

LASTOVSKIY, R.P.; MIKHAYLOV, G.I.; NOVIKOVSKAYA, N.A.; PETROV,  
D.A.; DANSKER, V.L.; MOREVA, Ye.V.; MALKIEL', G.E.,  
red.; PIROZHKOVA, A.I., tekhn. red.

[Urea for intravenous injection] Mochevina dlia vnutri-  
vennogo vvedeniia. Moskva, Vses. nauchno-issl. in-t khim.  
reaktivov i osobo chistykh khimicheskikh veshchestv, 1962.  
10 p. (MIRA 16:7)

1. Russia (1923- U.S.S.R.) Sovet Ministrov. Gosudarstvennyy  
komitet po khimii.

(UREA—THERAPEUTIC USE)

MALKIEL', G.E.; OPRITS, V.V.

Use of polyethylene containers in the industry of chemical  
reagents and preparations. Prom. khim. reak. i osobo chist.  
veshch. no.1:36-41 '63.  
(MIRA 17:2)

SOV-120-58-3-25/33

AUTHORS: Malkiel', G. S., Sukhanov, B. I.

TITLE: A Pulsed High Frequency Ion Source (Impul'snyy vysokochastotnyy istochnik ionov)

PERIODICAL: Priroda i Tekhnika Eksperimenta, 1958, Nr 3, pp 100-101 (USSR)

ABSTRACT: A high frequency source in which the discharge is excited using a h.f. oscillator is described. The extracting potential applied between the anode and the probe is also obtained from a pulse generator. The construction of the source is shown in Fig.1. The envelope is made of glass while the extracting electrode is of an aluminium alloy and the anode is made of graphite. The shape of the channel in the probe is shown separately in Fig.1. The high frequency oscillator works on two GI7B valves. Voltage pulses 5 kV in amplitude and 8  $\mu$ sec long are applied to the anodes of the valves. The voltage pulses are obtained from a modulator including a hydrogen thyratron. Since the average power applied to the plasma does not exceed 30 Watts no special cooling is necessary. The transit time between the boundary of the plasma and the probe, corresponding to a final proton energy of 20-30 keV, is of the order of 0.1  $\mu$ sec. Hence if the extracting pulse is shorter than 0.2-0.3  $\mu$ sec the focussing

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A Pulsed High Frequency Ion Source

SOV-120-58-3-25/33

of ions becomes much worse and the output current rapidly decreases. When the width of the extracting pulse is 0.8  $\mu$ sec the width of the current pulse at the target is 0.5  $\mu$ sec. It was shown experimentally that the energy of the protons does not change over the duration of the extracting pulse. Fig.2 shows the magnitude of the ion current obtained from the source as a function of the position of the extracting pulse relative to pulse which excites the plasma. The proton current is proportional to  $V^{3/2}$  where  $V$  is the magnitude of the voltage pulse applied to the source. The optimum pressure in the source is  $10^{-2}$  mm Hg. When the diameter of the aperture in the probe is 3 mm the gas consumption is 30 cc/hour. At the same time the vacuum pump (pumping speed 500 litres/sec) maintains a vacuum of  $1.5 \times 10^{-5}$  mm. Fig.4 shows the output current as a function of the square of the diameter of the aperture in the probe. The relation is approximately linear. The content of atomic ions is 80-90%. The difference in the current for protons and deuterons

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is 10%. The source gives current pulses of 100-200 mA each, the length of each pulse being 1  $\mu$ sec and the repetition frequency  $10^3 \text{ sec}^{-1}$ . V. Yu. Gavrilov is thanked for his help. There are 4 figures, no tables and 4 references, of which 3 are English and 1 Soviet.

SUBMITTED: September 7, 1957.

1. Ionic currents--Sources
2. Pulse generators--Equipment
3. Pulse generators--Performance

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212100

87366  
S/120/60/000/004/005/028  
E032/E414

AUTHORS: Malkiel', G.S. and Sukhanov, B.I.

