$$\frac{\ell' - \ell}{\ell} = \frac{2}{3} \frac{\lambda_0^2}{\ell^2} \qquad (4) \ .$$

In Fig. 1, λ_o is the initial sag in the absence of any field and $\Delta\lambda_H$ is the absolute change in this quantity on switching-on the saturation field, H . The sensitivity of the method is of the order of 10^{-7} for initial specimen lengths of 100 - 120 mm. The main advantages of the method are its high sensitivity and speed. The formula used for the calculations was applied by S.D. Gertsriken and one of the authors for creep tests. The method was used for studying the kinetics of changes in the magnetostriction of nickel, tempered at low temperatures after being hardened from 900, 1 000 and 1 100 $^{\circ}$C. The plots, Figs. 2 and 4, show the dependence of the saturation magnetostriction λ_s of nickel originally hardened from 900, 1 000 and 1 100 $^{\circ}$C, respectively,

Card 3/5

S/126/61/011/004/001/023

Change of the Magnetostriction ... E073/E335

on the time of tempering at a tempering temperature of 100 °C.
The obtained relations are explained on the basis of the
concept that germination of regions of remagnetisation occur
on semi-fixed ring-shaped dislocations which are produced
during hardening of nickel from low temperatures. On the
basis of experimental data, the energy parameters were deter-
mined which characterise the behaviour of defects in the
metal. There are 5 figures and 6 references: 2 Soviet and
4 non-Soviet.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of
Physics of Metals, AS Ukrainian SSR)

SUBMITTED: June 15, 1960

Card 4/5

Change of the Magnetostriction ..

S/126/61/011/004/001/023
E073/E335

Fig. 1:
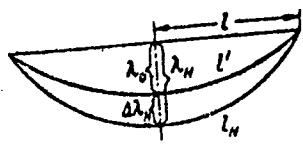
Fig. 2:
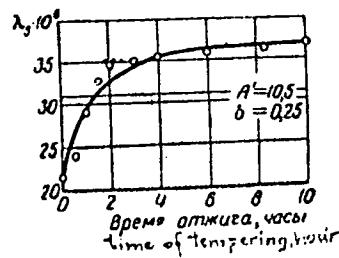
Fig. 4:
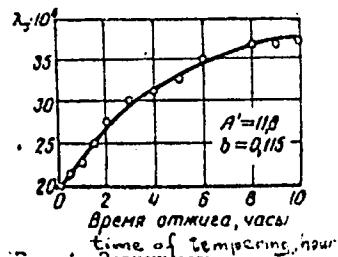
Card 5/5

27475
S/032/61/027/009/014/019
B101/B220

18.8200

AUTHORS: Dekhtyar, I. Ya., and Madatova, E. G.

TITLE: Exchange of experience

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 9, 1961, 1166

TEXT: A special apparatus was designed by the authors to study the
deformation of specimens caused by repeated quenching (see Fig.). Tube 3
of heat-resistant steel is inserted into furnace 1 and quenching tank 2;
specimen 4 is moved in this tube. The time of heating and cooling is
regulated by drum 5 which is mounted on the motor shaft. When the drum is
rotated, relay 6 reverses the direction of rotation of motor 7, on the
shaft of which disk 8 is fixed. A special arresting device stops the disk
after every individual rotation. Counter 9 records the number of cycles
of thermal treatment. The apparatus was used for studying the deformation
of aluminum, silver, gold, and platinum specimens on cyclic quenching in
vacuo. Vacuum oil was filled into tube 3 sealed at its bottom end;
furnace 1 and disk 8 were put into an evacuated vessel. Cyclic quenching

Card 1/2

Exchange of experience

27475
S/032/61/027/009/014/019
B101/B220

resulted in a change of the diameter and length of the specimens, but their volume remained practically constant. [Abstracter's note: Complete translation]. There is 1 figure.

ASSOCIATION: Institut metallofiziki Akademii nauk USSR (Institute of Physics of Metals, Academy of Sciences UkrSSR)

Fig. Scheme of the apparatus for cyclic thermal treatment
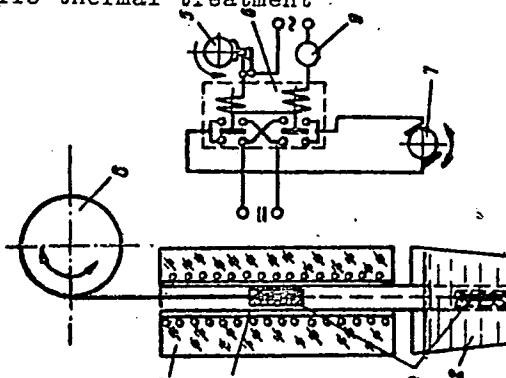
Card 2/2

S/659/62/008/000/004/028
I048/I248

AUTHORS: Dekhtyar, I.Ya, and Madatova, E.G.

TITLE: Behavior of defects in the crystalline structure during
heat treatment

SOURCE: Akademiya nauk SSSR. Institut metallurgii, Issledovaniya
po zharoprochnym splavam. v.8. 1962. 36-41

TEXT: The variations in coercive force (H_c) caused by cyclic heat
treatment of pure Fe, Fe-Al, and Fe-Si alloys were determined, and
the results were used to evaluate the behavior of, and interactions
between, defects in the crystalline structure. The metal specimens
were subjected to heating-cooling cycles, within the temperature
range below the Curie temperature; in all cases H_c increased with
increasing number of cycles and with increasing temperature of
heating. The mobility of metastable dislocations was insignificant
under the experimental conditions, but the number of dislocations
increased with each successive cycle and the accumulation of dis-
locations caused the increase in H_c. It is assumed that the thermal

Card 1/2

S/659/62/008/000/004/028
I048/I248

Behavior of defects in the crystalline...

stresses generated during the cycles were sufficient to cause the
appearance of Frank-Read sources which, being unable to move along
the slip planes, caused the formation of blocked dislocations. In
another series of experiments pure Ni, Ni+3%Mn, Ni+3%Mo, and Ni+3%
Cu specimens (in the form of a thin wire) were tempered at 900-
1100°C and then annealed for 20 hrs. at 100°C; H_c was measure during
the annealing, at one-hr. intervals. The H_c increased during the
annealing, from an initial value of about 5 oersted to 10 oersted
after 6 hrs. in the case of the specimens tempered at 900°C or to 13
oersted after 16 hrs. in case of those tempered at 1100°C. It is
assumed that the increase in H_c is caused by the action of disloca-
ion loops (generated by the interactions between blocked dislocat-
ions and clusters of vacancies) which interfere with the motion of
the domain boundaries; point vacancies, although being very mobile,
do not leave the crystal volume but accumulate of the defect sites.
There are 4 figures.

Card 2/2

S/601/62/000/016/009/029
E111/E451

AUTHORS: Dekhtyar, I.Ya., Madatova, E.G.

TITLE: Dilatometric investigations on nickel and silver,
          quenched from high temperatures

SOURCE: Akademiya nauk Ukrayins'koyi RSR. Instytut metalfyzyky.
           Sbornik nauchnykh rabot. no.16. Kiev, 1962. Voprosy
           fiziki metallov i metallovedeniya. 63-67

TEXT: Small dimensional changes were determined by measuring the
change in the deflection of a catenary of the test material in the
form of a foil 0.2 to 0.3 mm thick and 120 to 150 mm long.   This
enabled relative changes in volume of 10^{-5} to 10^{-6} to be determined.
The ends of the strip were attached to a bar of the test material,
which was either pure nickel, the foil being quenched from 900 to
1100°C, or pure silver, quenched from 700 to 900°C.   The foil
specimens were then annealed at a low temperature which left in
them only loops of fixed dislocations.   The volume changes
observed in the tests therefore corresponded to the elimination of
these loops.   The calculated density of the loops was
0.92×10^{-15}, 3.13×10^{-15} and 8.47×10^{-15} for nickel at 900,
1000 and 1100°C respectively, the corresponding calculated loop
Card 1/2

Dilatometric investigations ...

S/601/62/000/016/009/029
E111/E451

diameters being 1120, 1090 and 880 Å; corresponding values for silver were 1.51, 3.88 and 5.5 x 10^{-16} at temperatures of 700, 800 and 900°C with loop diameters of 1770, 1470 and 1280 Å. There are 2 tables.

SUBMITTED: January 5, 1962

Card 2/2

S/810/62/000/000/002/013

AUTHORS: Dekhtyar, I. Ya., Madatova, E. G.

TITLE: Effect of cyclic heat treatments on the volumetric properties of metals and alloys.

