

X-ray diffraction ...

S/192/62/003/005/002/003  
D267/D308

number of molecules in the cell, and density (both calculated and determined). There is 1 table.

ASSOCIATIONS: Institut elementoorganicheskikh soedineniy AN SSSR  
(Institute of Elemental Organic Compounds AS USSR);  
Universitet Adama Mitskevicha, Poznan', Pol'skaya  
Narodnaya Respublika (Adam Michiewicz University,  
Poznań, Polish People's Republic)

SUBMITTED: July 1, 1962

Card 2/2

KHOTSYANOVA, T.L.; AVOYAN, R.L.

Preliminary X-ray study of some triphenyloxonium salts. Zhur.  
strukt.khim. 4 no.1:113 Ja-F '63. (MIRA 16:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.  
(Oxonium compounds) (X-ray crystallography)

AVOYAN, R.L.; STRUCHKOV, Yu.T.

Crystal structure of 4-chloro-5-bromoacenaphthene. Zhur.strukt.khim.  
4 no.4:631-633 J1-Ag '63. (MIRA 16:9)

1. Institut elementeorganicheskikh soedineniy AN SSSR.  
(Acenaphthene crystals)

AVOYAN, R.L.; KITAYGORODSKIY, A.I.; STRUCHKOV, Yu.T.

Crystal structure of 5,6-dichloro-11,12-diphenylnaphthalene. Zhur.  
strukt.khim. 4 no.4:633-636 JI-Ag: '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
(Naphthalene crystals)

AKOPYAN, Z.A.; AVOVYAN, R.I.; STRUCHKOV, Yu.T.

Space groups and unit cells of organic compounds. Part 2: Peri-disubstituted naphthalenes. Zhur.strukt.khim. 4 no.5:772 S-0 '63. (MIRA 16:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

ZAKHAROVA, G.N.; AVOYAN, R.L.; STRUCHKOV, Yu.T.

Structure of the products of iodination of aceraphthene with  
iodine monochloride. Zhur.strukt.khim. 4 no.6:928-930 N-D  
'63. (MIRA 17:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

KALUSKI, Z.L.; STRUCHKOV, Yu.T.; AVOYAN, R.L.

X-ray diffraction study of diferrocenyl. Zhur. strukt. khim.  
5 no.5:743-758 S-0 '64 (MIRA 18:1)

1. Universitet imeni Adama Mitskevicha, Poznan', Pol'sha, i  
Institut elementoorganicheskikh soyedineniy AN SSSR.

AVOYAN, R.L.; STRUCHKOV, Yu.T.

Steric hindrances and the conformation of molecules. Report 8:  
Structure of a 3-chloro-5-bromoacenaphthene crystal and molecule.  
Zhur. strukt. khim. 5 no.3:407-419 My-Je 164.

(MIRA 18:7)

1. Institut elementoorganicheskikh soedineniy AN SSSR.



АВОУАН, А.И.; КИТАЙГОРОДСКИЙ, А.И.; СЕФЕРИДИ, Я.Г.

Steric hindrances and conformation of molecules. Report 9:  
Structure of a 5,6-dichloro-11,12-diphenylnaphthalene crystal  
and molecule. Zhur. strukt. khim. 5 no.3:420-439 My-Je '64.  
(MIRA 18:7)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

AVOYAN, R.L.; ZAKHAROVA, G.N.; AKOPYAN, Z.A.; STRUCHKOV, Yu.T.

X-ray diffraction study of some organosilicon compounds.  
Zhur.strukt.khim. 6 no.5:792-793 S-0 '65.

(MIRA 18:12)

1. Institut elementoorganicheskikh soedineniy AN SSSR.  
Submitted June 20, 1965.

BOKIY, N.G.; AVOYAN, R.L.; ZAKHAROVA, G.N.; MINASYAN, M.Kh.; AKOPYAN, Z.A.;  
STRUCHKOV, Yu.T.

X-ray diffraction investigation of some organometallic  
compounds. Zhur.strukt.khim. 6 no.5:795-796 S-0 '65.

(MIRA 18:12)

1. Institut elementoorganicheskikh sovedineniy AN SSSR.  
Submitted June 25, 1965.

L 35212-66 EWT(m)/EWT(J) RM

ACC NR: AP6026866

SOURCE CODE: UR/0192/66/007/001/0131/0133

AUTHOR: Kaluski, Z. L.; Avoyan, R. L.; Struchkov, Yu. T.

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0

ORG: Institute of Organoelemental Compounds AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: X-ray analysis of substituted ferrocenes

SOURCE: Zhurnal strukturnoy khimii, v. 7, no. 1, 1966, 131-133

TOPIC TAGS: substituent, ferrocene, x ray analysis, physical chemistry property, chemical compound, molecular structure

ABSTRACT: The paper is a continuation of previous work on the structure of sandwich compounds. Various substituted ferrocenes synthesized in the laboratory of Academician A. N. NESMEYANOV were subject to x-ray analysis. Physical properties including color, melting point, geometric shape, lattice parameters, molecular weight, density, symmetry group etc. are given for the following compounds: phenylferrocene, n-chlorophenylferrocene, n-tolylferrocene, alpha-pyrrylferrocene, N-pyrrylferrocene, alpha-thionylferrocene, tetra-ter-butylferrocene, bis-chloroferrocenyl and bis-carbomethoxy-ferrocenyl.

[JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 15Oct65 / ORIG REF: 006

Cord 1/1 *tdh*

UDC: 548.737

АТРААМОВ, А.

Improving the elements for planet 564 Dudu. Astron. tsir. no.144:6-8  
D '53. (MIRA 7:6)  
(Planets, Minor--564)



L 08641-67

ACC NR:AP6011868

2

10%. The flaw detector used in the investigation was designed by Sl. Ormandzhiev, an engineer, of the Physics Department. It is noted that the SIV standards are incomplete and that it is desirable to develop them further in order to improve the quality of the lead blocks which are being exported to the member countries of SIV. Orig. art. has: 5 figures and 1 table.

SUB CODE: 18,06,07/ SUBM DATE: none/ SOV REF: 004

Card 2/2 *rl*

AVRAAMOV, I. S., Cand Tech Sci (diss) -- "Transitory processes in nonlinear electromechanical systems using magnetic current". Tomsk, 1959. 16 pp  
(Min Higher and Inter Spec Educ RSFSR, Tomsk Order of Labor Red Banner Polytech Inst im S. M. Kirov), 150 copies (KL, No 10, 1960, 129)



AVRAAMOV, I.S., inzh.; RINKONEN, V.M., inzh.

~~AVRAAMOV, I.S.~~  
Graphical method of estimating transient processes in nonlinear  
electromechanical systems with variable magnetic flux. Izv.vys.  
ucheb.zav.; chern.met. 2 no.5:121-134 My '59.  
(MIRA 12:9)

1. Tomskiy politekhnicheskii institut.  
(Transients(Electricity))  
(Metalworking machinery--Electric driving)

**AUTHOR:** Avramov, I.S., Assistant

SOV/144-59-4-2/13

**TITLE:** The Physics of Oscillations in a Non-linear Generator-motor System with Variable Magnetic Flux

**PERIODICAL:** Izvestiya vysshikh uchebnykh zavedeniy, Elektromekhanika, 1959, Nr 4, pp 12 - 27 (USSR)

**ABSTRACT:** The topics examined are: the transient processes, the energy conditions and the mechanism of oscillations in a series-excited generator-motor system. The method of analysis has already been used by workers at the Tomsk Polytechnical Institute, Chair of Industrial Electrification. The most general case of a compound motor with series excitation is that of Figure 1, while Figure 2 is a speed torque characteristic taken with the switch  $P_2$  in the 'open' position. A particular advantage of the circuit is the ease of speed control (over a 100:1 range) by means of current in the shunt winding on the generator. This current need not exceed 5% of the generator rating. The electrical equilibrium in the circuit is described by Eq (1) and the mechanical equilibrium by Eq (3). The equations are

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SOV/144-59-4-2/13

The Physics of Oscillations in a Non-linear Generator-motor System  
with Variable Magnetic Flux

non-linear; the parameters are plotted in Figure 3 (generator characteristic), Figure 4 (non-linear inductance and effective capacitance), Figure 5 (static current versus load current at constant torque), Figure 6 (magnetization characteristic of the motor). The following effects are ignored: a) eddy currents in the magnetic circuit; b) power loss in the cones; c) eddy losses in the copper; d) the variation in the system inductance  $L(I)$ . The accelerating voltage characteristic is replaced by the cubic (Eq 5) and the equation of motion, in terms of speed, is Eq (9). This equation is solved by isoclines (Ref 11) using the phase-plane representation of Figure 7. The calculated transient behaviour is in Figure 8, which shows excellent agreement with the experimental oscillograms of Figure 10. At any instant the energy delivered to the motor is being usefully transferred, wasted in losses, or stored as kinetic energy. The variation in distribution among these modes is shown in Figure 11 for the commencement of a transient process. The way in which energy enters the system is represented in Figure 12, where a source of

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SOV/144-59-4-2/13

The Physics of Oscillations in a Non-linear Generator-motor System  
with Variable Magnetic Flux

energy is periodically connected to an oscillatory circuit by a 'valve' operated by a feedback link. The effective capacitance is defined by the equation following (21) and the feedback current is the last expression on p 21. The equivalent oscillatory circuit is Figure 13. Referring to Figure 8, the interval "oab" corresponds to the 'open' condition of the regulating 'valve' and " $\delta_2$ " to the 'closed' condition. The point " $\lambda$ " is one of unstable equilibrium and the point " $\theta$ " is the minimum-flux point. An important feature of the phase-plane representation, Figure 7, is that it differs from those described by Van der Pol in always exhibiting negative resistance. There are 13 figures and 14 references, 12 of which are Soviet, 1 English and 1 German.

