripening period of common onion. Agrobiologiia no.5:793-795 S-O '62. (MIRA 15:11)

1. Sel'skokhozyaystvennyy institut, Lugansk.
(Donets Basin—Onion breeding)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A., kandidat sel'skokhozyaystvennykh nauk.

Increasing the vitality of common cabbage. Agrobiologiiane.3:23-27 My-Je '56. (MLRA 9:9)

1.Voroshilovgradskiy sel'skokhozyaystvennyy institut.
(Cabbage) (Plant breeding)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A

M-3

USSR/Cultivated Plants - Potatoes, Vegetables, Melons.

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10821

Author : Savchenko, N.A.

Inst : Voroshilovgrad Agricultural Institute.

Title : The Effectiveness of Guided Development and Free Intra-varietal Crossbreeding in Cabbage Selection and Seed Production.

Orig Pub : Nauchn. zap. Voroshilovgradsk. s.-kh. in-ta, 1956, 6, No 1, 67-73

Abstract : Late cabbage gives very low yields under Voroshilovgrad-skaya oblast' conditions. Up to 30% of the Zavadovskaya plant samples, from various regions of origin, do not form heads. When these samples were permitted to cross-breed freely among themselves the yield increased by 54% in comparison with the locally reproduced varieties.

Card 1/2

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SAVCHENKO, N.A.

USSR / Cultivated Plants. Potatoes. Vegetables. Melons. M

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 34702

Author : Savchenko, N. A.
Inst : Agricultural Institute of Voroshilovgrad.
Title : Varieties and Selection of White Cabbage in the Don Basin

Orig Pub : Nauch. zap. Voroshilovgradsk. s. kh. in-ta, 1957, 4, No 2, 109-124.

Abstract : Based on observations by the experimental stations and by the sovkhozes and kolkhozes of the Donbas, the author concludes that high temperatures and low relative humidity of the air during the period of formation of the cabbage heads lead to the development of a large percentage of abnormal plants in white cabbage, and delay the formation of the heads. The

Card 1/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ANDREYEV, B.I.;BORISOV, I.G.; LEDOVSKIKH, S.I.; MALINOVSKIY, E.P.; SAVCHENKO, N.A.; LYUDSKOV, B.P., red.; EL'KINA, E.M., tekhn. red.

[Geography of the manufacture of food products in the U.S.S.R.] Geografiia proizvodstva prodovol'stvennykh tovarov SSSR. By B.I. Andreev i dr. Moskva, Gos. izd-vo torg. lit-ry, 1961. 170 p. (MIRA 14:10)

(Food industry)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A., kand.sel'skokhoz.nauk

Using free intervarietal crossing in breeding bulb onions. Agrobiologiia no. 1:68-72 Ja-F '61. (MIRA 14:2)

1. Luganskiy sel'skokhozyaystvennyy institut.
(Onion breeding)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A.

Shortening of the vegetation period of early cabbage due to environmental conditions. Agrobiologiia no.6:936-937 N-D '62. (MIRA 16:1)

1. Luganskiy sel'skokhozyaystvennyy institut.
(Cabbage)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A.

Distribution of gallium and some other chemical elements in the Lower Carboniferous sediments of the Pripet fault. Dokl. AN BSSR 9 no.9:603-606 S '65. (MIRA 18:11)

1. Institut geologicheskikh nauk Gosudarstvennogo geologicheskogo komiteta SSSR. Submitted March 24, 1965.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ANDREYEV, B.I.; LEDOVSKIKH, S.I.; MALINOVSKIY, E.P.; SAVCHENKO, N.A.; SKOBEYEV, D.A.; TARANENKO, Ye.A.; SERGEYEVA, A.S., tekhn. red.