SOURCE: Metallovedeniye i termicheskaya obrabotka; materialy konferentsii po metallovedeniyu i termicheskoy obrabotke, sost. v g. Odesse v 1960 g. Moscow, Metallurgizdat, 1962, 29-34.

TEXT: The paper describes an experimental investigation of the mechanism of elongation of a metallic body in one direction and contraction in another direction upon multiple high-temperature quenching. More specifically, the investigation comprised: (a) The effect of multiple quench (MQ) on the volumetric changes of metals, and (b) the effect of MQ on the decomposition rate (DR) of supersaturated solid solutions (SSS). Effect of MQ on volume changes: Wire specimens 0.5-0.9 mm diam and strip 4 mm wide and 0.1-0.2 mm thick were employed. Specimen length: 100-150 mm. Pure (99.99%) metals, namely, Ag, Au, Pt, and 50-50 alloys of Cu and Au, a brass, and $\alpha+\beta$ brass, were tested. Quench (Q) temperatures (T) 500-1,000°C. For a given number of T cycles (e. g., 1,000) the empirical elongation equation, $\epsilon = A \exp(-U/kT)$, appears valid (A and U are certain material-

Card 1/3

dependent constants). The macrodeformation thus obtained appears to be the sum-mation or accumulation of the microdeformations derived from each single T cycle, which may be attributable to an excess concentration of vacancies obtained after each Q and the character of their motion as a result of interaction with dislocations. It is found that the value of the constant U is indeed close to that of the energy of vacancy formation. Effect of MQ on the DR of SSS: Several Ag- and Cu-based alloys with various admixtures were prepared. Photos and test-data graphs are shown for an Ag-Cu alloy containing 6 wt. % Cu. This alloy was qualitatively representative of others tested. A single Q produced intense grain growth, thicken-ing of grain boundaries, and appearance of porosity. The T and time dependence of hardness (H) is taken as a representative characteristic, and it is found that MQ specimens attain their H maximum upon a change in anneal T more rapidly than a SQ specimen, even though the value of the maximum H is lower than in the SQ spe-cimen, a phenomenon that indicates an acceleration of the decomposition (D) of the SSS and also an acceleration of the process of coagulation of the precipitating parti-cles of the new phase. X-ray-diffraction studies, in agreement with microstructural and H investigations, show that during the aging of a specimen the second phase appears much more rapidly in MQ specimens than in SQ specimens. In summary, the effect of MQ on the volumetric changes in Ag, Au, and Pt point to the conclusion that in slender specimens MQ leads to a considerable dislocation density, attended

Card 2/3

Effect of cyclic heat treatments on the volumetric ...   S/810/62/000/000/00&/013

by great internal stresses in the solid-solution crystals, and since the D of the solid solutions is a diffusion process, the presence of internal stresses must afford an acceleration of the D process as observed in the present investigation. There is no detailed theory of the D of SSS on the basis of dislocation concepts at this time. Further investigations and accumulation of additional data are required to clarify the function of dislocations and other defects of the crystalline structure in the process of the D of the SSS.   There are 7 figures and 2 Russian-language Soviet references.

ASSOCIATION: Institut metallofiziki, AN SSSR. (Institute of Metals Physics, Academy of Sciences, USSR).

Card 3/3

S/048/62/026/002/0?3.0??
B106/B'12

AUTHORS: Dekhtyar, I. Ya., and Madatova, E. G.

TITLE: Change of coercive force on tempering of hardened nickel

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya.
              v. 26, no. 2, 1962, 270-273

TEXT: The connection between magnetic (domain) and dislocation structure
of ferromagnetics was investigated. For this purpose the authors studied
the change in coercive force H_c on low temperature tempering of pure
nickel which has been hardened by quenching from 900, 1000, 1100°C   The
specimens were 70 mm long and 0.4 mm thick wires   After hardening they
were tempered at 100°C for 18 hrs. H_c was measured every hour (Fig   )
Calculation of the coercive force as depending on the time of low
temperature tempering was in good agreement with the experiments
According to I. Ya. Dekhtyar and E. G. Madatova (Ref 1: Izv. vyssh.
uchebn zaved. Fizika, no. 1, 63 (1961)), the coercive force becomes
practically stable after sufficiently long tempering at 100°C of high

Card 1/4

Change of coercive force on...

S/048/62/026/002.0 9.072
B106/B112

temperature hardened nickel. This behavior occurs as soon as practical all existing point defects have migrated to the periphery of the prismatic deformation loops and the regions of remagnetization are growing no longer. Nickel specimens in this state were subsequently tempered at high temperature (700°C) until H_c became equal to H_o. Coercive force was measured every now and then during the tempering (Fig. 1). It increased exponentially with proceeding time of tempering according to the law $H_c = H_o + \Delta H_m \exp(-\alpha t)$. The change in free energy of the system was considered taking into account the kinetics of formation and growth of nuclei of the "excess" phase. "Excess" phase are the loops of prismatic dislocations which after long low temperature tempering reach certain dimensions. The equations

$$ dr/dt = -D(T)\left[\frac{1}{r} - \frac{1}{r_{cr}}\right] $$

for the rate of coalescence of the dislocation loops (Ref. 5, 9th ...

and $H_c(\omega_i^*) = c_3 \pi d_1 N_s <\omega_i^*>^2 \bar{r}^2/L^3 I_s$ for the dependence of the coercive ...

Card 2/4

Change of coercive force on...

S/048/62/026/002/019/032
B106/B112

on the size of the dislocation loops (Ref. 1) were made the starting points. r - size of the dislocation loops, r_{cr} - critical size at the respective temperature of experiment (dislocation loop with $r \sim r_{cr}$ vanish, loops with $r > r_{cr}$ will grow); $D(T)$ - function depending on temperature in the same way as the rate of autodiffusion, T - temperature of tempering, ρ_1 - density of magnetic poles on the surface of the separation "plate", d_1 - thickness of the "plate" (in the case in question nearly equal to the vacancy diameter d_v), N_s - number of dislocation loops in a crystal of size L, $\bar{r}$ - mean size of the loops, I_s - saturation magnetization. The calculations yielded $\Delta H_{max} = A r_0 n_{s_0}$, where $A = c_3 \pi d_1 \rho_1^2 / L^3 I_s$;

$n_{s_0} = n_s \exp(\beta t)$; $n_s = 2 \pi \bar{r} N_s / d_v$; $r_0 = \bar{r} \exp(\gamma t)$. This expression means that the maximum change in coercive force on tempering is determined by the maximum radius of the loops with $r < r_{cr}$ and by the initial number of

Card 3/4

Change of coercive force on...

S/048/62/026/002/019/032
B106/B112

all existing flows on the loops of the prismatic dislocations. There are
3 figures and 7 references: 2 Soviet and 5 non-Soviet. The three most
recent references to English-language publications read as follows:
Kimura H., Maddin R., Kuhlman-Wilsdorf D., Acta metallurgica, $\underline{7}$, no. 3,
145 (1959); Ref. 6: Silcox J., Whelan M. J., Philos. Mag., $\underline{5}$, no. 49, 1
(1960); Johnson C. A., Philos. Mag., $\underline{5}$, no. 60, 1255 (1960).

Fig. 1. Dependence
of coercive force of Ni
on glowing time.

Legend: (1) glowing at
100°C; (2) glowing at
700°C; (3) hrs; (4) min.
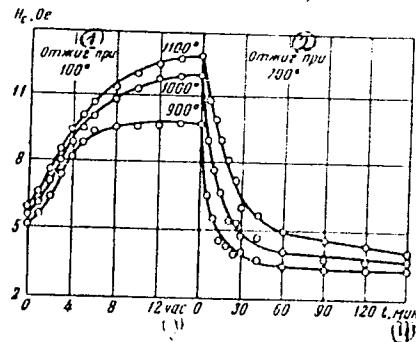
Card 4/4

DEKHTYAR, I.Ya.; MADATOVA, E.G.

Behavior of defects in crystal structures during heat treatment.
Issl.po zharopr.splav. 8:36-41 '62.   (MIRA 16:6)
        (Metal crystal—Defects)   (Annealing of metals)

DEKHTYAR, I.Ya.; MADATOVA, E.G.

Changes in the coercive force during high-temperature annealing of
hardening nickel. Sbor. nauch. rab. Inst. metallofiz. AN URSR no.15:
123-130 '62.   (MIRA 15:12)
         (Nickel—Magnetic properties) (Metals, Effect of temperature on)

DEKHTYAR, I.Ya.; MADATOVA, E.G.

Dilatometry of nickel and silver hardened at high temperatures.
Sbor. nauch. rab. Inst.metallofiz. AN URSR no.16:63-67 '62.
(MIRA 16:5)
(Nickel--Hardening) (Silver--Hardening) (Dilatometry)

DEKHTYAR, I.Ya.; MADATOVA, E.G.