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S/271/63/000/003/012/049  
A060/A126

AUTHORS: Avraamov, I.S., Ineshin, A.P.

TITLE: Engineering logic and the automation of production

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 3, 1963, 55, abstract 3A312 (Uch. zap. Tomskiy un-t, 1962, no. 41, 156 - 170)

TEXT: The authors describe a digital servosystem designed for controlling a large class of mechanisms connected with the displacement and precise stopping at various points. To such mechanisms belongs: factory cranes, pressure units of rolling mills, mine elevators, ingot cars, etc. The system contains a memory unit for the coordinates of the exact technical stopping point, a memory unit of the current position of mechanisms, a feedback transducer and computer unit. With the aid of the methods of the algebra of logic a reliable computer network is worked out. The reliability of its operation is attained through the application of a reflecting code, the introduction of DC feedbacks and of stabilizing networks which protect the flip-flops from pulse noise. There are 9 figures, and

~~and 1/2.~~

L 05237-67 EWP(k)/EWP(h)/EWT(d)/EWP(l)/EWP(v)

ACC NR: AR6020535

SOURCE CODE: UR/0372/66/000/001/G036/G037

AUTHOR: Avraamov, I. S.; Derkach, V. A.; Derkach, N. G.; Nosyrev, V. I.; Selyandin, V. I.; Tsinker, E. B.

TITLE: A system for the programmed control of wide-reach multiple-stop mechanisms

43  
B

SOURCE: Ref zh. Kibern, Abs. 1G251

REF SOURCE: Mezhev. sb. tr. Zap. -Sib. sovet po koordinatsii i planir. nauchno-issled. rabot po tekhn. i yestestv. naukam, vyp. 4, 1965, 129-136

TOPIC TAGS: automatic programming, crane, control circuit

ABSTRACT: A system (S) for the programmed control of the movements of a grab-type bridge crane is described. The S may also be used to control mechanisms moving over distances of several dozen meters and longer. This S is characterized by the discrete determination of the coordinates of the bridge and carriage of the crane, accomplished at individual points by means of independent contact pickups. Then the precision of the halt does not exceed the dimensions of the pickup. The article presents a schematic diagram of a S with the following elements: 1) setting device; 2) encoder of the specified coordinate; 3) device for determining

Card 1/2

UDC: 62-506:681.142.:352:621

AVFAAMCV, N. YU.

Maritime practice, Article 11. Handling  
of the barge, the Military - Naval Publishing  
House, 1938. Moscow - Leningrad, and the  
Military - Naval Publishing House, 1940.

AVRAMOV, N. YU. and POBYISOTSEY, P.M.

The Maritime Practice, Part III, Executing the ship  
maneuvers. The Military-Naval Publishing House,  
Moscow-Leningrad, 1939.



AVIATION, N.Y.U., UNIVERSITY, R.E. and TUSA, F.A.

Maritime Practice, Part IV. "Struggle for the seaworthiness and keeping of the ship in working order. Loading and unloading of freight".

Military-Naval Publishing House of the National Military-Naval Fleet, USSR. Moscow-Leningrad. 1939.

LIVSHITS, Boris Grigor'yevich; L'VOV, Vladimir Sergeyevich; AVRAAMOV,  
Yu.F., red.; OZERSKAYA, A.L., red.izd-va; DOBUZHINSKAYA,  
L.V., tekhn.red.

[High coercivity iron-nickel-aluminum base alloys] Vysoko-  
koertsitivnye splavy na shelesonikel'aluminiovoi osnove. Moskva,  
Gos.nauchno-tekhn.izd-vo lit-ry po cherno i tsvetnoi metallurgii,  
1960. 157 p. (MIRA 13:5)  
(Iron-nickel-aluminum alloys--Magnetic properties)

SOV/137-58-10-21512

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 10, p 150 (USSR)

AUTHORS: Livshits, B. G., Ibragimov, Sh. Sh., Avraamov, Yu. S.,  
Konev, Yu. K.

TITLE: Theory of Phase Transformations in Nichrome and Nimonic  
(Teoriya fazovykh prevrashcheniy v nikhrome i nimonike)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2. Moscow,  
AN SSSR, 1957, pp 171-180

ABSTRACT: The fact that electrical resistivity (ER), heat capacity (HC) and certain other properties of nimonic and nichrome alloys are functions of temperature indicates that a K-state exists in these alloys. In nichrome specimens which have been quench-hardened at a temperature of 770°C, the K-state appears as a result of heating to 400-460°. Heating the alloy to 460-560° causes it to revert into a statically disordered solid-solution state. The formation of the K-state is accompanied by changes in the microstructure of the alloys, apparently as a result of deformations, i. e., according to X-ray data the alloys retain their single-phase character. A change in microhardness analogous to a change in the ER

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SOV/137-58-10-21512

Theory of Phase Transformations in Nichrome and Nimonic

is observed. In the case of nimonic two processes take place: 1) Segregation of a  $Ni_3(Ti, Al)$  phase from the solid solution at temperatures of  $850-750^{\circ}$ , and 2) the appearance of a K-state at temperatures below  $500-600^{\circ}$ . Despite the high magnifications employed (10-12,000 x), electron-microscope studies of the structure of nimonic which had been tempered at  $500-600^{\circ}$  failed to reveal any decomposition of the solid solution, even though the physical properties of the alloy had changed considerably in the process. The K-state was also studied by the method of measuring the internal friction of alloys with the aid of a vacuum relaxator. On the strength of these data it may be concluded that Ni and Cr participate in the formation of the K-state in nichrome, whereas in the case of nimonic Ni, Cr, Ti, and Al are the participating elements.

1. Chrome-nickel alloys---Phase studies

P. S.

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SOV/137-58-9-19843

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 249 (USSR)

AUTHORS: Avraamov, Yu.S., Livshits, B.G.

TITLE: An Investigation of the Nimonic Alloy by Means of the Internal-friction Method, Measurement of Electrical Resistance, and Dilatometric Analysis (Issledovaniye splava nimonik metodom vnutrennego treniya, elektrosoprotivleniya i dilatometricheskogo analiza)

PERIODICAL: V sb.: Issled. po zharoprochn. splavam. Vol 2 Moscow, AN SSSR, 1957, pp 198-210

ABSTRACT: The causes of anomalous hardening of the alloy during cooling at a critical rate of  $160^{\circ}\text{C/hr}$  from a temperature of  $1100^{\circ}\text{C}$  were examined, together with the anomalous increase in electrical resistance (ER) observed during tempering of an alloy which has been quenched previously. An alloy containing 21% Cr, 2.48% Ti, 0.67% Al, and 75.85% Ni was investigated. The following procedures were employed: Quenching in water at a temperature of  $1100^{\circ}$  with subsequent tempering at temperatures ranging from  $400-1000^{\circ}$ ; cooling at the critical rate from  $1100^{\circ}$  followed by step-wise treatment of the alloy at

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SOV/137-58-9-19843

An Investigation of the Nimonic Alloy (cont.)

temperatures between 1100 and 600°. The results obtained corroborate the hypothesis that the process of hardening proceeds in two stages: Decomposition of the  $\alpha$  and  $\alpha_1$  phases at temperatures ranging from 700 to 900°, followed by additional decomposition not accompanied by the segregation of a new phase in the range of temperatures between 500 and 650° which results in anomalous increases in hardness and ER. The energy of activation,  $Q_1$ , required for the formation of a K-state was calculated from the kinetic curves of the ER, plotted during the tempering operations performed after quenching, and was found to be 66,100 cal/g-mole in the case of an alloy which has been quenched at 1100°, and 39,300 cal/g-mole in the case of an alloy which has been quenched at 800°. The difference in magnitudes of  $Q$  may be explained by the diffusional nature of the formation of the K-state and by the inhibition of this process on quenching at 1100° due to the presence of large amounts of dissolved Al and C atoms which tend to retard the diffusion process. A peak, which was discovered during measurements of internal friction, is connected with the presence of Ti atoms in the solid solution. The peak does not appear in an alloy with a K-state; this points to the fact that in a solid solution Cr as well as Ti atoms participate in the segregation of atoms which correspond to the K-state.