[Distribution of light industry of the U.S.S.R.] Razmeshchenie otraslei legkoi promyshlennosti SSSR. Moskva, In-t narodnogo khoz., 1963. 136 p. (MIRA 16:9)

1. Prepodavateli kafedry ekonomicheskoy geografii Moskovskogo instituta narodnogo khozyaystva im. G.V.Plekhanova (for all except Sergeyeva).
(Russia--Manufactures) (Industries, Location of)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ANDREYEV, B.I.; VORONTSOVA, A.N.; DANILOV, A.D.; KISTANOV, V.V.; KOSTENNIKOV, V.M.; KUSHNER, A.I.; LEDOVSKIKH, S.I.; LESNOV, M.F.; MALINOVSKIY, E.P.; MOSHKOVA, N.V.; MUKHIN, G.I.; PASHKEVICH, V.I.; RZHEVUSKAYA, D.M.; SAVCHENKO, N.A.; SKOBEYEV, D.A. [deceased]; LISOV, V.Ye., red.; SAZANOVICH, N.K., red.

[Economic regions of the U.S.S.R.] Ekonomicheskie raiony SSSR. Moskva, Ekonomika, 1965. 589 p. (MIRA 18:6)

1. Moscow. Institut narodnogo khozyaystva. 2. Kafedra ekonomicheskoy geografii Moskovskogo instituta narodnogo khozyaystva im. G.V.Plekhanova (for all except Lisov, Sazanovich).

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A.

Veinstones of the Ardon-Fiagdon interfluve (Northern Caucasus) and their rare metal mineralization. Dokl. AN SSSR 141 no.6:1448-1451 D '61. (MIRA 14:12)

1. Institut geologicheskikh nauk AN USSR. Predstavleno akademikom D.I.Shcherbakovym.
(Ardon Valley--Metals, Rare and minor)
(Flagdon Valley--Metals, Rare and minor)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A. [Savchenko, M.A.]

Dependence of mineralization in a lead-zinc vein on the composition of the enclosing rocks. Dop. AN URSR no.9:1199-1201 '61. (MIRA 14:11)

1. Institut geologicheskikh nauk AN USSR. Predstavleno akademikom AN USSR N.P.Semenko [Semenko, M.P.].
(Lead ores)
(Zinc ores)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A. [Savchenko, M.A.]

Statistical study of joints in the investigation of ore deposits as revealed by the Fiagdon ore deposti in the central Caucasus. Geol. zhur. 22 no.1:92-97 '62. (MIRA 15:2)

1. Institut geologicheskikh nauk AN USSR.
(Ossetia,North--Joints(Geology))(Ossetia,North--Ore deposits)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A. [Savchenko, M.A.]; ZAYDIS, B.B.

Age of granites of the Sadon-Fiagdon region (Caucasus). Geol.-zhur. 22 no.4:105-106 '62. (MIRA 15:9)

1. Institut geologicheskikh nauk AN UkrSSR.
(Ossetia, North--Granite) (Potassium--Argon dating)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.A.; SIBIRYAKOVA, L.V.

Fauna from the shale strip of the Kholtinskoye deposit (Northern Caucasus) and its use for the correlation of some geological cross sections. Izv.AN SSSR.Ser.geol. 27 no.4:97-100 Ap '62. (MIRA 15:4)

1. Institut geologicheskikh nauk AN USSR, Kiyev.
(Caucasus, Northern--Paleontology, Stratigraphic)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 16977-63 EWT(1)/BDS AFFTC TF

S/020/63/149/006/026/027

53

AUTHOR: Permyakov, V. V., and Savchenko, N. A. [redacted]

TITLE: A comparison of absolute and relative age determinations of the argillaceous shales of the Central Caucasus

PERIODICAL: Akademiya nauk SSSR. Doklady. v. 149, no. 6, 1963, 1414-1415

TEXT: The determination of the absolute age of rocks of sedimentary origin often may conflict with paleontological indications. This is because sedimentary rocks are complex geological formations arisen from more ancient rocks of different ages that underwent the stages of diagenesis and metamorphism. The authors undertook to investigate the absolute age of argillaceous shales of the Central Caucasus with the object of comparing these data with age determination according to the fauna. It was established that the potassium-argon method can be of considerable assistance in determining the age of geological formations represented by monotonic and faunistically weakly characterized argillaceous and argillaceous-arenaceous shales. The differences between the relative (175-180 million years) and absolute (252 million years) ages of the samples are attributed to their content of relict minerals, especially micas, which considerably raise the age of rocks. There is 1 table.