Studying the rate of remagnetization during the repeated hardening
of iron-silicon alloys. Sbor. nauch. rab. Inst.metallofiz. AN URSR
no.16:68-70 '62.   (MIRA 16:5)
          (Iron-silicon alloys—Hardening) (Magnetization)

ACCESSION NR: AT4010696   ·8/2601/63/000/017/0120/0131

AUTHOR: Borisova, V. I.; Dekhtyar, I. Ya.; Madatova, E. G.; Mikhalenkov, V. S.; Fedchenko, R. G.; Khazanov, M. S.

TITLE: Investigation of the effects of nonstationary heating on the changes in magnetic and electrical properties of heat-resistant alloy ZhS-6K

TOPIC TAGS: alloy ZhS-6K, paramagnetic susceptibility, surface electrical resistance, heat treatment, phase transformation, eddy current, heat resistance, magnetism, alloy electrical property, heat resistant alloy

ABSTRACT: Application of new methods to the physical investigation of the phase and structural changes occurring during cyclic heat treatment of heat-resistant materials is very important. One of the methods used in this study is that of paramagnetic suscepti- bility, by means of which it is possible to determine the interrelationship between struc- tural changes and the states of phases, whether these changes are successive or simultan- eous, and to what extent they occur during the process of thermal fatigue. In addition to the above methods the following were also used: changes in thermal rigidity and
Card 1/3

ACCESSION NR: AT4010696

electrical resistance, form changes, and measurement of the surface electrical resis-
tance with determination of losses due to eddy currents. The first task was the investi-
gation of the effects of thermal stress on form changes and hardness of samples of the
alloy subjected to cyclic heat treatment. The results obtained showed that the linear
dimensions of alloys with high recrystallization temperatures did not change appreciably
as a result of thermal cycles. It is interesting to note that after 250 thermocycles with
cooling in water, breakage occurred without noticeable change in the length of the samples.
Thermal rigidity of samples was measured in a standard VIM-1M apparatus. It was
found that the changes in hardness resulting from thermal treatment depend not on ther-
mal stresses but on changes in the fine crystalline structure of the alloys. The dependence
of the electrical resistance of the alloy on heat changes during thermal treatment was
studied by the potentiometric method using a standard PPTN bridge. It was found that
resistance decreases up to 50 thermocycles. The absolute minimum occurs at about
325 cycles after which there is a continuous increase up to 600 cycles. The study of
paramagnetic susceptibility showed that during heat treatment there was a continuous
decrease in the hard solution of the matrix due to the alloying components. This process
should cause a decrease in electrical resistance. The sharp increase after 325 cycles is

Card 2/3

ACCESSION NR: AT4010696

difficult to explain. For the exact explanation of the process involved it is necessary to employ new methods using structural sensitivity characteristics and phase composition. The study of paramagnetic susceptibility demands a thorough study of structural and phase changes occurring during cyclic heat treatment. For measurements of susceptibility a special unit was designed which utilized the compensatory method of measurement. The following conclusions were reached: cyclic heat treatment, with cooling in a stream of air, of thin samples 3 mm in diameter merely leads to acceleration of the aging process. With samples of complicated form a considerable stress gradient developed during heat treatment leading to an unbalanced redistribution of elements. Under these conditions the appearance of cracks is more probable. The study of paramagnetic susceptibility of the alloy showed that for 3mm samples susceptibility increases evenly. No anomalies were observed, a fact which is explained by the almost total absence of a gradient of thermal stresses during cooling. Orig. art. has 5 formulas, 7 figures, and 1 table.

ASSOCIATION: Insty*tut metalofizy*ky* AN UkrRSR (Institute of the Metallurgical Physics of Metals AN Ukr RSR)

SUBMITTED: 00

DATE ACQ: 31Jan 64

ENCL: 00

SUB CODE: MM

NO REF SOV: 001

OTHER: 002

Card 3/3

L 22506-65   EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b)   Pf-4/Pad/   ASD(a)-5/ASD(m)-3/
AS(mp)-2/IJP(c)   JD/JW/HW/MLK

ACCESSION NR: AT4046815   S/0000/64/000/000/0050/0053

AUTHOR: Dekhtyar, I.Ya. ; Madatova, E.G.

TITLE: The effect of cyclic heating on the irreversible deformation of pure metals

SOURCE: AN SSSR. Nauchny*y sovet po probleme zharoprochny*kh splavov. Issledevoniya
staley i splavov (Studies on steels and alloys). Moscow, Izd-vo Nauka, 1964, 50-53

TOPIC TAGS: metal deformation, thermocyclic treatment, bending stress, irreversible
deformation, nickel wire deformation, hardening temperature, nickel electrical resistance,
activation energy

ABSTRACT: The deformation of metals during variable heat treatment was investigated on
both bulky and thin wire samples. Available data for various metals show that, with a
constant number of thermocycles, the relative change in length is little affected by sample
diameter, and for bulky samples does not exceed the value obtained for very thin samples
from electrical resistance measurements. Thermocyclic treatment data were obtained
for nickel from measurements of the change in deflection of a nickel wire fastened between
2 points connected to electrodes. The dependence of the change in deflection on the number
of thermocycles and the hardening temperature was shown, and the vacancy formation
energy E_V was determined. With equal hardening conditions, the relative change in length

Card   1/2

L 22506-65
ACCESSION NR: AT4046815

for a fixed wire is significantly greater than for a free sample. The interaction of vacan-
cies with dislocations causes deformation which is accumulated during repeated heating and
cooling cycles. The functional bond between plastic deformation and thermal hardening
acquires a more general character when the data for wire samples are examined. During
thermocyclic treatment, the laws of deformation indicate the essential role of vacancies
which, by reacting with dislocations, determine the mechanism of the investigated process.
Continuous references are made to the work and conclusions of earlier published papers.
Orig. art. has: 1 table, 3 figures and 4 formulas.

ASSOCIATION: None

SUBMITTED: 16Jun64   ENCL: 00   SUB CODE: MM

NO REF SOV: 014   ·OTHER: 003

Cat'd   2/2

L 34108-65   EWT(m)/T/EWP(t)/EWP(b)/EWA(c)   Pad   IJP(c)   JD/JW/HW
ACCESSION NR: AT5005116   S/2601/64/000/019/0074/0078

AUTHOR: Dekhtyar, I. Ya. (Doctor of technical sciences); Madatova, E.G.

TITLE: Comments on the irreversible change in form of pure metals during cyclic heat treatment

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 19, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 74-78

TOPIC TAGS: vacancy, hardening temperature, heating cooling cycle, nickel wire, plastic deformation, annihilation, dislocation, elongation, cyclic heat treatment, annealing

ABSTRACT: Based on an investigation of the irreversible deformation of thin wire rods, the authors contend that vacancies, the effectiveness of which increases with the hardening temperature and the number of heating - cooling cycles, are a major factor in the mechanism of the processes that occur during cyclic annealing. These findings coincide with those of Takamura (Acta met., 1961, 9, 547). Experimental data for different metals show that in applying an invariable number of

Card 1/4

L 34108-65

ACCESSION NR: AT5005116

heating - cooling cycles, the diameter of the specimens affects elongation. Bending defelction measurements of Ni wire specimens attached at both ends showed that, under similar hardening conditions, the relative changes in elongation exceed those of unattached specimens considerably, a fact attributed to the difference in the character of thermal stresses. The functional relationship between plastic deformation and hardening temperatures (see Figs. 1 and 2 of the Enclosure) is of a general nature in the case of wire rods. The excess concentration of vacancies, which form under the influence of high-temperature quenching, undergoes annihilation during the interaction with dislocations. The probability of vacancy formation and that of annihilation on dislocations are not equal since the former is determined by the energy of vacancy formation and the latter by the activation energy of displacement. The authors conclude that the mechanism of the process is determined by the interaction between vacancies and dislocations which causes incremented deformation under the influence of repeated heating - cooling cycles. Orig. art. has: 3 figures, 1 table and 4 formulas.

ASSOCIATION: Institut metallofiziki AN Ukr.SSR (Metal physics institute, AN Ukr.SSR)

SUBMITTED: 20Jun63   ENCL: 02   SUB CODE: MM
NO REF SOV: 014   OTHER: 003
Card   2/4

L 34108-65
ACCESSION NR: AT5005116   ENCLOSURE: 01
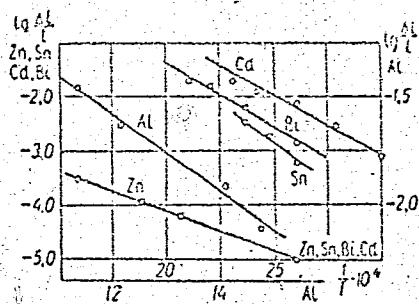
Figure 1. Temperature versus elongation in pure metal specimens after 200 heating - cooling cycles.