1. Chromium-nickel alloys--Internal friction 2. Chromium-nickel alloys A.F.  
Card 2/2 --Resistance 3. Chromium-nickel alloys--Hardening

AVRAAMOV, Yu. S., NEZHEINAYA, S. O., OSVENSKIY, V. B., and BELYAKOV, L. N.  
(Moscow Inst. of Steel.)

"The Internal Friction of "Metastable" Solid Solutions ."

reports presented at an Inter-vuz Conference on Relaxation Phenomena in Pure Metals and Alloys, 2-4 Apr 1958, at Moscow Inst. of Steel.

Vest. Vys. Shkoly, 9, 72-3, 1958.

6918

SOV/137-59-12-27205

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 12, pp 205 - 206 (USSR)  
18.1250 18.7100

AUTHORS: Livshits, B.G., Kossakovskaya, N.N., Ibragimov, Sh.Sh., Avraamov, Yu.S.

TITLE: Investigation Into Phase and Structure Transformations of "EI437" Alloy

PERIODICAL: Tr. Sektsii metalloved. i term. obrabotki metallov, Tsentr. pravl. Nauchno-tekhn. o-va mashinostroit. prom-sti, 1958, Nr 1, pp 140 - 154

ABSTRACT: The authors carried out investigations of "EI437" alloy subjected to various types of heat treatment and having the following composition (in %): C 0.05, Si 0.43, Mn 0.24, S 0.003, P 0.005, Ce 0.02, Cr 20.55, Ti 2.44, Al 0.79, Cu 0.004, Fe 0.56; the remainder was Ni. Electric resistance was measured on "UPN3/2" and "UTV-2" machines during the heating process and at room temperatures; measurements were made on a capacity dilatometer; the temperature dependence of heat capacity was determined by the Sykes (Sayks) method; the phase composition of electrolytically separated deposits was determined by the roentgenographical, microscopical and electron-microscopical methods. Moreover, endurance tests were performed. Heat treatment of specimens consisted of quench-hardening with subsequent controlled cooling-off at various rates. Highest

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69188

SOV/137-59-12-27205

Investigation Into Phase and Structure Transformations of "EM437" Alloy

hardness values were obtained if the cooling rate was 160 degrees/hour, corresponding to a sufficiently complete isolation of the separating phases and to not too excessive a coagulation. The electron-microscopical investigations showed that the separation and coagulation of the strengthening  $\gamma'$ -phase was more intensive during continuous cooling-off from high temperatures than during tempering of a supercooled solution; the particle dimensions depended on the cooling rate. In slow cooling a hexagonal phase was revealed together with the  $\gamma'$ -phase. Measurement of the temperature dependence of specific heat capacity and measurements of electric resistance and dilatometrical data, showed that two processes took place: namely, within the 700 - 900°C temperature range, a process connected with the formation of a phase in the solid solution, and a process of developing a K-state below 700°C; whose thermal effect was equal to 1.35 cal/g. The first process shifted the maximum of the K-state formation slightly towards the lower temperature side. It is assumed that the origination of the K-state is due to the formation of Guinier-Preston type zones in areas with increased concentration of alloying elements; it is characterized by the occurrence of a specific micro-relief. There are 12 bibliographical titles.

V.R.

Card 2/2

18(7)

AUTHORS:

Avraamov, Yu. S., Osvenskiy, V. B.

SOV/163-58-4-27/47

TITLE:

On the Problem of Structural Changes in Fe-Ni-Mo Alloys  
(K voprosu o prirode strukturnykh prevrashcheniy v splavakh  
Fe-Ni-Mo)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 4,  
pp 162-168 (USSR)

ABSTRACT:

On account of measurements of the electric resistance, the hardness and the temperature dependence of magnetic saturation, the nature of phase conversions in Fe-Ni-Mo alloys was clarified, and the critical interval of phase conversions was specified for these alloys. The possibility is shown here to examine the kinetics of the phase conversion process after the shift of the point of inflection on the curve for the temperature dependence of the magnetic saturation. For determining the temperature interval of conversions taking place in the binary Fe-Ni alloy and in Mo-alloys, the electric resistance in heating and cooling wire specimens of 3 mm was measured on a potentiometer installation. On account of the investigation made here, the influence of Mo on the processes taking place in the alloys examined is explained as follows.

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On the Problem of Structural Changes in Fe-Ni-Mo Alloys

SOV/163-58-4-27/47

In the binary Fe-Ni alloy, the formation of the superstructure  $Ni_3Fe$  occurs in annealing in the critical temperature interval. Introduction of a small quantity of molybdenum into the alloy leads to the formation of zones of the Gin'ye-Preston type with Mo-atoms. Formation of these zones prevents ordering in the alloy. In case of small quantities of molybdenum, however, the ordering process is not eliminated. In case of a further increase of the molybdenum content in the alloy (over 1 %) the resulting zones suppress more and more the ordering process. The alloy with 1 % Mo may be regarded as a limit only in the sense that this alloy separates the alloys with opposite effects of the electric resistance change in annealing. There are 4 figures, 1 table, and 8 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: October 26, 1957

Card 2/2

SOV/126-6-1-15/33

AUTHORS: Avraamov, Yu. S., Belyakov, L. N. and Livshits, B. G.

TITLE: Internal Friction Peaks in Ni-Cr Base Solid Solutions  
(Piki vnutrennego treniya v tverdykh rastvorakh na  
baze nikel'-kroma)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 6, Nr 1,  
pp 116-121 (USSR)

ABSTRACT: The alloys used were 20% Cr, 0.05% C, balance Ni, and  
20% Cr, 2.48% Ti, 0.68% Al, 0.03% C, balance Ni  
(nichrome and nimonic respectively). Torsional  
oscillations in vacuo, using an apparatus not described,  
were employed. Fig.1 shows the effect of variable  
grain size (produced by quenching from various  
temperatures) on the internal friction-temperature curve  
for nimonic (up to 750°C); two peaks are found, at  
150 (A) and 650-660°C (B) respectively. The latter is  
caused by grain boundary displacement. Fig.2 gives  
similar curves for nimonic of low and high carbon  
contents, the latter after quenching and ageing. Fig.3  
shows the same for nimonic containing varying amounts of  
Ti. From these results it is concluded that the A peak  
is related to the presence of Ti, as no deformation is

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SOV/126-6-1-15/33  
Internal Friction Peaks in Ni-Cr base solid solutions

involved, and the peak rises with Ti content. The exact shape of the peak is affected by ageing at 520°C, and completely removed by ageing at 575°C for eight hours. Fig.4 illustrates the results of applying various heat-treatments to the alloy. The effects are related to the formation of a K-state in the α' solid solution. The fact that the A peak tends to split into two separate peaks, which behave differently, is not, however, discussed. There are 4 figures and 8 references, 5 of which are Soviet, 3 English.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)  
SUBMITTED: October 22, 1956

Card 2/2

1. Nickel alloys--Physical properties    2. Nickel alloys---  
Mechanical properties    3. Grains (Metallurgy)--Metallurgical  
effects    4. Titanium--Metallurgical effects

**AUTHORS:** Avraamov, Yu. S., Livshits, Z. G., SOV/48-22-10-19/23  
Osvensk., V. B.

**TITLE:** Modification of Structural Transformations in Permalloy During Alloying With Molybdenum (Izmeneniye strukturnykh prevrashcheniy v permalloye pri legirovani molibdenom)

**PERIODICAL:** Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 10, pp 1263 - 1268 (USSR)

**ABSTRACT:** On the basis of measurements of the electric resistance, of the strength, of the temperature dependence of the internal friction, and of the saturation magnetization in the present paper the nature of the structural transformations in Fe-Ni-Mo alloys was explained and the critical temperature range was exactly defined. The examined alloys are listed in the table. The information collected permits to draw the following conclusions: In the hardened solid alloy the molybdenum atoms are in the free state. For this reason under the influence of the external strains a coordination takes place without hindrance, i.e. a new orientation of the atom-pairs of molybdenum (according to the model by Siner). When the alloy is worked unto the K-state, zones

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Modification of Structural Transformations in Fe-Ni-Mo Alloy SOV/48-22-10-19/23  
During Alloying With Molybdenum

(of the type of the Guinnet (Gin'ye) - Preston zones) containing the molybdenum atoms are formed. The alloy behaves as if an intraphase separation had taken place in it. The molybdenum atoms in this case are no longer in the free state and therefore cannot participate in the coordination under the action of a strain. Therefore the maximum of the internal friction initially decreases and in the case of a protracted tempering completely disappears. The measurements of the internal friction showed that the molybdenum atoms in the case of the formation of the K-state apparently are removed from the solid solution. This fact proves that in solid solutions during the process of tempering zones are forming which contain the molybdenum atoms and which in their composition differ from the basic solid solution. The investigation of the temperature dependence of Young's modulus in Fe-Ni-Mo alloys showed that this modulus increases when the K-state forms. There are 5 figures, 1 table, and 11 references, 7 of which are Soviet.