ASSOCIATION: Institut geologicheskikh nauk Akademii nauk USSR (Institute of Geologic Sciences, Academy of Sciences Ukrainian SSR)

SUBMITTED: August 5, 1962

Card 1/1

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.F.

Adhesive instead of rivets. Mashinostroitel' no.5:23 My '62.
(MIRA 15:5)

(Adhesives)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N. G.

USSR/Engineering - Welding
New Techniques

Aug 49

"Welding of Electric Rivets Under a Flux Layer Without a Hole in the Upper Sheet," S. A. Yegorov, "Proyektstal 'konstruktsiya" Trust, K. L. Mironov, N. G. Savchenko, Lyanozovo Car Constr Factory, 1 1/3 pp

"Prom Energet" No 8

Describes new welding technique which is superior to spot welding. Process employs electrode pressure and currents above 500 amp, and can be used with or without holes in the top sheet. Various branches of industry have adopted this process, in particular the transport and agricultural industries. Recommends development of multielectrode models designed for equal loading of three-phase lines with substantial power savings.

PA 152T30

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.I., agronom.

Make a wider use of fertilizers. Zemledelie 5 no.7:81-83 Jl '57.
(Polesye--Fertilizers and manures) (MLRA 10:8)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.I.; LASTOVICH, A.S.

Studying and making use of cystoplasmic male sterility in winter wheat. Agrobiologiia no.2:243-249 Mr-Ap '64. (MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly, Kiyev.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

LONDARENKO, O.M.; GOLOVINSKAYA. S.M. [Holovins'ka, S.M.]; SAVCHENKO, N.M.: LIKHTIK, O.G. [Likhtyk, O.H.]; BARANSKAYA, S.F. [Barans'ka, S.F.]; RACHINSKAYA, T.V. [Rachyns'ka, T.V.]

Proposals of efficiency promoters of the "Children's Clothing" Factory No.4 in Kiev. Leh. prom. no.3:74-76 Jl-S '65. (MIRA 18:9)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

MOGIL'NITSKIY, B.N.; MAZAYEV, P.N.; SAVCHENKO, N.N.

Result of investigation on the effect of cerebral cortex on vascular permeability. Vest. khir. 71 no.2:71 1951. (CIML 20:8)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

CA

PROCESSES AND PROPERTIES INDEX

Specific dynamic action of food during rest and physical labor. 1. The specific dynamic action of a carbohydrate breakfast. N. S. Savchenko. *J. Physiol.* (U. S. S. R.) 19, 1274-80(1935).—The [illegible] sp. dynamic action of a carbohydrate breakfast during rest or work is observed in the first hr. after the meal; the action during work is less than during rest. The general value, as well as the duration of the dynamic action, is less during the performance of phys. labor than during rest. H. Cohen

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The distribution of lactic acid in the organs of the guinea pig after muscular exercise. N. S. Savchenko and A. P. Urinson. *J. Physiol.* (U. S. S. R.) 24, 907-10 (in English, 914) (1938).—At rest, the lactic acid content (I) of guinea-pig heart muscle is lower than that of the skeletal muscle. I increases in the heart muscle after phys. exercise. The relatively low I of the liver is an indication of the role of this organ in removing I from the blood. There is an insignificant increase in I of the brain after exercise.

S. A. Karjala

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

PROCESSES AND PROPERTIES INDEX

Basal metabolism and specific dynamic action of carbohydrates in cancers and ulcers of the digestive organs

N. S. Savchenko. *Arch. sci. biol.* (U. S. S. R.) 60, No. 3, 73-80(1940).—The basal metabolism of cachectic cancer patients is increased, and in patients with gastric ulcers it is normal or decreased, despite inanition. The specific action of carbohydrates in cancer patients is either lowered or entirely absent, and in ulcer patients it is unaffected. The R. Q. of cancer patients, fasted as well as after large doses of sugar, is lowered, and that of ulcer patients is normal. Pulmonary ventilation in cancer patients after large doses of sugar increases to a lesser extent than that in ulcer and other ailments. Examn. of the specific action of carbohydrates, combined with other methods, may be useful in differential diagnosis of gastric cancer and in the interpretation of metabolic changes concurring with cancer.