Card   3/4
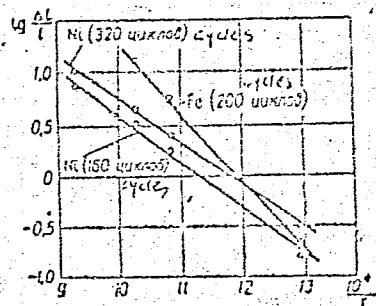
Figure 2. Temperature versus elongation in Fe and Ni specimens.

Card   4/4

L 44715-65   EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWA(c)/EWP(b)   MJW/JD

ACCESSION NR: AT5008873

S/2601/64/000/020/0088/0093

AUTHOR: Borisova, V.I.; Madatova, E.G.

TITLE: Effect of cyclic heat treatment and plastic deformation on the magnetic properties of permalloy

SOURCE: AN UkrSSR. Institut metallofiziki. Sbornik nauchnykh trudov, no. 20, 1964. Voprosy fiziki metallov i metallovedeniya (Problems in the physics of metals and physical metallurgy), 88-93

TOPIC TAGS: permalloy magnetic property, permalloy heat treatment, plastic deformation, permalloy structure, coercive force, alloy magnetization, magnetic permeability

ABSTRACT: The article discusses the effect of cyclic heat treatment (repeated quenching in water from high temperatures) and plastic deformation by torsion on the magnetic properties of permalloy-80. Magnetization curves of the annealed samples were recorded, and the coercive force H_c was measured by the ballistic method. After these tests, the samples were subjected to cyclic heat treatment in the presence and absence of a magnetic field. The latter was found to have no appreciable effect on H_c. The cyclic heat treatment had no effect on the magnetization and initial and maximum permeability

Card 1/2

L 44715-65

ACCESSION NR: AT5008873

of the permalloy, while the residual magnetization changed by only 10%. The effect of plastic deformation by torsion (0, 6, 18, and 60%) on the magnetization, initial permeability, maximum permeability, residual magnetization, and coercive force was studied. The data show that the magnetic characteristics of permalloy-80 are much less sensitive to the presence of crystal structure defects than are those of pure nickel, and hence, a greater stability of these characteristics can be expected in materials of this type. Orig. art. has: 3 figures, 1 table, and 3 formulas.

ASSOCIATION: Institut metallofiziki AN UkrSSR (Institute of the Physics of Metals, AN UkrSSR)

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

NO REF SOV: 004   OTHER: 004

Card 2/2

L 34099-66   EWT(m)/EWP(w)/T/EWP(t)/ETI   IJP(c)   JD/HW/GD

ACC NR: AT6013830   SOURCE CODE: UR/0000/65/000/000/0035/0043

AUTHOR: Borisova, V. I.; Dekhtyar, I. Ya.; Madatova, E. G.

ORG: Institute of Metal Physics, AN UkrSSR (Institut metallofiziki AN UkrSSR)

TITLE: Change of the magnetic properties of nickel during cyclic thermomagnetic treatment

SOURCE: AN UkrSSR. Issledovaniye nesovershenstv kristallicheskogo stroyeniya (Study of imperfections in crystal structure). Kiev, Naukova dumka, 1965, 35-43

TOPIC TAGS: nickel, thermomagnetic effect, magnetostriction, thermal stress, magnetization, magnetic permeability, magnetic coercive force

ABSTRACT: The effect of cyclic thermal treatment in a magnetic field on the coercive force, magnetization, and magnetic permeability of nickel was studied for the first time. Vacuum-remelted nickel specimens were vacuum-annealed for 4 hr at 900C to relieve the stresses, then subjected to cyclic thermal treatment (repeated quenchings) at 250—1100C both in the absence of a magnetic field and in the presence of a longitudinal or transverse magnetic field. A 25—30% reduction in the increase of the coercive force was observed after cyclic thermal treatment in the longitudinal field as compared to the same treatment in the absence of a field. A sharp reduction of this kind was also observed in the transverse field. Cyclic thermal treatment was found to cause a decrease in the magnetization and permeability of nickel. thi

Card 1/2

L   34099-66

ACC NR: AT6013830

being directly related to the data on the reduction in the increase of the coercive force. The
effects observed are interpreted in terms of the general aspects of the theory of thermo-
magnetic treatment. The combined action of magnetostrictive and thermal stresses during
the quenching of nickel from temperatures above the Curie point causes a decrease in the
number of dislocation sources, and this in turn results in a smaller increase of the coercive
force. Orig. art. has: 4 figures, 3 tables, and 5 formulas.

SUB CODE: 11   / SUBM DATE: 23Jul64 / ORIG REF: 006 / OTH REF: 008

Card   2/2   vmb

GAMBARYAN, L.S.; MADATOVA, I.R.

> Paths of interaction of the cerebral hemispheres in the case
> of complete section of the corpus callosum. Dokl. AN Arm. SSR
> 32 no.4:219-223 '61.   (MIRA 14:8)
>
> 1. Sektor radiobiologii Akademii nauk Armyanskoy SSR, Pred-
> stavleno akademikom AN Armyanskoy SSR L.A. Oganesyanom.
>   (BRAIN)

MADATOVA, I. R.

Role of the corpus callosum in the mechanisms of interaction between the cerebral hemispheres. Izv. AN Arm. SSR. Biol. nauki 15 no.4:67-71 Ap '62.   (MIRA 15:7)

1. Fiziologicheskaya laboratoriya Sektora radiobiologii AN Armyanskoy SSR i fiziologicheskaya laboratoriya Nauchno-issledo- vatel'skogo instituta akusherstva i ginekologii Ministerstva zdravookhraneniya Armyanskoy SSR.

(BRAIN)

GAMBARYAN, L.S.; MADATOVA, I.R.

Interaction between the cerebral hemispheres of the brain
following total resection of the corpus callosum. Fiziol.
zhur. 48 no.4:422-427 Ap '62.   (MIRA 15:6)

1. From the Physiological Group, Radiobiological Section,
Armenian S.S.R. Academy of Sciences, Erevan.
                        (BRAIN)

KARNAUKHOVA, Ye.S., doktor ekonom. nauk; BRAGINSKIY, B.I., doktor ekonom.
nauk; MASHENKOV, V.F.; POZDNYAKOV, V.N., kand. ekonom. nauk;
ALTAYSKIY, I.P., kandidat ekonomicheskikh nauk; MADATYAN,
A.I., nauchnyy sotr.; OBOLENSKIY, K.P., red.; PANIN, N.S., red.;
DMITRASHKO, E.I., mladshiy red.; PONOMAREVA, A.A., tekhn. red.

[Methods for measuring, analyzing and planning labor productivity
on collective and state farms] Metody izmereniia, analiza i pla-
nirovaniia proizvoditel'nosti truda v kolkhozakh i sovkhozakh.
Moskva, Ekonomizdat, 1963. 211 p.   (MIRA 16:7)

1. Institut ekonomiki AN SSSR (for Madatyan).
        (Agriculture--Labor productivity)

9.3150 (1077
       (1190
       (1141)

83620
S/022/60/013/004/004/004
C111/C222

AUTHORS: Rezikyan, A.M., Agbalyan, Yu.G., and Madatyan, K.A.

TITLE: Gas-Discharge Stabilizer

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1960, Vol.13, No.4, pp.65-68.

TEXT: The direct-current stabilizer described in (ref.1) consists of a gas-discharge tube being within a solenoid which is series-connected with the discharge interval. The axis of the tube is parallel to the magnetic lines of force. In the discharge interval the anode-cathode charges move on spirals, i.e. they have a tangential component of velocity. Under the influence of them the gas begins to rotate in the tube. For an increase of the discharge current, the magnetic field increases, the trajectory of the charge strains in, the length of the spirals and therewith the resistance of the interval become greater, the current decreases.

In the present paper the authors report on the measurement of the stabilizing coefficient. It is stated that it depends on the magnetic field and that it reaches a maximum for a certain field intensity. The coefficient is smaller than 3. The measurements confirm (in spite of

Card 1/2

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Gas-Discharge Stabilizer

some deviations) the theory developed in (Ref.1). The velocity of
rotation of the gas in the tube and its Reynolds number were not
determined. Hydrogen and argon were used as gases; here the results
differed only by the fact that in the case of hydrogen the
stabilization began for a somewhat greater voltage.
There are 3 figures, 1 table and 2 references: 1 1 Soviet and English.