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Modification of Structural Transformations in Permallyoy SOV/48-22-10-19/23  
During Alloying With Molybdenum

ASSOCIATION: Laboratoriya metallografii Moskovskogo instituta stali  
imeni I. V. Stalina (Laboratory of Metallography of the  
Moscow Institute of Steel imeni I. V. Stalin)

Card 3/3



18 (1)

AUTHORS:

Avraamov, Yu. S., Mezhenaya, S. O.

SOV/163-59-2-34/48

TITLE:

Investigation of the Alloy Ni<sub>3</sub>Mn by the Method of Internal Friction (Issledovaniye splava Ni<sub>3</sub>Mn metodom vnutrennego treniya)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Metallurgiya, 1959, Nr 2, pp 189-193 (USSR)

ABSTRACT:

The phase composition of the alloy Ni<sub>3</sub>Mn was investigated by the method of internal friction after various thermal treatment. The influence of the thermal treatment on the Ni<sub>3</sub>Mn alloy in dependence of the temperature on the internal friction was investigated and the results are given in figure 1. Two maxima, A and B, occur at 120 and 290° on the temperature curve of the hardened alloy. The maxima can be interpreted as meta-stability in the orientation of the solid solutions. The dependence of the internal friction of the deformed steel on temperature was investigated and is given in figure 2. Beside the maxima A and B also the maximum D occurs at 226° on the temperature curve of the internal friction of the deformed Ni<sub>3</sub>Mn alloy (deformation degree 75 %). The maximum D is interpreted

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Investigation of the Alloy Ni<sub>3</sub>Mn by the Method of  
Internal Friction

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likewise as meta-stability of the solid solution. A further maximum (C) occurs on the temperature curve of the internal friction of carbonaceous alloys at 360° (Fig 3). The occurrence of the maximum C is explained by the diffusion of the carbon atoms in the stress field. The amount of the maximum C in carbonaceous samples is reduced after six hours of melting at 360° and subsequent hardening in water, in consequence of the carbide formation in the solid solution. Only one maximum occurs at 360° on the temperature curve of the internal friction after the separation of the carbide phase. The method of internal friction makes the investigation of the orientation state in the alloy possible. There are 3 figures and 5 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: July 10, 1958

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18.7520

66234

SOV/126-8-3-18/33

AUTHORS: Livshits, B.G., Avraamov, Yu. S., Osvenskiy, V.B.,  
Mezhennaya, S.O. and Belyakov, L.N.

TITLE: Internal Friction of Metastable Solid Solutions

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 8, Nr 3,  
pp 440-448 (USSR)

ABSTRACT: The alloy of stoichiometric composition  $Ni_3Mn$  and alloys of the same composition alloyed with 1.34 and 2.77% Mo, respectively, were studied by measuring the temperature dependence of internal friction. Using this method,  $Ni_3Fe$  type alloys without molybdenum and those alloyed with molybdenum, and also EI437A type alloys (nimonic) were studied. The chemical composition of the investigated alloys is shown in the table on p 441. The internal friction was measured in wire specimens, 300 mm long and 0.7 mm diameter, in vacuum. The alloy  $Ni_3Mn$  is an ordered alloy with a Curie point of approximately  $350^{\circ}C$  (Ref 10 and 11). In the curve showing the temperature dependence of internal friction of a quenched  $Ni_3Mn$  alloy (quenched from a temperature above that at which ordering occurs) two peaks, A and B, with maxima at 120 and  $290^{\circ}C$  are observed (Fig 1). In the curve of the temperature

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Internal Friction of Metastable Solid Solutions SOV/126-8-3-18/33

dependence of internal friction of a deformed Ni<sub>3</sub>Mn alloy (75% deformation), the peaks A and B remain and an additional peak, D, having a maximum at 226°C, appears; the general level of internal friction rises sharply (Fig 2). An additional peak, C, having a maximum at 316°C, is evident in a carburized Ni<sub>3</sub>Mn alloy containing 0.35% C (Fig 3). The appearance of this peak is due to the diffusion of carbon atoms in the elastic stress range. During the investigation of the influence of alloying the Ni<sub>3</sub>Mn solid solution with molybdenum, it was found that supplementary maxima - peaks M and C at 52 and 316°C - appeared in temperature dependence of internal friction curves (Fig 4). In Fig 5, the influence of heat treatment on the temperature dependence of a Ni<sub>3</sub>Mn alloy containing 1.34% Mo is shown. A similar result is obtained with an alloy containing 2.77% Mo. On measuring the internal friction of Ni<sub>3</sub>Fe alloys alloyed with Mo (Fig 6) two peaks were obtained in the low temperature range, one in the region of 85°C (peak A) and the other at 170°C (peak B). Fig 7 shows the influence of heat treatment on the temperature dependence of internal

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Internal Friction of Metastable Solid Solutions SOV/126-8-3-18/33

friction of the alloy  $Ni_3Fe$ . Fig 8 shows the influence of heat treatment on the internal friction of a nimonic alloy. In Fig 9, the change in internal friction with Ti content in a nimonic alloy is shown. The authors conclude that on measuring the temperature dependence of internal friction of metastable solid solutions characteristic effects can be expected even when the structural factor is exceedingly small. The magnitude of the effects in this case must be the greater, the greater the difference in free energy between a quenched and tempered alloy. A comparison of the internal friction of ordering alloys with that of alloys forming a K-state structure at low temperatures is exceedingly interesting (see Fig 4 and 5). On adding molybdenum to ordering alloys ( $Ni_3Mn$ ) the metastability peak decreases as molybdenum decreases the degree of possible order. Conversely on adding this element to K-state alloys ( $Ni_3Fe + Mo$ ) the metastability peak increases, as the increase in molybdenum concentration appears to increase the extent of atom segregation (K-state) in the solution. The same can be said about titanium in the alloy EX437

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Internal Friction of Metastable Solid Solutions SOV/126-8-3-18/33

(Fig 9). Thus measurement of the internal friction (metastability peaks) renders differentiation between ordering and K-state possible. There are 9 figures, 1 table and 19 references, 12 of which are Soviet and 7 Western.

SUBMITTED: August 12, 1958

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174 KHAD... 300 S.

PLATE I ~~XXXXXXXXXXXX~~ 807/525  
Moscow. Institut steel

Belabstaniomnye razlilki i metallizatsiya i splyavki; trudy Mezhvuzovskogo  
soveshchaniya (Belabstaniomnye Razlilki i Metallizatsiya i Splyavki) Transcriptions of the  
Inter-Institute Conference) Moscow, Metallurgizdat, 1960. 28 p.  
Sponsoring Agency: Ministerstvo vyzhivaniya i razvitiya spetsial'nogo obrazovaniya  
M.V. (Title page); B.S. Pribl'ozheniy; M. of Publishing House; Ye.I. Levit; Tech.  
Ed.; A.I. Karasov.

**PURPOSE:** This collection of articles is intended for personnel in scientific insti-  
tutions and schools of higher education, and for physical metallurgists and  
physicists specializing in metals. It may also be useful to students of these  
fields.

**CONTENTS:** The collection contains results of experimental and theoretical inves-  
tigations carried out by schools of higher education and scientific research  
institutions in the field of the relation between the internal friction and alloy.  
The results of the investigations are presented in the form of articles and essays.  
The articles are devoted to the investigation of the internal friction in  
metals and alloys, and to the investigation of the internal friction in  
alloys and superalloys. The articles also contain data on the internal friction  
in the investigation of powder-metallurgy products, and the mechanism of impact  
fracture of materials. The collection also contains articles on the damping charac-  
teristics of materials, elastic after-effect, and the wear of high-strength steels.  
No personal data are mentioned. References follow each article. There are 36  
references: 192 Soviet and 174 non-Soviet.