T. Laanes

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO,N.S.

Dynamics of basal metabolism under the effect of conditioned stimuli. Opyt izuch.reg.fiziol.funk. no.3:171-176 '54. (MIRA 8:12)

1. Laboratoriya fiziologii gazoobmena i teploobmena Otdela obschey fiziologii Instituta eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR.
(METABOLISM) (CONDITIONED RESPINSE)

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

DUSHINA, O.P.; MITROFANOVA, L.I.; CHUDENTSOVA, Ye.N.; SAVCHENKO, N.T.

Case of isolation of atypical Brucella from murine rodents in the Chechen - Ingush Autonomic Republic. Zhur. mikrobiol., epid. i immun. 41 no.3:143-144 Mr. '64. (MIRA 17:11)

1. Checheno-Ingushskaya respublikanskaya sanitarno-epidemiologicheskaya stantsiya.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 8556-65 EWT(m)/EWP(q)/EWP(b) Pad SSD/ASD(m)-3/AFWL MJW/JD/HW
ACCESSION NR: AR4044214 S/0137/64/000/006/I039/I039

SOURCE: Ref. zh. Metallurgiya, Abs. 6I229

AUTHOR: Novokreshchenov, P. D.; Zubekhin, V. P.; Savchenko, N. V.

TITLE: Investigation of the influence of fusible coatings on the durability of nickel after cyclical heat treatment by the method of internal friction

CITED SOURCE: Sb. Relaksats. yavleniya v met. i splavakh. M., Metallurgizdat, 1963, 112-114

TOPIC TAGS: nickel, internal friction, heat treatment, fusible coating

TRANSLATION: Polycrystalline samples of brand NP-2 nickel, 200 mm long and 1 mm in diameter, were preliminarily annealed at 700° for 5 hours and cooled from furnace to room temperature. Then the samples were drawn through a melt of the metal selected for the coating (Sn, Pb, or Bi) and heated to 60-80° higher than its melting point. After a layer ~0.04 mm thick had been applied, the sample was washed

Card 1/3

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 8556-65

ACCESSION NR: AR4044214

in running water and dried. Internal friction was measured with the help of a torsional pendulum (frequency of oscillations at room temperature is 1.6 cps). The maximum shear deformation on the surface of the sample did not exceed 10^{-6}. Cyclical heat treatment was carried out by periodically heating the sample with d-c. Time of heating is 10 sec, cooling-15 sec, maximum temperature of cycle-300°, minimum-100°. The internal-frequency curve is recorded for the same sample after 0, 100, 500, and 100 thermal cyclings, after which the sample was tested on an MR-0.05 tensile testing machine. All types of coatings increase the internal friction of Ni (not subjected to cyclical heat treatment) in the interval 100-350° and essentially lower the high-temperature internal friction. In the low-temperature region, the maximum increase of internal friction is observed for samples coated with Sn; the minimum is observed for samples coated with Pb. In the region of high temperatures the influence of Sn and Pb on internal friction is of an opposite nature. All coatings also change the internal friction of Ni subjected to cyclical heat treatment. For Ni coated with Bi, with an increase in the number of thermal cyclings the low-temperature internal friction (in the region 100-350°) decreases, while the high-temperature internal friction increases. With an

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ACCESSION NR: AR4044214

increase in the number of thermal cyclings the brittleness of a coated sample increases, while the strength decreases. The least influence on the mechanical properties and on the nature of the temperature curve of internal friction exerted by cyclical heat treatment of Ni coated with Sn. The increase of the internal friction of Ni under the influence of coatings in the region 100-350° is associated with the surface adsorption activity of fusible metals with respect to Ni. The increase in high-temperature internal friction (background) with increasing number of thermal cyclings is explained by the general increase in the defects in a metal as a result of the action of thermal stresses.