ASSOCIATION: Institut fiziki AN Armyanskoy SSR (Institute of Physics
               of the Academy of Sciences Armyanskaya SSR)

SUBMITTED: September 2, 1959

Card 2/2

L 23841-65   EWT(d)/EWP(o)/EWA(d)/EWP(v)/T/EWP(k)/EWP(h)/EWP(l)   Pf-4
ACCESSION NR: AP4049478   S/0020/64/159/002/0290/0293

AUTHOR: Madatyan, Kh. A.

TITLE: The synthesis of a system for correcting the opening of contacts

SOURCE: AN SSSR, Doklady*, v. 159, no. 2, 1964, 290-293

TOPIC TAGS: automation theory, self correcting device, error correction, switching
theory, control system

ABSTRACT: The paper derives some symptotic estimates of functions previously defined
by Shannon in his theory of error correction codes. Suppose that a switching network has
a self-correction system where the source of error in the network is the momentary
closing of one or more contacts. Let $L(\Sigma)$ denote the number of contacts in the system,
$L_p^m(f) = \inf L(\Sigma)$, where the inf is taken over all self-correcting systems for opening m
contacts, realizing a contact connection f. Let $L_p^m(n) = \max L_p^m(f)$, where the maximum
runs over all functions f dependent on the Boolean variables $x_1, \ldots, x_n$. Then the following
results are derived:
Theorem 1: $L_p^1(n) \sim 2^n/n$ as $n \to \infty$. Theorem 2: $L_p^m(n) \lesssim (\frac{m+1}{2}) \frac{2^n}{n}$ as $n \to \infty$,
Orig. art. has: 3 figures, 1 table, and 2 formulas.

Card 1/2

L 23841-65
ACCESSION NR: AP4049478

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova
(Moscow State University)

SUBMITTED: 18May64   ENCL: 00   SUB CODE: DP, IE

NO REF SOV: 003   OTHER: 002

Card 2/2

MADATYAN, Kh.A. (Moskva)

    Synthesis of contact schemes of limited width. Probl.
kib. no.14:301-307 '65.   (MIRA 18:1)

    1. Submitted July 2, 1964.

MADATYAN, S.A., inzh.

Device for checking the extent of pretensioning in the bar rein-
forcement of prestressed reinforced concrete products. Bet. i
zhel.-bet. no.12:494-496 D '57.   (MIRA 11:1)
                          (Prestressed concrete)

LEVI, S.S., kand. tekhn. nauk; MADATYAN, S.A., inzh.; FINKINSHTEYN, B.A., inzh., red.

[Tensioning reinforcement by an electrothermal method in the manufacture of prestressed-concrete elements] Natiazhenie armatury elektrotermicheskim sposobom pri izgotovlenii predvoritel'no napriazhennykh zhelezobetonnykh konstruktsii. Moskva, 1959.
(MIRA 14:7)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
2. Laboratoriya betonnykh i zhelezobetonnykh rabot Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR (for Levi). 3. Laboratoriya tekhnologii izgotovleniya predvaritel'no napryazhennykh zhelezobetonnykh konstruktsiy Nauchno-issledovatel'skogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR (for Madatyan).
(Prestressed concrete)

GVOZDEV, A.A., prof., doktor tekhn.nauk; DMITRIYEV, S.A., kand.tekhn. nauk;MULIN, N.M., kand.tekhn.nauk; BALDIN, V.A., kand.tekhn. nauk; BRODSKIY, A.Ya., kand.tekhn.nauk; SOKOLOVSKIY, P.I., kand.tekhn.nauk; FRIDMAN, A.M., mladshiy nauchnyy sotrudnik. Prinimal uchastiye MADATYAN, S.A., mladshiy nauchnyy sotrudnik. KLIMOVA, G.D., red.izd-va; NAUMOVA, G.D., tekhn.red.

[Instructions for using hot-rolled ribbed 30KhG2S steel re-inforcements in making prestressed reinforced-concrete con-struction elements] Ukazaniia po primeneniiu goriachekatanoi armatury periodicheskogo profilia iz stali marki 30KhG2S v pred-varitel'no napriazhennykh zhelezobetonnykh konstruktsiiakh. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1960. 21 p.
(MIRA 14:1)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut betona i zhelezobetona, Perovo. 2. Nauchno-issledovatel'skiy institut betona i zhelezobetona (for Gvozdev, Dmitriyev, Mulin). 3. Deystvi-tel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Gvozdev). 4. Laboratoriya metallicheskikh konstruktsiy TSentral'nogo nauchno-issledovatel'skogo instituta stroitel'nykh konstruktsiy (for Baldin, Brodskiy, Sokolovskiy, Fridman). 5. Chlen-korrespondent Akademii stroitel'stva i arkhitektury SSSR (for Baldin). 6. Nauchno-issledovatel'skiy institut organizatsii, mekhanizatsii i tekhni-cheskoy pomoshchi stroitel'stvu (for Madatyan).
    (Prestressed concrete)   (Reinforcing bars)

MADATYAN, S.A., inzh.

Effect of the electric heating on properties of hot-rolled
30XG2S steel reinforcements. Bet. i zhel.-bet. no.10:454-458
O '60.   (MIRA 13:10)
            (Electric heating) (Steel, Structural)

MADATYAN, S.A., inzh.

Using electric heating in stretching rod reinforcements of girders.
Prom. stroi. 38 no.11:45-48 '60.   (MIRA 13:10)
          (Electric heating)   (Girders)

MADATYAN, S.A., inzh.

Effect of electric heating on properties of hot-rolled 35GS reinforce-
ment steel strengthened by stretching. Bet. i zhel.-bet. 8 no.2:
56-59 F '62.   (MIRA 16:5)
                            (Concrete reinforcement--Testing)

YERUKHIMOVICH, P.L., kand. tekhn.nauk; MADATYAN, S.A., inzh.;
    KLIMOVA, G.D., red.; SHEVCHENKO, T.N., tekhn. red.

    [Instructions on the techniques of prestressing rod, wire,
    and strand reinforcement of reinforced-concrete elements by
    electrothermal and electro-mechanical methods]Instruktsiia
    po tekhnologii redvaritel'nogo napriazheniia sterzhnevoi,
    provolochnoi i priadevoi armatury zhelezobetonnykh kon-
    struktsii elektrotermicheskim i elektromekhanicheskim spo-
    sobami. Moskva, Gosstroiizdat, 1962. 115 p. (MIRA 15:8)

    1. Akademiya stroitel'stva i arkhitektury SSSR. Institut be-
    tona i zhelezobetona, Perovo.
            (Concrete reinforcement)

LEVI, S.S., kand. tekhn.nauk; RATNER, N.A., inzh.; KOPLEVICH, L.Kh.,
    inzh.; MADATYAN, S.A., inzh.; DOROFEYEV, A.K., inzh.
    D'YACHENKO, P.Ya., inzh.; KLIMOVA, G.D., red. izd-va;
    MOCHALINA, Z.S., tekhn. red.

[Instructions N9-61 on reinforcing techniques in industrial
and public construction] Ukazaniia po tekhnologii proizvodstva
armaturnykh rabot v promyshlennom i grazhdanskom stroitel'stve
(N9-61). Moskva, Gostroiizdat, 1962. 319 p.   (MIRA 15:7)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut orga-
nizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu.
    (Concrete reinforcement) (Precast concrete)

UTROBIN, L.P.; MADATYAN, S.A.; BELOV, A.A.