TITLE: A Pulsed Neutron Source

PERIODICAL: Pribery i tekhnika eksperimenta, 1960, No.4, pp.46-50

TEXT: A description is given of an accelerating tube producing pulses of  $14 \text{ MeV}$  neutrons. The pulse duration can lie between  $10^{-6}$  and  $10^{-8}$  sec. and the repetition frequency is 500 cps. The instantaneous neutron flux in a pulse is  $10^{12}$  neutrons per sec. The neutron tube employs the high-frequency ion source described by the present authors in Ref.4. This ion source gives instantaneous currents which are considerably greater than in the usual "continuous" high-frequency sources. The use of a pulsed high-frequency source enables one to obtain a large instantaneous neutron flux with tubes of relatively small dimensions and weight. Thus, when the current at the target is about 40 mA, and the total ion accelerating voltage is 180 kV, of which 30 kV is applied to the high-frequency source and 150 kV is applied to the target, the neutron output when the  $D + T$  reaction is employed is  $10^{12}$  neutrons/sec. One of the biggest difficulties in the design of high-current accelerating tubes is the divergence of the ion beam

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### A Pulsed Neutron Source

caused by the Coulomb repulsion between the beam particles. In the design described in the present paper, this is obviated by placing the target at a relatively small distance from the source. This is shown schematically in Fig.1. Ions from the source slit are passed through deflecting plates to which a pulsed voltage of up to 10 kV is applied. When this voltage is not applied to the plates, the ions do not enter the accelerating gap and hence the length of the neutron pulse is determined by the length of the pulse applied to the plates. A zirconium-tritium target on a tungsten base (14 mm diameter) is used. The second variant of the tube is shown in Fig.2. In this design a window for inspecting the focusing of the beam at the target is provided. All the supplies are derived from four pulse generators triggered through delay lines from a master generator (500 cps). The latter is in the form of a conventional square-pulse generator which develops 200 V across a 150 ohm load at two independent outputs. Pulses at output II can be delayed relative to pulses at output I by 1 to 6 usec. This arrangement supplies the following pulse voltages: (1) 8 kV pulses 5 usec long which are applied to the

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ion source generator, (2) 40 kV pulses 1  $\mu$ sec long for the ion source as shown in Fig.1 and 3, (3) rectangular pulses  $10^{-8}$  to  $10^{-6}$  sec. having an amplitude of 10 kV which are applied to the deflecting plates, and (4) 150 kV accelerating pulses 2 - 3  $\mu$ sec long. All the generators are based on the circuit shown in Fig.4. Neutron beams produced with this tube have been analysed by the time-of-flight method, using a 20-channel time analyser. A description is given of the circuits employed in conjunction with the neutron detector and the form of a typical neutron pulse is shown in Fig.7 in which the time ( $\mu$ sec) is plotted along the horizontal axis. Fig.8, 9, 10 show typical neutron spectra for neutrons leaving 6 cm thick lead and graphite plates. In the case of Fig.8, the target was simply surrounded by a lead plate and the detector (stilbene) received the primary neutrons. The flight path in these measurements was 5 metres. In order to reduce the background due to direct 14 MeV neutrons, a copper rod 60 cm long and 25 mm in diameter was placed in their path. In these measurements the flight path was 6 m and the results obtained are

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shown in Fig.9 and 10. Here a polystyrene-based plastic scintillator was used as the detector (400 cm<sup>3</sup>). A collimator was employed to reduce the background. The lower curve in each of these graphs shows the background level. A correction was made for the np cross section and the threshold of the detector. The tube has been found to be satisfactory after prolonged experiments and tests. The ion source has a lifetime in excess of 300 hours. Acknowledgment is expressed to N.V.Popov for assistance in the measurements. There are 10 figures and 4 references: 1 Soviet and 3 non-Soviet.

SUBMITTED: November 26, 1958 (initially)  
June 14, 1959 (after revision)

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S/120/60/000/004/005/028  
E032/E414

A Pulsed Neutron Source

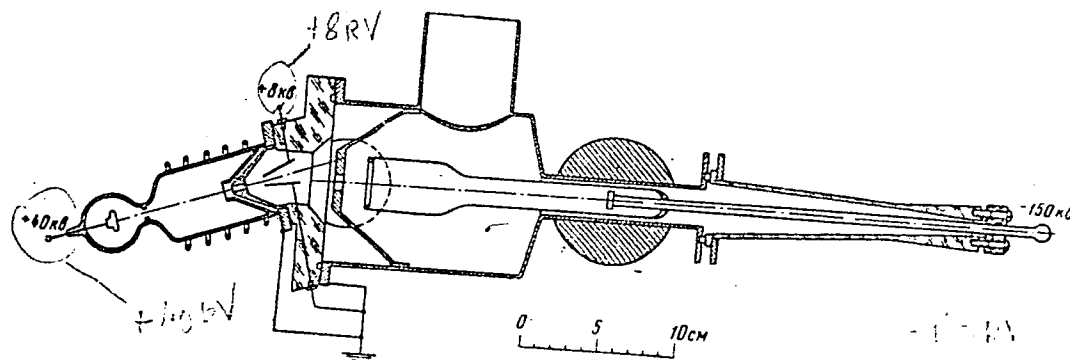


Рис. 1

Fig.1.