**Author:** B.A. [Moscow Steel Institute]. On Dispersion Correlations in  
the Theory of Elastic Polymers

**Author:** K.F. and A.A. Sazonovs [Dnepropetrovsk Metallurgical Institute].  
Institute (Dnepropetrovsk Metallurgical Institute). Effect of the Temperature  
Structure After Quenching and the Temperature of Isothermal Processing on  
the Vibration Damping in the Silicon Spring Steel

**Author:** Ye.I. M.F. Alekseyenko, and L.S. Fedorova [Moscow Steel Institute and  
Moscow Institute of Aviation Engineering (MIAE)]. Effect of the Temperature of  
Internal Friction

**Author:** Chernikova, I.M. [Moscow Steel Institute]. Study of the Tempering of Carbon  
Steels by the Internal-Friction Method

**Author:** Krihanat, M.A., and S.A. Golovin [Tula Mechanical Institute]. Relative  
Damping of Torsional Vibrations in Heat-Treated Cr Steel

**Author:** Mikik, Karl, and Karel Tuma [Institute of Technical Physics of the  
Czechoslovak Academy of Sciences]. Aging of the Aluminum-Silver Alloy

**Author:** Krihanat, M.A., and I.S. Zaslavskiy [Krasnoyarsk Metallurgical Institute].  
The Properties of Low-Carbon Steel by the Method of Measuring Internal  
Friction

**Author:** Polynskiy, S.M. [Institute of Chemistry Metallurgy of the Academy of Sciences USSR].  
Behavior of Carbon in  
Alloyed with Manganese and Nickel

**Author:** Krihanat, M.A., and I.S. Zaslavskiy [Krasnoyarsk Metallurgical Institute].  
Investigation of the Carbon Influence on  
Friction

**Author:** Krihanat, M.A., and I.S. Zaslavskiy [Krasnoyarsk Metallurgical Institute].  
Investigation of the Carbon Influence on  
Friction

**Author:** Krihanat, M.A., and I.S. Zaslavskiy [Krasnoyarsk Metallurgical Institute].  
Investigation of the Carbon Influence on  
Friction

AVRAAMOV, Yu.S.; MEZHENHAYA, S.O.

Effect of addition alloying with molybdenum on internal friction during the ordering of Ni<sub>3</sub>Mn alloys. *Izv.vys.ucheb.zav.;* chern.met. no.3:102-105 '60. (MIRA 13:6)

1. Moskovskiy institut stali.  
(Nickel-manganese alloys--Metallography)  
(Molybdenum) (Internal friction)



LIVSHITS, B.G., dokt.tekhn.nauk; AVRAAMOV, Yu.S., kani.tekhn.nauk

Investigating the decomposition kinetics of  $K_2NiF_6$  alloys.  
Sbor.Inst.stali no.39:362-380 '60. (MIRA 13:7)

1. Kafedra metallografii Moskovskogo ordena Trudovogo Krasnogo  
Znaneni instituta stali im. I.V.Stalina.  
(Nickel-chromium alloys--Metallography)  
(Phase rule and equilibrium)

39069  
S/148/62/000/005/006/009  
E202/E492

18-12-62

AUTHORS: Samarin, B.A., Sumin, V.I., Avraamov, Yu.S.

TITLE: Method of determination of Hall constant and its application to the studies of ageing

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.5, 1962, 134-139

TEXT: Hall effect and its changes during the natural ageing of duraluminium was determined using an apparatus comprising three circuits: primary current, electromagnet supply and measuring circuits. The current in the first and second circuit was capable of adjustment and reversal, the field produced by the second circuit being calibrated for the various pole separation. The measuring circuit comprised the sample with the three Hall electrodes and a potentiometric compensator, clamped in a frame with copper jaws. The Hall emf was measured by means of electrooptical amplifier  $\Phi \Xi O Y - 15$  (FEOU-15) the output of which was fed into a sensitive galvanometer ( $10^{-8}$  V/mm). The relative error of the Hall coefficient  $R_x$  was 5%. Using the conductivity data given by H. E. Schmidt (Z.f. Metallkunde, 49, 1958, 113)  
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Method of determination ...

S/148/62/000/005/006/000  
E202/E492

the number of conductivity electrons  $n$  and their mobility  $v$  were also determined viz:

Sample	$R_x \cdot 10^6$ cm <sup>3</sup> /A·sec	$n$ per atom	$v$ cm <sup>2</sup> /V·sec
Al	-36.3	2.86	13.4
Cu	-55.7	1.33	32.8

Natural ageing was studied on duraluminium of the following composition: 6.12% Cu, 0.7% Mg, 0.49% Si, 0.6% Mn, 0.40% Fe, and 100% Al. Samples were cut from 0.2 mm thick ribbon and additional check on ageing was carried out by sclerometric tests and measurement of specific (electric) resistance  $\rho$ . Within the first 5 hours  $R_x$ ,  $v$ ,  $B_{hm}$  and  $\rho$  were increasing while  $n$  was decreasing. All these values remained substantially unchanged within the next 50 hours. It was concluded that the changes  
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Method of determination ...

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S/148/61/000/005/006/009  
E202/E492

occurring during the natural ageing in the supersaturated solid solution are not related to the deposition of the excess  $\theta$ -CuAl<sub>2</sub> phase. A feasible explanation offered suggests accumulation of Cu atoms in 2 or 3 atomic planes which are intrinsically bound with the solid solution lattice, producing quasichemical bonds lowering  $n$  and increasing  $v$ . Consequently,  $R_x$  and  $\rho$  increase during ageing proportionately to  $1/ne$  and  $1/nev$  respectively (where  $e$  is the electron charge). There are 4 figures and 1 table.

ASSOCIATION: Moskovskiy Institut stali  
(Moscow Steel Institute)

SUBMITTED: July 11, 1961

Card 3/3

X

S/148/62/000/007/004/005  
E210/335

AUTHORS: Samarin, B.A., Sumin, V.I. and Avraamov, Yu.S.  
TITLE: Studies of phase transformations in duralumin alloy using the method of the Hall constant determination  
PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Chernaya metallurgiya, no. 7, 1962, 140 - 145  
TEXT: Experimentation aiming at relating the processes occurring during artificial ageing of duralumin-type alloy with the changes in its electronic configuration is described. Three types of measurements were made: measurement of the Hall constant  $R_H$ , specific resistance  $\rho$  and Brinell hardness; the results <sup>were</sup> plotted for varying ageing times and varying ageing temperatures. The samples were water-quenched from 490 - 500 °C and then subjected to artificial ageing for 0.5 - 10 hours. The number of conductivity electrons per atom  $n$  and their mobility  $V$  were calculated from the changes in  $R_H$  and  $\rho$ . The resulting  $v$ -curves had the same shape as the  $R_H$  curves, while the  $n$ -curves appeared as a mirror image of the former curves.  
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Studies of .....

S/148/62/000/007/004/005  
E210/E335

The changes in the above parameters during artificial ageing pointed to the existence of two substantially different processes: the first occurring at low temperatures (20 - 100 °C) and corresponding to the natural ageing, and the second occurring at high temperatures and corresponding to artificial ageing. On the basis of their own and other investigations the authors concluded that after hardening of the Al-Cu alloy, a supersaturated solid solution is formed, containing, in certain small regions, slightly different constituent concentrations from those prevailing generally. In the early stages of ageing the above solid solution cannot decompose since the elastic energy of the lattice increases very intensively. These energy considerations favour the accumulation of copper atoms in the minute Guinier-Preston zones which are bound to the solid-solution lattice. Increased temperature diffuses the copper atoms and leads to formation of a solid-solution superlattice in which copper-rich planes alternate with the aluminium planes, which lowers  $R_H$ ,  $\rho$  and the hardness.

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Studies of ....

S/148/62/000/007/004/005  
E210/E335

Further temperature rise starts to precipitate the metastable  $\theta'$ -phase which removes some copper from the supersaturated solid solution, thereby lowering the coherence and introducing some strain into the solid-solution lattice which, in turn, leads to uneven decomposition and increased  $R_H$  values (above the values present in the annealed state). Still further increase in temperature leads to the formation of the stable  $\theta$ -phase, bringing the solid solution closer to the equilibrium, which is accompanied by the fall in  $R_H$ .

There are 2 figures.