Using temporary terminal anchors of the "upset bolt" type
for reinforcement made of 30KHG2S grade steel. Bet. i zhel.-bet.
8 no.8:358-359 Ag '62.   (MIRA 15:9)

1. Direktor zavoda zhelezobetonnykh izdeliy No.5
(for Utrobin). 2. Glavnyy inzhener sektora armatury
Nauchno-issledovatel'skogo instituta betona i zhelezobetona
Akademii stroitel'stva i arkhitektury SSSR (for Madatyan).
3. Zamestitel' nachal'nika Proizvodstvenno-tekhnicheskogo
otdeleniya zavoda zhelezobetonnykh izdeliy No.5 (for Belov).
                (Concrete reinforcement)

L 15030-65   ENT(m)/EWP(w)/EWA(d)/EWP(t)/EWP(b)   AFWL/SSD   EM/JD

ACCESSION NR: AP5001630   S/0097/64/000/010/0437/0441

AUTHOR: Madatyan, S. A. (Candidate of technical sciences)   C

TITLE: Stress changes in high strength reinforcing rod steel stressed by the electrothermal method

SOURCE: Beton i zhelezo-beton, no. 10, 1964, 437-441

TOPIC TAGS: low alloy steel, stress measurement, electrothermal stress, high strength metal, reinforcing rod steel

Abstract: When the electrothermal stress method is used with class A-IV reinforcing rod steel, the actual prestress value is lower than the calculated value. This is explained by the fact that in calculation, no account is taken of the true modulus of deformation of the steel nor of stress relaxations at high temperatures. In order to obtain the required prestress value using the electrothermal method, it is recommended that elongation of the reinforcement be according to the formulas:

$$\Delta L_0 = \frac{\sigma_0 + P}{E \frac{H}{a}} \cdot L_y \qquad (1)$$

Card 1/3

L 15030-65
ACCESSION NR: AP5001630

where P is the maximum deviation from the predetermined preliminary stress σ_o, associated with the technological tolerances;

E_2^H is the normative modulus of elasticity, taken as equal to $2 \cdot 10^4$ kg/mm^2;

L_y is the distance between the outer edges of the supports on the forms, bottom plates and stands.

$$K = 1 + 0.025 \cdot 2^{(0.1 \sigma_o - 2)} \tag{2}$$

for low alloy steel grades 20KhG2Ts, 20KhGST and 30KhG2S [Cr, 2Mn, Zr; Cr, Mn, Si, Ti; Cr, 2Mn, Si] within stress limits from 30 to 60 kg/mm^2 and

$$K = 1 + 0.01 \cdot 4^{(0.1 \sigma_o - 4)} \tag{3}$$

for 80S and 65GS steel, where K is the multiplier for formula (1) and σ_o is the calculated value for the prestressing in kg/mm^2. The stress relaxation in high strength reinforcing rod steel after stressing by the electrothermal method to a value on the order of 0.8-0.9 R_a^H does not exceed 3% of the value of σ_o. Orig. art. has 4 figures and 2 tables.

Card 2/3

L 15030-65
ACCESSION NR: AP5001630

ASSOCIATION: none

SUBMITTED: 0

NO REF SOV: 06

ENCL: 00

OTHER: 000

SUB CODE: MM, AS

JPRS

Card 3/3

MADAT-ZADE, A. A.

Madat-Zade, A. A.

Basic Types of Synoptical Processes over the Caspian Sea. Izvestiya of the Academy of Sciences, Azerbaydzhan SSR (Department of Geological and Chemical Sciences and Oil), Issue 1, No. 2. 1947 (96-108).

U2392, 22 September 1952

1. MADATZADE, A. A.

2. USSR (60C)

"Storms in the Southern Part of the Caspian Sea." Trudy instituta geografii AN asertaydshsnskov SSR, Volume 1, 1948 (3-70)

9. Meteorologiya i Gidrologiya, No. 3, 1949.
    Report U-2651, 30 Oct 52.

MADAT-ZADE, A.A., kandidat fiziko-matematicheskikh nauk.

Lake Gey-Gel'. Priroda 42 no.9:104-106 S '53.   (MLRA 6:8)

1. Institut geografii Akademii nauk Azerbaydzhanskoy SSR.
(Gey-Gel', Lake)

MADATZADE, A. A.

14-1-676

Translation from: Referativnyy Zhurnal, Geografiya, 1957, № 1, p. 80
(USSR)

AUTHOR: Madatzade, A. A.

TITLE: Climate and Weather at the Istisu Resort (Klimat i pogoda
            kurorta Istisu)

PERIODICAL: Tr. Resp. nauch. konferentsii po razvitiyu i osvoyeniyu
            kurorta Istisu, 1952. Baku, AN AzerbSSR, 1955, pp. 77-81.

ABSTRACT: The climate of the Istisu resort, in the Lesser Caucasus,
            is exceptionally favorable to the human organism.
            In winter, weak and moderate frosts predominate; in spring
            and autumn there are many sunny days; in summer there is
            no exhausting heat and dryness. The wind has a mountain
            valley quality, strong squalls are rare, and the weather
            in summer is usually calm. Precipitation is moderate and
            occurs mainly during the summer months. The author dis-
            tinguishes 5 basic types of atmospheric processes which
            affect the weather in the region of Istisu: 1) The rare
            irruption of cold air masses from the Arctic into the
            Trans-Caucasus and into the Istisu region due to the
Card 1/2   latter's great height; 2) The irruption of air masses from

14-1-676

Climate and Weather at the Istisu Resort (Klimat i pogoda kurorta Istisu) (Cont.)

moderate continental and oceanic latitudes when connected with the development of the Siberian maximum affects the Istisu region only when the former is very strong; 3) The entrance into the Trans-Caucasus of masses of tropical air which cause a significant increase in warmth; 4) The effect of the middle Asiatic anticyclone whose frequency is not great, creates in the region of Istisu, particularly in summer, a dry windy weather and decreased visibility; 5) The influence exerted by the transformation of air masses over the Trans-Caucasus characterized by a non-gradient baric field or a low activity area of high pressure, provides good weather, and radiational mists during the morning hours in winter.

N. Antoshina

Card 2/2

MADATZADE, A.A.

A rare phenomenon in the Caspian Sea waters near the Apsheron
Peninsula. Dokl.AN Azerb.SSR 11 no.6:401-404 '55.   (MLRA 9:6)

1.Institut geografii AN Azerbaydzhanskoy SSR. Predstavleno
deystvitel'nym chlenom AN Azerbaydzhanskoy SSR M.A.Kaskayen.
        (Caspian Sea--Ice)

MADATZADE, A.A.

Basic types of atmospheric processes determining the distribution of winds over the Caspian Sea [in Azerbaijani with summary in Russian]. Dokl.AN Azerb.SSR 12 no.12:973-979 '56.   (MLRA 10:8)
                    (Caspian Sea--Winds)

MADAT-ZADE, A. A. (Cand. in Physics and Math.); SULEYMANOV, Dzh. M. (Dr.);

"Caspian Sea," Soviet Azerbaydzhan, Baku, Izd-vo AN Azerbaydzhanskoy SSR, 1958.

KADATZADE, A.A.

Aeroclimatic characteristics of Azerbaijan, and of the Apsheron
Peninsula in particular. Izv.AN Azerb.SSR. Ser.geol.-geog.
nauk no.2:103-112 '58.   (MIRA 11:12)
                    (Azerbaijan--Meteorology)

MADAT-ZADE, A.A.; RYABININ, S.M.

Export of Azerbaijan petroleum products to foreign countries.
Azerb. neft. khoz. 37 no.4:48 Ap '58.   (MIRA 11:8)
                    (Azerbaijan—Petroleum industry)

MADATZADE   A.A.

KASHKAY, M.-A.; DUMITRASHKO, N.V.; ANTONOV, B.A.; ABASOV, M.A.; BUDAGOV,
        B.A.; VOLOBUYEV, V.R.; LILIYENBERG, D.A.; MADATZADE, A.A.;
        RUSTAMOV, S.G.; KHAIN, V.Ye.; SHIKHLALIBEYLI, E.Sh.; SHIKHLINSKIY,
        E.M.; AGAYEVA, Sh., tekhn.red.

[Geomorphology of the Azerbaijan S.S.R.] Geomorfologiia Azer-
baidzhanskoi SSR. Baku, 1959. 368 p.   (MIRA 12:12)

1. Akademiya nauk Azerbaidzhanskoy SSR, Baku. Institut geografii.
        (Azerbaijan--Physical geography)

MADATZADE, A.A.

The Baku norther. Izv. AN Azerb. SSR. Ser. geol.-geog. nauk no.5:
73-88 '59   (MIRA 13:3)
        (Baku--Winds)

MADAT-ZADE, A.A.

Principal types of atmospheric processes determining the wind field
over the Caspian Sea. Trudy Okean. kom. 5:140-145 '59.
(Caspian Sea--Winds) (MIRA 13:6)

MADATZADE, A.A.

Microclimatological regionalization of Apsheron Peninsula.
Trudy Inst.geog.AN Azerb.SSR 8:49-60 '59.   (MIRA 12:11)
       (Apsheron Peninsula--Microlimatology)

MADAT-ZADE, A A

Dissertation for degree of
Candidate Physico-Mathematical Sciences

782. ... данные Тбилиси. 1953. 72 с., илл.,
100 таб. (Горийский пед. инст.).
Защ. 1954, 2.3.

783. ... ...
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1941. 120 ъ3. 6.6. [4] л. ф., табл.
фикр. 1942, 26.6.

Дянен Владимир Мурзае-
вич. Определение фигуры атонала для
Каспия по гравиметрическим данным.
1941. 120 с. илл.— [4] Вкл. л., карта.
Защ. 1942, 26.6.