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L 25840-66 EWT(m)/EWA(d)/EWP(t) LJP(c) JD

ACC NR: AR5019275 SOURCE CODE: UR/0277/65/000/007/0011/0011

AUTHOR: Savchenko, N. V.; Novokreshchenov, P. D.; Maksimov, V. P.

ORG: none

TITLE: Effect of low-melting metal plating on the mechanical properties of metals affected by high, quick-change temperatures

SOURCE: Ref. zh. Mashinostroitel'nyye materialy, konstruktsii i raschet detaley mashin. Gidroprivod. Otdel'nyy vypusk, Abs. 7.48.73

REF SOURCE: Izv. Voronezhsk. gos. ped. in-ta, v. 44, 1964, 146-149

TOPIC TAGS: steel, metal plating, bismuth, tin, cadmium, zinc, lead alloy, solid mechanical property, metallurgic testing machine

TRANSLATION: A study was made of low-melting platings (Bi, Sn, Cd, Zn and a 40% Sn + 60% Pb alloy) with regard to changes in the mechanical properties of 1 x 18H9T and B1 steels, after cyclonic thermal processings (maximum temperatures were 300, 500, 1000 and 800°, with a minimum of 100°). After a certain number of temperature changes (100 and more), the samples were tested on a tensile impact testing machine of the MR-0,05 type. The effect of plating was judged by the relative decreases in the strength and ductility of the plated and non-plated samples. In all cases, plating was detrimental to the mechanical properties of 1 x 18H9T steel; B1 steel, plated with Bi and Sn,

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ACC NR: AR5019275

become stronger after 100 changes in temperature, whereas POS-40 solder did not affect the mechanical properties of steel.

SUB CODE: 11,13/ SUBM DATE: none

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.V.

Low-melting metal coatings on copper. Metalloved. i term. obr. met. no.10:37-39 O '63. (MIRA 16:10)

1. Voronezhskiy gosudarstvennyy pedagogicheskiy institut.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

ACCESSION NR: AT4013964 S/2659/63/010/000/0270/0274

AUTHOR: Novokreshchenov, P. D.; Savchenko, N. V.

TITLE: Effect of fusible metallic coatings on mechanical properties of Ni after cyclic heat treatment

SOURCE: AN SSSR. Institut metallurgii. Issledovaniya po zharoprochny*m splavam, v. 10, 1963, 270-274

TOPIC TAGS: nickel NP-2, fusible nickel coating, bismuth coated nickel, nickel strength, nickel ductility, coated nickel strength, coated nickel ductility, coated nickel heat treatment, cyclic heat treatment

ABSTRACT: This study concerned the effects of fusible coatings (Sn, Cd, Zn, Pb, Bi and alloy POS-40) on mechanical properties of nickel NP-2 after cyclic heat treatment (80 to 800C, 25 sec. cycle, 8 sec heating, 17 sec cooling). Heat-treated wire specimens were tested on the rupture tester MR-0.05 (10 mm/min). Results are tabulated or shown graphically (see Figs. 1 and 2 in the Enclosure). Bi proved most active of all named coatings in reducing the strength (η_b = 67%) and ductility (η_b = 60%) of Ni. The other coatings had little effect on strength, but produced noticeable brittleness of the material, especially within the 500-1000

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ACCESSION NR: AT4013964

cycle range. A network of fine fissures appeared on the surface of all specimens coated with fusible materials which produced lowered strength and ductility. No fissures formed on uncoated specimens even after 1000 cycles. Orig. art. has: 2 tables, 2 graphs, 1 illustration.

ASSOCIATION: Institut metallurgii AN SSSR (Institute of Metallurgy)

SUBMITTED: 00 DATE ACQ: 27Feb64 ENCL: 02

SUB CODE: ML NO REF SOV: 015 OTHER: 001

Card 2/2

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.V.; NOVOKRESHCHENOVA, P.D.