ASSOCIATION: Moskovskiy institut stali i splavov  
(Moscow Institute of Steel and Alloys)

SUBMITTED: July 11, 1961

Card 3/3

L 11374-65 EWI(m)/EWP(t)/EWP(k)/EWP(b) Pf-4 IJP(c)/SSD/ASD(f)-2/ESD(gs)//  
 ASD(m)-3/ASD(p)-3/AFWL JD/HW

ACCESSION NR: AR4046552

S/0058/64,000/008/2086/2087

SOURCE: Ref. zh. Fizika, Abs. 8E670

AUTHORS: Avraamov, Yu. S.; Kekalo, I. B.; Moxner, V. B

TITLE: Effect of temperature, amplitude, and frequency of elastic oscillations on the "magnetic" peak of internal friction in iron 27

CITED SOURCE: Sb. relaks. yavleniya v met. i splavakh, M., Metallurgizdat, 1963, 184-189

TOPIC TERMS: iron, internal friction, temperature dependence, magnetic field intensity, elastic vibration, plastic deformation, domain structure

TRANSLATION: A study was made of the properties of the magnetic peak (MP) of the internal friction (IF) in electrolytic iron annealed in  $H_2$ . The measurements were made on a relaxator assembled in accordance with the scheme of an inverted low-frequency pendulum, in the temperature interval from  $-196$  to  $+100$ C, on samples 70 mm long and 0.7 mm in diameter. The plot of the IF as a function of the alternating magnetic field intensity exhibits a maximum in the entire investigated tem-

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L 11374-53

ACCESSION NR: AR4046552

perature interval. The parameters of the given MP (height, width, field corresponding to the maximum IP) depend on the temperature. With decreasing temperature, the MP broadens, its height increases slightly, and the MP shifts toward higher values of the constant-field intensity. The IP parameters at a chosen temperature (-196C) depends strongly on the amplitude (A) of the elastic vibrations. With increasing A the MP field decreases monotonically in accordance with a hyperbolic law; the height of the peak first increases and then decreases. The parameters of the MP are strongly influenced by plastic deformation of the sample. The uniqueness of the variation of the parameters at the MP with the temperature variation is related to the temperature variation of the constants of the magnetic state of the iron and with the accompanying changes in the magnetic domain structure.

SUB CODE: NM

ENCL: 00

Card 2/2

MORGNER, V.; AVRAAMOV, Y.I.S.

Low-temperature internal friction in pure iron. Fiz. met. i metalloved.  
16 no.4:635 O '63. (MIRA 16:12)

1. Moskovskiy institut stali i splavov.

АТРАМОН, Ю.С.; СВОДЕЦ, А.Г.; ЛИВШИЦ, Б.С.

Diffusive creep of a single crystal of transformed steel.

Izv. vys. ucheb. zav.; Chern. met. 8 no.11:121-124 '68.

(MIRA 1811)

1. Moskovskiy Institut stali i splovo.

ВИА М.В. Якуш., МВНД 5, 4.1.

Effect of hardening on the temperature range of intermetallic  
fracture in transformer steel. Fiz. Met. i Metalloved. 17  
no. 2:614-616 Ap '64. (MIRA 17:8)

L. Moskovskiy Institut stali i splavov.

AVRAAMOV, Yu.S.; GVOZDEV, A.G.; LIVSHITS, B.G.

Surface energy of single crystals of the Fe - 3% Si alloy.

Izv. vys. ucheb. zav.; Chern. met. 8 no.9:142-145 '65.

(MIRA 18:9)

1. Moskovskiy institut stali i splavov.

L 12015-66 ENT(1)/EWT(m)/EWA(d)/T/EWP(t)/EWP(z)/EWF(b)/EWA(c) IJP(c) JD  
ACC NR: AP5028278 SOURCE CODE: UR/0020/65/165/002/0316/0318

AUTHORS: Avraamov, Yu. S.; Gvozdev, A. G.; Livshits, B. G.

ORG: Institute of Steel and Alloys (Institut stali i splavov)

TITLE: Concerning the role of the limiting and surface energy in secondary recrystallization

SOURCE: AN SSSR. Doklady, v. 165, no. 2, 1965, 316-318

TOPIC TAGS: crystal growth, surface property, recrystallization

ABSTRACT: The authors have attempted to determine more accurately the ratio of the grain-boundary and surface contribution to the crystal-growth moving force during different stages of secondary recrystallization, without taking into account the retarding action of inclusions and thermal-etching grooves. The uniform growth of a two-dimensional grain from a stabilized matrix is analyzed to derive the grain-growth moving force. It is shown that the main contribution to the moving force is made by the surface energy when  $R \leq 1.5 r$  ( $R$  -- radius of the growing grain,  $r$  -- radius of the matrix grains), and that when  $R > 1.5r$  the contribution of the boundary energy is larger. At the end of the secondary recrystallization, the fractions due to the surface and

Cord 1/2

UDO: 532.614

L 12015-66

ACC NR: AP5020278

boundary energies amount to 24 and 76 per cent respectively if  $\Delta\sigma$ , the difference of the surface energy of the growing grain and of the matrix grains is assumed to be 3 per cent of the surface energy ( $\sigma$ ). This compares with values of 88 and 12 per cent estimated by Dunn and Walter (Acta met., v. 8, 497, 1960), and with 37 and 63 per cent obtained by the authors in the case of grain oriented transformer steel (Izv. vyssh. uchebn. zaved, Chernaya metallurgiya, No. 9, 1965). This report was presented by G. V. Kurdyumov. Orig. art. has: 3 figures and 4 formulas.

SUB CODE: 20/ SUBM DATE: 08May65/ NR REF SOV: 001/ OTH REF: 007

Card

2/2

AVRAMOVA, A.A.; ALAMPITV, P.M.; BADIR'YAN, G.G.; BORODIN, I.A.; VASYUTIN,  
V.F.; GURER, A.A.; GURARI, Ye.L.; DANILOV, A.D.; DEREN'YANKO, P.A.;  
YEL'SUKOV, M.P.; KOLOSKOV, P.I.; LAPTEV, I.D.; IZMONT'YEV, N.F.; PECHNI-  
KOV, A.M.; PROKHOROV, A.I.; HUDENKO, N.A.; CHERDANTSEV, G.N.; YAKIMOV, A.T.

P.V. Pogorel'skii; Obituary. Izv. AN SSSR. Ser. geog. no. 3: 94-95 My-Je  
'55. (MLRA 8:9)

(Pogorel'skii, P.V., 1899-1955)



AVRAMOVA, A. A.

Avramova, A. A.

"Problems of the development and location of animal husbandry in the Mongolian People's Republic.", in Education. Moscow State Pedagogical Institute V. I. Lenin. Moscow, 1956 (Dissertation for the degree of Candidate in Geographical Sciences)

Knizhnaya letopis'  
No. 25, 1956. Moscow

22099

S/075/61/000/003/025/048  
A001/A101

6.4700

AUTHOR: Avraamova, G.V.

TITLE: Determination of meteor radiants by the method of undamped oscillations

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 3, 1961, 49, abstract 3A428 ("Byul. In-ta astrofiz. TadzhSSR", 1959, no. 27, 31-36)

TEXT: The methods of measuring coordinates of radiants of individual meteors by radar operating in pulses, which are employed at present, necessitate determination of time shifts and meteor speeds from diffraction patterns. Distortions of diffraction patterns by the effect of turbulent atmospheric winds lead to the following result: the number of echoes which can be used for measuring radiant coordinates amount to a few per cent of the total number of echoes, and coordinates are obtained with large errors. Employment of the method of undamped oscillations makes it possible to utilize the sections of a trail corresponding to meteor flight at the point of mirror reflection. Therewith the probability of distorting diffraction patterns is considerably reduced. The author presents formulae for determining coordinates of meteor radiant by means of a transmitter

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X

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S/035/61/000/003/026/048  
A001/A101

Determination of meteor radiants ...

operating by continuous emission and three outdoor receivers which retransmit signals received by the central station. The relation between the frequency of amplitude fluctuations and time,  $f(t)$ , is determined from diffraction patterns. Temporal shifts between signals are determined by examining  $f(t)$  curves. Meteor speed is determined by conventional methods. The block-diagram of such a station is presented.

V. Lebedinets

[Abstracter's note: Complete translation]

Card 2/2

AVRAAMOVA, G.V.

Certain components of the error in measuring the velocities of  
meteors by the diffraction method. Izv. TPI 105:45-51 '60.

(MIRA 16:8)

1. Predstavleno naučnym seminarom radiotekhnicheskogo fakul'teta  
Tomskogo ordena Trudovogo Krasnogo Znameni politekhnicheskogo  
instituta imeni Kirova.

(Metecrs)

(Radar in astronomy)

STREBELEV, Yo.Ye.; AVRAMOVA, L.S., red.

[Use of heterosis in vegetable and vine crop growing; bibliographical list of Soviet literature published from 1959 to 1964 comprising 182 items] Ispol'zovanie geterozisa v ovochevodstve i bakhchevodstve; bibliograficheskiy spisok otechestvennoi literatury v kolichestve 182 nazvaniy za 1959-1964 gg. Moskva, Akad. sel'khoz. nauk 1965. 23 p. (MIRA 18:10)

1. Moscow. Tsentral'naya nauchnaya sel'skokhozyaystvennaya biblioteka. Spravedlivo-bibliograficheskii otdel.

TSVETAYEVA, Ye.M.; AVRAMOVA, L.S., red.