784. Абас-Заде Абас Кули
Ага Бала-Оглы. Исследование теп-
лоемкости и теплоты испарения воды
Каспийского моря. Баку. 1940. 87 с
[10] Вкл. л. фиг.
Защ. 1941, 8.3.

785. Бартенева Ясе Федо-
ровна. К вопросу о точности измере-
ния атмосферных осадков в горных усло-
виях. 1954. 135 с.
Защ. 1955, 23.4.

786. Врасен Степан Борисо-
вич. Метод составления прогнозов оса-
дков поверхности грунта под действием
прикладной нагрузки с учетом воз-
можности его характеристик. 1943.
153,0 с. вкл. л. черт
Защ. 1943, 20.7.

787. Габуния Вахтанг Пярна-
вович. Научные электрического поля
в земной коре для случая влияние пер-
пендикулярная проводящ слоев. 1954.
40 с. 7 л., фиг., 48 таб. (Инст. геофиз.
АН Груз ССР).
Защ. 1950, 20.4.

788. Гагинашвили Валентин
Мерзоевич. Фаза и связанные с
ним особенности приземной циркуля-
ции воздуха по Грузии 1948. 119 с. илл.
Защ. 1951, III.

789. Гулия Сергей Ушанго-
вич. Предвычисление перемещения а
развитие фронтов на основе теорети-
ского метода проф. Н А. Кибеля. Ала
1941. 95 с.
Защ. 1945, 2.11

790. Кадлишвили Нина Алек-
сеевна. Изменение характера суточ-
ния солнечно-суточных вариаций земног маг-
нитного поля ото дня со дня для Тбилиси
(Карсани – Душети). 1956. 85 с. 20 илл.
(Тб. гидрометеор. инст.)
Защ. 1956, 20.6.

791. Ломанадзе Василий Па-
лович. О динамике вторичного центра
действия атмосферы. 1946
Защ. 1947, 23.1.

792. Мадат-Заде Адгабас Аб-
кул-Оглы. Шторм синего Кас-
пия. 1945. 122 с. с рис. 7 вкл. л. зе
агр. (Изд. АН Азерб. ССР 1945 № 9).
Защ. 1946, 30.1.

793. Мангаладзе Григорий Лев-
нович. Новый метод количествен-
ной интерпретации аномалий силы тяж
сти. 1955. 47 с., 50 илл.
Защ. 1956, 24.1.

794. Миндберадзе Валерия
Силивестрович. Некоторые результа
та исследования магнитного поля Ко-
тчай мощности. 1954. 96 [о] с.
(Инст. геофизики АН Груз. ССР).
Защ. 1954, 24.6.

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MADATYAN, E.M.

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P.S. Novikovym.

DEGRELL, Istvan, dr.; SINKO, Otto, dr.; KUDASZ, Jozsef, dr.; KISS, Tibor, dr.;
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(igazgato: Kudasz, Jozsef dr. egyetemi tanar) kozlemenye.
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               arteriography in)
          (ANGIOGRAPHY, in various diseases,
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        new type dermatome (Hun))

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        stellate ganglion block, compl., nearly 5000)

6300. (1353) THE PRESENT-DAY TREATMENT OF OSTEOMYELITIS OF THE
    TIBIA - Die zeitgemässe Behandlung der Osteomyelitis der Tibia - Máday
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On the basis of 2 personal cases a technique is described for the treatment of
chronic osteomyelitis with loss of substance and fistula. All diseased tissues are
curetted and the gap is filled with clotted blood mixed with selected antibiotics,
and the wound is covered with a pediculated flap. Results are satisfactory.

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MADAY, Peter, dr.

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(TEETH--INNERVATION)

MADAYEV, V. N.

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(Credit) (Russia--Manufactures)

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6-7 Ap '56.   (MIRA 9:7)
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    (Textile machinery)   (Credit)

MADAYEV, V.N.

Effectiveness of bank credits. Leg.prom. 17 no.8:5-6 Ag '57.

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and the State Bank. Tekst. prom. 18 no.11:4-6 N '58.

(MIRA 11:12)

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MADAYEVA, F.I., vrach

Care of the hands. Zdorov'e 6 no.9:30 S '60.   (MIRA 13:8)
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     RYZHKOVA, Ye.I.; TRIVUS, L.M.

Treatment of an acne-form eruption. Sov.med. 26 no.7:103-109
Jl '62.   (MIRA 15:11)

1. Iz kliniki kozhnykh i venericheskikh bolezney (zav. - prof.
A.I.Kartamyshev) TSentral'nogo instituta usovershenstvovaniya
vrachey i vrachebno-kosmeticheskoy lechebnitsy (glavnyy vrach
I.I.Kol'gunenko, zav. nauchno-lechebnoy chast'yu - prof. D.I.
Lass) Moskovskogo gorodskog otdela zdravookhraneniya.
                              (ACNE)

MADAYEVA, F.I.

Cyclic method of treating hypertrichosis with electroepilation.
Trudy TSIU 72:99-102   '64.   (MIRA 18:11)

1. Kafedra dermato-venerologii (zav. - prof. A.I. Kartamyshev)
TSentral'nogo instituta usovershenstvovaniya vrachey i
Moskovskaya vrachebno-kosmeticheskaya lechebnitsa.

PROCESSES AND PROPERTIES INDEX

Quinoline derivatives. O. Yu. Magidson and O. S. Madaeva. Russ. 44,553, Oct. 31, 1935. A reaction product b. 248-50°, of 6-methoxy-8-aminoquinoline with salts of diethyl-0-oonylamine can be used in place of plasmochin.

ASM·SLA   METALLURGICAL LITERATURE CLASSIFICATION

Synthesis of naganine. O. Vu. Magidson, O. S. Madaeva and M. V. Rubtzov. *Khim. Farm. Prom.* 2, 86-94(1935).—Naganine, Na salt of m,m'-bis[5-(4,6,8-trisulfo - 1 - naphthylcarbamyl) - o - tolylcarbamyl]-carbanilide, is prepd. as follows: 1-Amino-4,6,8-naphthalenetrisulfonic acid is condensed in H₂O with m-nitrotoluyl chloride, reduced with Fe to 1-(m-aminotoluyl-amino)-4,6,8-naphthalenetrisulfonic acid, again condensed as above with m-nitrobenzoyl chloride, and the compd. obtained treated with COCl₂ in CH₃COONa producing naganine. Details of every step are given.

L. Nasarevich

PROCESSES AND PROPERTIES INDEX

Quinoline derivatives as a source of antimalarial products. IV. Compounds with long chains in the 8-position. O. Yu. Magidson, O. S. Madaeva and M. V. Rubtzov. *J. Gen. Chem.* (U.S.S.R.) 5, 1506-16(1935).—See C. A. 29, 7013², where the 1st author name is incorrectly given.   G. G.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

The reaction of the α-oxide of cholesterol with methyl-magnesium iodide. M. I. Ushakov and O. S. Madaeva. J. Gen. Chem. (U. S. S. R.) 9, 436-41(1939).—The α-oxide of cholesterol does not react with MeLi or MeMg at 80-100°, but when it is heated in C₆H₆ for 5 hrs. with MeMgI it gives 60% 6-methyl-3,5-cholestanediol (I), m. 181-1.5° (cor.). If the reaction is continued for 7 hrs., the product is 6-methylcholesterol (II), m. 134.5 5° (cor.). Evapn. of the mother liquor from this gives crystals m. 201-4°. I gives no ppt. with digitonin, but II does. One OH in I is tertiary, the other is secondary. Treatment of I with Ac₂O gives 3-acetoxy-6-methyl-5-cholestanol, m. 164-5°. When I is heated with Ac₂O contg. H₂SO₄, 6-methyl-cholesteryl acetate, m. 115 15.5°, is formed. When this is boiled with KOH soln., II is obtained. The position of the double bond is not proved, but it is assumed by analogy with cholesterol. When I is oxidized with CrO₃, it forms 6-methyl-3-cholestanon-5-ol, m. 215.5 16° (cor.). When this is dissolved in CHCl₃ and dry HCl is passed in, 6-methyl-4-cholesten-3-one (III), m. 126.5-7.5° (cor.), is formed. The ultraviolet absorption curve of III closely resembles that of cholestenone. The mechanism of these reactions is discussed.   H. M. Leicester

Isomerization of α-oxidocholesterol. M. T. Ushakov and O. S. Madaeva. *J. Gen. Chem.* (U. S. S. R.) 9, 1601-2(1939); cf. *C. A.* **33,** 9310. — In a previous article the authors described a reaction product of MeMgI and α-oxidocholesterol (I).