Effect of low-melting metal coatings on the thermal fatigue of metals. Metalloved. i term. obr. met. no.12:43-44 D '63. (MIRA 17:2)

1. Voronezhskiy pedagogicheskiy institut.

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

L 11293-63 EWT(m)/EWP(q)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3001703 S/0126/63/015/005/0765/0772

54

AUTHOR: Savchenko, N. V. 52

TITLE: Effect of low-melting coatings on the mechanical properties of higher-melting metals after cyclic heat treatment

SOURCE: Fizika metallov i metallovedeniye, v. 15, no. 5, 1963, 765-772

TOPIC TAGS: Cu, Ni, Sn, Bi, Cd, Pb, Zn, brass, bronze, cyclic heat treatment, Rebinder effect, surface-active coating, low-melting coating, POS-40 alloy, deterioration of mechanical properties

ABSTRACT: L-62 brass wire, 1.5 and 4 mm in diameter, and copper, phosphorous-bronze, and NP-2 nickel wires, 1 mm in diameter, coated with a layer up to 0.4 mm thick of chemically pure Sn, Bi, Cd, Pb, Zn, or POS-40 alloy (40% Sn + 60% Pb), were subjected to up to 1000 rapid thermal cycles within the 100 to 200—1000C range and then tested for tensile strength and ductility. Results of the tests (see Table 1 of Enclosure) show that cyclic heat treatment lowers the strength and ductility of higher-melting metals coated with low-melting surface active metals or alloys. The effect is strongly dependent on both the

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ACCESSION NR: AP3001703

base and coating metals and previous mechanical and/or heat treatment of the base metal. The effect is increased with an increasing upper limit of the heating cycle and holding time and with decreasing specimen diameter. For instance, the strength and ductility of annealed (not prestrained) Sn-coated copper dropped by only about 5% even after 1000 cycles with an upper limit of 600 or 1000C, compared with respective drops of 13 and 44% in tensile strength and ductility of 15% prestrained copper after 50 cycles with an upper limit of 600C. Nickel behaves similarly. The mechanical properties of copper are not affected by Pb coating, but they are impaired appreciably by coating with the POS-40 alloy, Cd, Bi, Zn, and especially Sn. Mechanical properties of coated brass and bronze are not affected by thermal cycles with an upper limit below the melting temperature of the coating; nickel retains its mechanical properties with upper limits of the cycles up to 500C. Sn, Cd, or POS-alloy coatings at temperatures above their melting point sharply impair the mechanical properties of brass and bronze, while Pb, Bi, or Zn coatings have a negligible effect. At temperatures over 500C, bismuth coating sharply impairs the mechanical properties of nickel; lead exerts a much weaker effect; Sn, Cd, Zn, and POS-40 alloy coatings decrease the tensile strength and ductility by about 10 and 25%, respectively,

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after 1000 cycles with an upper limit of 800C. The duration of the contact between the coating and base metals during the application of the coating has a very strong effect. For example, copper and nickel repeatedly coated every five heating cycles (with an upper limit of 600C for copper and 800C for nickel) with Sn and Bi, respectively, fail after less than 100 cycles. Microscopic examination of the failed specimens revealed networks of surface cracks, which in some cases are formed after the very first thermal cycle. The accelerated deterioration of the mechanical properties of higher-melting metals resulting from cyclic heating of the latter in media containing strongly surface-active substances is caused by the loosening of the metal structure and by absorption, the mechanism of which is explained by the Rebinder effect. Orig. art. has: 1 table and 3 figures.

ASSOCIATION: Voronezhskiy gosudarstvenny*y pedagogicheskiy institut (Voronezh State Pedagogic Institute)

SUBMITTED: 22Sep62 DATE ACQ: 11Jul63 ENCL: 01

SUB CODE: ML NO REF SOV: 016 OTHER: 002

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"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.V.

Method of investigating the effect of low-melting coatings on the mechanical properties of steels under thermal cycling. Zav. lab. 29 no.10:1247-1248 '63. (MIRA 16:12)

1. Voronezhskiy gosudarstvennyy pedagogicheskiy institut.

APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6"

"APPROVED FOR RELEASE: 07/13/2001 CIA-RDP86-00513R001447310014-6

SAVCHENKO, N.V.

Metal-filled compressed wood is a new material for the machinery industry. Mashinostroitel' no.6:38 Je '64. (MIRA 17:8)

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