[Soilless growing of farm plants; index of Soviet literature published from April 1 to December 31, 1964] Vyra-  
shchivanie sel'skokhoziaistvennykh rastenii bez pochvy;  
ukazatel' otechestvennoi literatury s 1 aprelya po 31 de-  
kabria 1964 g. Moskva, 1965. 43 p. (MIRA 18:10)

1. Moscow. Tsentral'niya nauchnaya sel'skokhozyaystvennaya  
biblioteka. Spravochno-bibliograficheskiy otdel.

AVRAMOVA, O.P.; GAVRILINA, G.V.; SVESHNIKOVA, M.A.

~~Сведения о личности автора~~

Certain laws underlying the distribution of antagonistic fungi within and outside the rhizosphere of trees of the Moscow Basin and the Crimea. Biul. MOIP Otd.biol. 58 no.4:83-88 '53. (MLBA 6:11) (Fungi)

EEKKER, Z.E.; SUPRUN, T.P.; AVRAAMOVA, O.P.; YANGULOVA, I.V.

Antagonistic fungi in soils of the plant communities of Central Asian plains. Bot. zhur. 46 no. 5:651-661 My '61. (MIRA 14:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

(Soviet Central Asia—Soil micro-organisms)



BEKKER, Z.E.; SUPRUN, T.P.; YANGULOVA, I.V.; AVRAAMOVA, O.P.;  
RODIONOVA, Ye.G.

Studies on antagonistic fungi inhabiting the soils of alpine  
plant formations of Central Asia. Bot. zhur. 46 no.11:1627-1637  
N '61. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov,  
Moskva.

(Soviet Central Asia--Soil micro-organisms)

SUPRUN, T.P.; AVRAAMOVA, O.P.; BENKER, Z.E.

Distribution of antibiotic-producing soil fungi in Central Asia  
as related to the altitude of the place. *Biol. MDIP. Otd. biol.*  
68 no.4:84-92 J1-Ag '63. (MIRA 16:10)

AVRAIMOVA, S.I., assistant (Khar'kov)

Orthopedia in the compound treatment of ulcerous necrotic defects  
of the mouth and jaws. Probl. stom. 3:343-346 '56 (MLRA 10:5)  
(MOUTH--ABNORMITIES AND DEFORMITIES) (ORTHOPEIDIA)

AVRAIMOVA, S.I. (Khar'kov); DOBYTKO, N.A. (Khar'kov); MAZNYUK, L.M.  
(Khar'kov)

Ultraviolet irradiation in the compound therapeutic and ortho-  
pedic treatment of parodontosis. Probl.stom. 6:109-115 '62.

(GUMS--DISEASES) (ULTRAVIOLET RAYS--THERAPEUTIC USE)  
(MIRA 1613)

AVDEYEV, E.I., inzh.; LAVIBSON, V.Ye., dokent.; LEBLOH, V.M., inzh.;  
KOVAL'CHIK, V.R., inzh.; STACEV, A.G., inzh.; STASENKO, P.N., inzh.

Crushing of iron ore by normal impact against a metal barrier.

Izv. vys. ucheb. zav.; ser. zhur. 8 no.1:142-145 '65.

(MIRA 18:3)

1. Dnepropetrovskiy gosudarstvennyy universitet. Rekomendovana  
kafedroy aeromekhaniki i teorii uprugosti.

AVRAKHOVA, Ye. V.  
USSR/Pharmacology, Toxicology. Adrenergic Drugs

1-4

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 23294

Author : Avrakhova Ye. V.  
Inst : Not Given

Title : On the Comparative Evaluation of Some Properties of Sympatheticotropic Drugs.

Orig Pub : Klinich. meditsina, 1957, 35, No 5, 50-56

Abstract : By the B.E. Votchal digit plethysmography method, applied to 105 patients with normal or moderately decreased arterial pressure, it was found, that mezatone (I) had a much stronger pressor action, than adrenalin (II) and pthedrine (III). I decreased the pulse frequency by 10-44 beats per minute; II and III increased it approximately by 20 beats in one minute. The action of I lasted 1½ hours. The decrease in arterial pressure and in the peripheral vascular tone in the second phase was observed under II's influence. I and III did not produce taxiphylaxis. Side effects of I were short-time palpitation of the heart and headaches.

Card : 1/1

AVRALEVA, A.I., aspirant

Change in the hyaluronidase of blood serum in rheumatic fever and circulatory insufficiency. Zdrav. Belor. 6 no.8:18-20 Ag '60.

(MIRA 13:9)

1. Iz fakul'tetskoy terapevticheskoy kliniki Minskogo meditsinskogo instituta (sveduyushchiy kafedroy - akademik JN BSSR B.I.Trusevich).  
(HYALURONIDASE) (RHEUMATIC FEVER)  
(BLOOD--CIRCULATION, DISORDERS OF)

AVRALEVA, A.I., aspirant

Lipoproteins in the blood serum in rheumatism and circulatory  
insufficiency. Zdrav. Bel. 7 no.10:19-21 0 '61. (MIRA 14111)

1. Kafedra fakul'tetskoy terapii (zaveduyushchiy - akademik AN BSSR  
B.I. Trusevich) Minskogo meditsinskogo instituta.  
(RHEUMATIC HEART DISEASE)  
(BLOOD-CIRCULATION, DISORDERS OF) (LIPOPROTEINS)



AVRAM  
EXCERPTA MEDICA Soc 13 Vol. 11/10 Dermatology Oct 57

2211. NICOLAU Șt. Gh. and AVRAM A. \*Considerații preliminare asupra eficacității nistatinei în candidiozele generalizate, bucale, vaginale și cutanate. Preliminary considerations on the efficiency of nystatin in generalized, buccal, vaginal, and cutaneous candidos-es DERM.-VENEROL. (București) 1957, 2/2 (156-163)

In the present paper, the authors make certain considerations on the efficiency of nystatin in various clinical forms of candidiasis, resulting from 17 cases which have undergone treatment. The major indication of nystatin is represented, in the authors' opinion, by generalized candidiasis. Glossitis with papillary hypertrophy or atrophy is favourably influenced by nystatin, requiring a 21-35 days' treatment, while thrush heals much more rapidly, within 5-6 days. Vulvo-vaginitis can also benefit from nystatin treatment. Recent cases are better and more rapidly influenced than chronic ones; the latter are sometimes accompanied by endocrine dysfunctions of the genital sphere, which require simultaneous treatment. Several cases of peri-onychia and intertrigo have been treated by the external route with favourable results. The authors consider nystatin to be a therapeutic acquisition of great value, as it is endowed with great specificity towards the candidiasic infection.

EXCERPTA MEDICA Sec 13 Vol 13/5 Dermatology May 59

1200. SPONTANEOUS TRICHOPHYTISM OF THE GUINEA-PIG. THE POSSIBILITY OF ITS TRANSMISSION TO MAN - *Trichophija spontana* a cobaiului. Possibilitatea transmiterii ei la om - Evolceanu R. and Avram A. - DERM. VENER. (Bucuresti) 1958, 3/2 (121-129) Illus. 9

The spontaneous apparition of an epizootic induced by *Trichophyton gypseum* is reported involving 11% of the animals in a guinea-pig breeding farm. Several clinical forms were noticed: shearing, Impetigoid, alopecia (*tinea decalvans*). The transmissibility of the parasite to man was ascertained by the contamination of two laboratory assistants. The fact seems proved that the guinea-pig is a vector of dermatophytes.

Antonescu - Bucharest

EXCERPTA MEDICA Sec 13 Vol 13/5 Dermatology May 59

1219. BENEFICIAL EFFECT OF 6-METHYLNICOTINIC HYDRAZIDE UPON BONE LESIONS IN A CASE OF WHITE-GRAIN MYCETOMA OF THE FOOT DUE TO *GEOTRICHUM CANDIDUM* - Efect favorabil al hidrazidei acidului 6-metilnicotinic asupra leziunilor osoase dintr-un caz de micetom al piciorului cu grăunți albi, provocat de *Geotrichum candidum* - Nicolau St. Gh., Avram A., Colintineanu L., Băluș L. and Stoian M. Centr. de Dermato-Venerol., București - DERM. VENER. (București) 1958, 3/3 (263-267) Illus. 4

A *Geotrichum candidum*-induced white-grain mycetoma of the foot, with partial destruction of the 4th and 5th metatarsals, was submitted to an 6-methylnicotinic

1219

hydrazide treatment; 500-600 mg. a day, orally, up to 35 g., conjointly with 33 local infiltrations - 5-10 ml. of a 2% solution. Four and a half months later, the soft tissue lesions were entirely healed and after about four more months a reparatory sclerosis of the bone lesions was obvious. Previous to treatment, the parasite's sensitivity was tested in vitro and an inhibitory action of the isonicotinic hydrazide, in a concentration of 50-100  $\mu\text{g./ml.}$ , was registered with regard to the parasite.