HO—

(I)
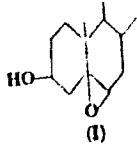
The product contained a tertiary HO and a Me group and the structure of 6-methyl-3,5-cholestanediol was ascribed to it. The advisability of investigating this structure necessitated the study of the isomerization of I. α-Oxide compds. are known to give abnormal reaction products with Grignard reagents as if they were transformed into aldehydes or ketones before reacting. The isomerizing agent is supposed to be MgX₂ which is generally present in Grignard reagents. When benzene and ether solns. of I were heated with MgI₂, the only reaction product was cholesterol (II). The reduction is probably due to HI formed. II was not formed when MgBr₂ was used, but about 25% of a cryst. material, C₅₄H₉₄O, m. 107°, and mol. wt. 365-368.4 (instead of 384), was formed. It could not be acetylated with Ac₂O. The material had 1.5 double bonds (Nametkin's Bz₂O₂ method and hydrogenation with Pt black). These facts suggest that it is a double compd. I was boiled with dil. H₂SO₄ in aq. dioxane; the only cryst. product obtained was the 3,5,6-cholestanetriol.

D. Aelony

MADAYEVA, O. S.; USHAKOV, M. I.; KOSHELEVA, N. F.

"4,5-6-Methyl Androstendione-3,17," Zhur. Obshch. Khim., 10, No. 3, 1940. Laboratory of the Chemistry of Sterols, All-Union Institute of Experimental Medicine imeni A. M. Gor'kiy. Received 17 July 1939.

Report U-1526, 24 Oct 52.

6-Methyl-Δ⁴-androstene-3,17-dione. O. S. Madaeva,
M. I. Ushakov and N. F. Koshcleva. J. Gen. Chem.
(U. S. S. R.) 10, 213-16(1940).--It is known that the
introduction of an alkyl group in the 17-position increases
the androgenic effect of the androstane derivs. 6-Methyl-
Δ⁴-androstene-3,17-dione (I) was prepd. to study the effect
of substitution in the 6-position. Oxidation of 3,17-
androstenediol, m. 177-8°, in 225 ml. of dry CHCl₃ with
78 g. BzO₂H 50% excess) at room temp. for 24 hrs. gave
1.42 g. of the 3-oxide, m. 198.9°, diacetate, m. 165.5-6°.
MeMgI (from 0.55 g. Mg and 1.5 g. MeI in 18 ml. ether)
and 0.03 g. of the oxide in 135 ml. of C₆H₆, after removing
a part of the solvent at 78°, is refluxed 3 hrs. The reaction
mixt. is dild. with iced water, made acid with H₂SO₄,
the aq. layer extd. with AcOEt and the solvent distd. off,
forming a yellow oil. This on reworking with dil. alc.
pptd. 30% 6-methylandrostane-3,5,17-triol (II), highly
hygroscopic product, m. 117-38°. It was purified by
converting it with Ac₂O into the 3,17-diacetate, m. 176.3-
7.0°, and sapong. with 0.1 N alc. KOH at 53.7° for 4 hrs.
to give II, m. 117-20°. 6-Methylandrostan-5-ol-3,17-
dione, m. 187-8°, was prepd. by treating dropwise with
cooling for 1.5 hrs. 93 mg. II in 6 ml. of glacial AcOH with
1.75 ml. of 4% CrO₃ in AcOH, expelling the AcOH in
vacuo, extg. the residue with ether + AcOEt, washing with
10% Na₂CO₃, drying with Na₂SO₄, and expelling the sol-
vent. The dione (45 mg.) in 2.5 ml. CHCl₃, when said.
with dry HCl at 0° and the residue from the solvent re-
crystd. from C₆H₆ + MeOH, gave I, prisms, m. 163.5-
6.5°. The physiol. action of I (comb.-growth promoting)
is not very pronounced and is about equal to that of Δ⁴-
androstenedione.   Chas. Blanc

PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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Advances in the chemistry of cardiac glucosides. S. I.
Kanivskaya and O. S. Madaeva. Uspekhi Khim. 15,
177-202(1946). A review with 83 references.

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION
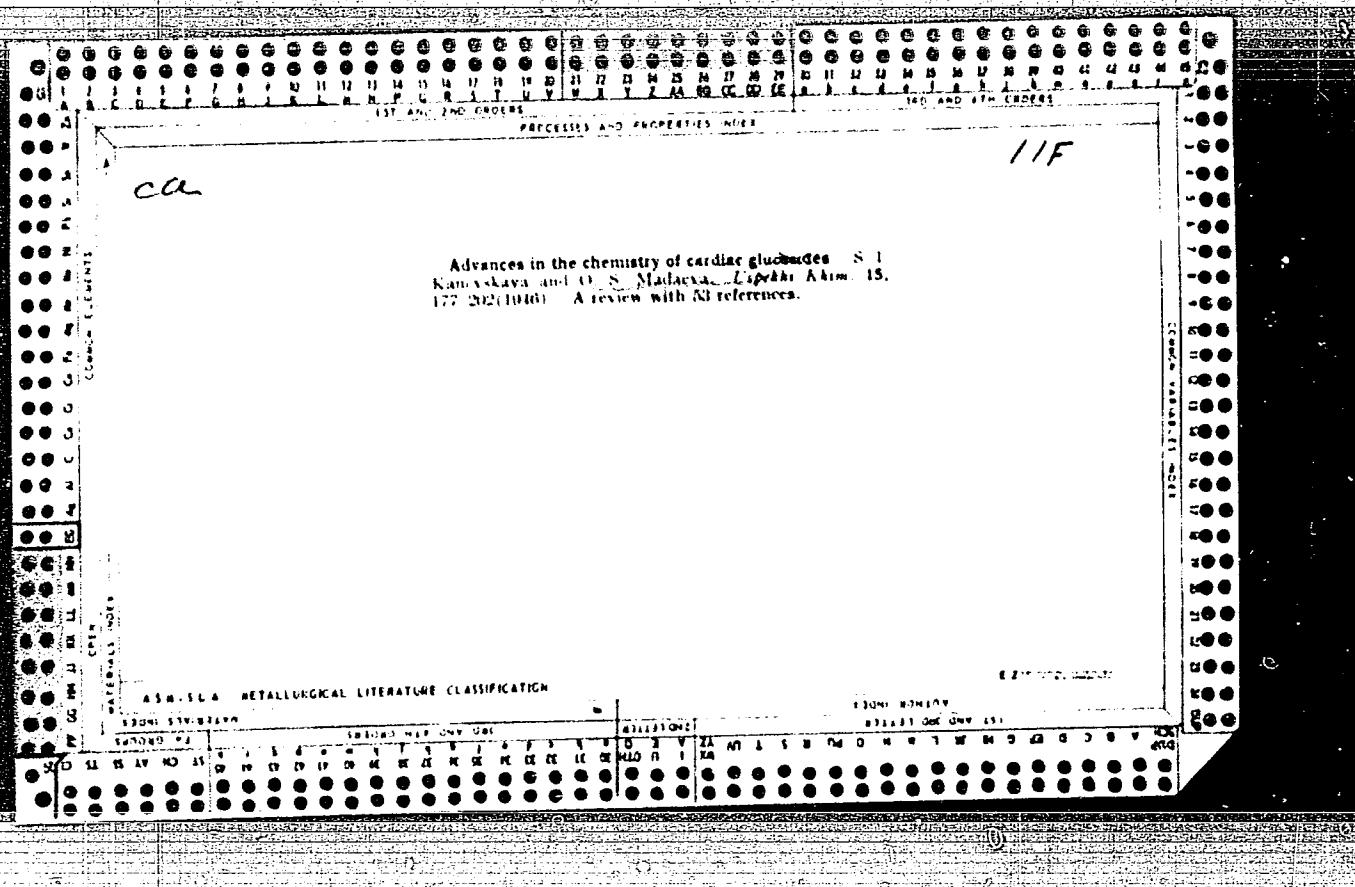
MADAYEVA, O. S.

232T5

USSR/Chemistry - Pharmaceuticals   1 Jun 52

"Some Properties of p-Toluenesulfonic Esters of 17alpha- and 17beta-Hydroxysteroids," O. S. Madayeva, F. A. Lur'i, All-Union Sci Res Chem-Phar Inst imeni S. Ordzhonikidze

"Dok Ak Nauk SSSR" Vol 84, No 4, pp 713-716

Some new reactions were found for the 17alpha- and 17beta-p-toluenesulfonic acid esters (tosy-lated esters) of androstenediol acetate and of two isomers of testosterone. The properties of the products and the conditions under which

they were prepd are given. Presented by Acad B. A. Kazanskiy 10 Mar 52.

232T5

232T5