Antonescu - Bucharest

EXCERPTA MEDICA Sec 13 Vol 13/8 Dermatology Aug: 59

Mokron - Munich

2060. TINEA MICROSPORINA OBSERVED IN A GROUP OF LIONS IN CAPTIVITY (EPIDEMIC FOCUS CAUSED BY MICROSPORIUM CANIS) - Microsporie observée chez un groupe de lions en captivité. (Foyer épidémiologique déterminé par *Microsporium lanosum*) - Avram A., Aiterus I., Carjewski M. and Ilescu M. Centr. Derm., Bucarent - MYCO-PATHOLOGIA (Den Haag) 1958, 9/4 (288-298) illus. 10

The authors report the observation of an epidemic focus of tinea microsporum in a group of lions belonging to a circus from Leipzig, which came to Bucharest. The infection attacked 6 lion cubs and 15 lions (from a total of 29 adults). The infected hairs showed a microsporium type infection, a thin white sheath of fungus spores, packed closely together without apparent order. Under Wood's light they showed brilliant greenish fluorescence. The isolated species was *Microsporium canis*. Inoculations into cat, dog, guinea-pig and man were successful, producing the characteristic lesions of tinea tonsurans microsporum and herpes circinatus in both animal and man. The investigators were not able to determine the source of infection; they could establish that it was not transmitted from man or from other animals. The few men who came in contact with the lions during the exhibitions were not affected by the infection. The authors conclude that the lions might also have a place (like other animals) in the spread of dermatophytes in nature.

COUNTRY : RUMANIA  
CATEGORY : Chemical Technology. Chemical Products and Their Application. Safety and Sanitation. H  
ABS. JOUR. : RZhKhim., No 17, 1959, No. 61325  
AUTHOR : Maisler, A.; Alteras, I.; Avram, A.; Schafer, A.  
INSTITUTE : -  
TITLE : Dermatitis in the Chemico-Pharmaceutical Industry  
ORIG. PUB. : Dermato-venerol., 1958, 3, No 4, 313-318

ABSTRACT : Described are cases of professional dermatites (PD) among workers as the result of contacts with hypochlorites, dinitro chlorobenzene,  $CCl_4$ , hexyl resorcinol, benzidine, and enzymes of pancreas gland. The most common skin diseases were the dermaconiozoz, skin erosion, eczema. Only in 24 of cases PD was accompanied by the temporary incapacitation. Bibliography includes 6 titles.  
-- N. Shumskaya

Card: 1/1

NICOLAU, St.G., acad.; AVRAM, A.; ALTERES, I.; LAZAR, M.

Considerations in connexion with our experience concerning  
Candida infections. A clinical, mycological, and therapeutic  
study. Rumanian M. Rev. 3 no.4:43-44 0-D '59.  
(MONILLIASIS)

NICOLAU, St. Gh., Academician ; AVRAM, A.

Contribution to the conservative treatment of mycetoma of the  
foot. Curative effect of isonicotinic acid hydrazide on several  
cases caused by parasites sensitive to such chemotherapy. Probl.  
ter., Bucur. 10 no.2:61-68 '59.  
(MADUROMYCOSIS therapy)  
(ISONIAZID therapy)



EVOLCANU, E.; AVRAM, A.; ALTERAS, I.

Trichophytosis of the scalp in adults; chronic trichophytosis of the adult. Rumanian M. Rev. 3 no.3:85-88 J1-S '59.

1. Chair of Dermatovenereal Diseases attached to the Dermatovenereologic Institute, and the Dermatovenereological Centre of the People's Council, Bucharest.  
(RINGWORM)

NIKOLAY, Sht.G., akad.; ALTERASH, I., doktor; AVRAM, A., doktor;  
KOZHOKARY, I., doktor; VOLKONSKIY, V., doktor

Mycosis of the scalp treated with epilin. Vest.derm.i ven. 34  
no.8:23-26 '60. (MIRA 13:11)

1. Iz Bukharestskogo dermato-venerologicheskogo tsentra (dir. -  
akad. Sht. Nikolay), Rumyniya.  
(MEDICAL MYCOLOGY) (SCALP--DISEASES) (FUNGICIDES)  
(HAIR, REMOVAL OF)

NICOLAU, St. Gh.; AVRAM, A.; ALTERAS, I.; COJOCARU, I.

Clinical, mycological and epidemiological study of genital candidiasis.  
Rev. sci. med. 7 no. 3/4:181-184 '62.

1. Membre de L'academie de la R.P.R. (for Nicolau)  
(MONILIASIS, VULVOVAGINAL) (URETHRITIS)  
(GENITALIA, MALE) (MONILIASIS)

NICOLAU, St. Gh., prof.; AVRAM, A.; BALUS, L.

Candidiosis of the guinea pig: a new experimental pattern. Rumanian  
med. rev. no.8:57-58 '62.

(MONILIASIS) (SEPTICEMIA)

ALTERAS, I.; AVRAM, A.

Considerations on the trend of dermatomycoses during a period  
of 10 years. Rumanian med. rev. 7 no.3:54-62 Ja-Mr'64



AVRAH, C.; GRUNER, I.

AVRAH, C.; GRUNER, I. Lamellate roof made of reinforced-concrete prefabricated elements. p. 612

No. 10, 1956

INDUSTRIA CONSTRUCTIILOR SI A MATERIALELOR DE CONSTRUCTII  
TECHNOLOGY  
ROMANIA

So: East European Accession, Vol. 1, No. 5, May 1957

AVRAM, C.

Consolidation of a tile drying plant. p. 191.

REVISTA CONSTRUCTIILOR SI A MATERIALILOR DE CONSTRUCTII. (Asociatia Stiintifica a Inginerilor si Tehnicienilor din Romania si Ministerul Constructiilor si al Materialelor de Constructii) Bucurest, Rumania. Vol. 11, no. 1, Apr. 1959.

Monthly list of East European Accessions (EEAI) <sup>Vol 8</sup> IC, no. 8, Aug. 1959

Uncl.

L 5516-65  
ACCESSION NR: AP5017642

ENP(t)/ENP(b) JD

RE/0017/64/000/009/0391/0394

AUTHOR: Iatan, N. (Engineer); Avram, C. (Engineer)

TITLE: Contributions to the desulphurization of pig iron outside the furnace by powdered lime injection

SOURCE: Metalurgia, no. 9, 1964, 391-394

TOPIC TAGS: pig iron, metal purification, lime

ABSTRACT: (Authors' English summary modified): The authors were able to obtain up to 81 percent desulphurization by injecting 2 percent powdered lime into liquid pig iron, using compressed air at 2.5 atmospheres as carrier. They present results of studies to determine the relation between the degree of desulphurization and the amount of powdered lime used. Orig. art. has 1 figure, 4 graphs, 6 tables.

ASSOCIATION: Institutul de cercetari metalurgice (Metallurgical Research Institute)

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 000

OTHER: 006

JPRS

Cord: 1/1



AVRAM, C. L. N., MORSB, G. J. BOH, C.

Behavior of the reinforced concrete portal frame works in the  
plastic field. Bul. St. s. Tehn. Univ. 9 no. 2: 539-548. JUNE 1964.

AVRAM, Cezar, ing.

The utilization of methane gas in the blast furnace concomitantly with the enrichment of the air with oxygen. Metalurgia constr mas 14 no.9:769-779 S '62.

1. Institutul de cercetari metalurgice.

AVRAM, Cezar, ing.; IATAN, Nicolae, ing.; TOCU, P., ing.; GRIGORE, M., ing.  
FLEISER, S., ing.; SCHILLER, M., ing.; SECASIU, M., chim.;  
FRONTONI, D., ing.; STOICOI, I., ing.; PILLY, N.

Casting qualities of gray cast iron from the Victoria-Calan  
Works at the evacuation from the furnace and after remelting  
in cupola furnace. Metalurgia Rum 15 no.4:305-311 Ap '63.

1. Institutul de Cercetari Metalurgice (for Avram, Iatan).

AVIAM, Constantin N., FILIMON, I.; FRIEDRICH, R.

Study of the frameworks of reinforced concrete beams in the plastic stage. Bul St. si Tehn Tim 9 no.1:215-222 Ja-Je '64.