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A Pulsed Neutron Source

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E032/E414

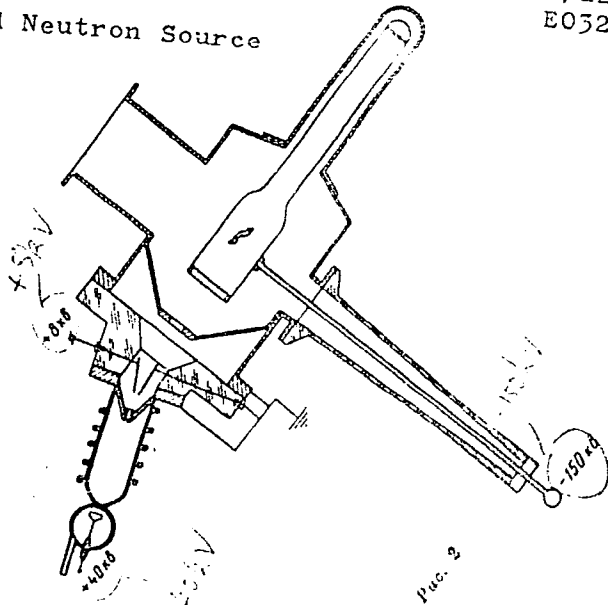


Fig. 2.  
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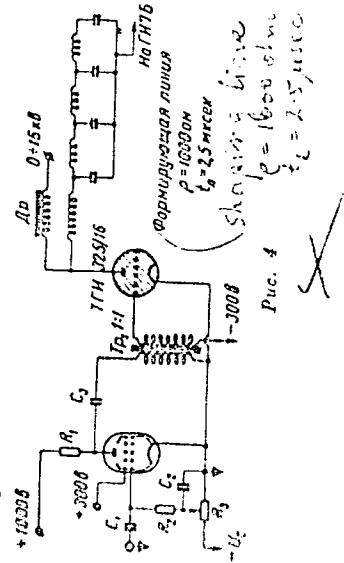
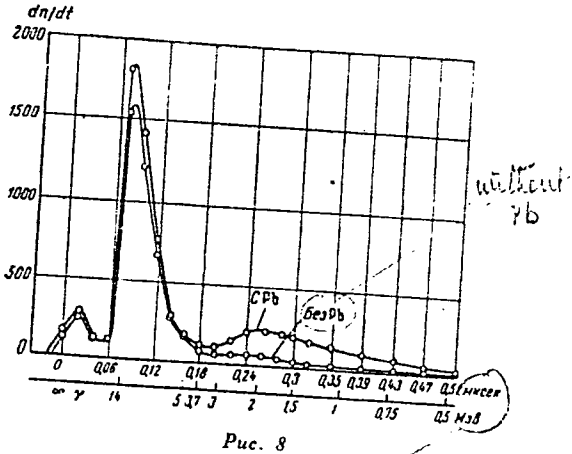


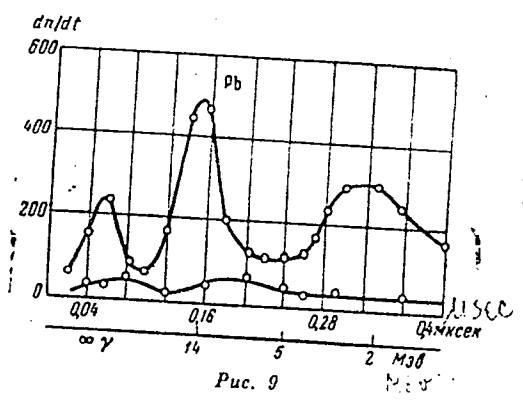
Fig. 4.

A Pulsed Neutron Source

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Puc. 8



Puc. 9

Fig. 8.

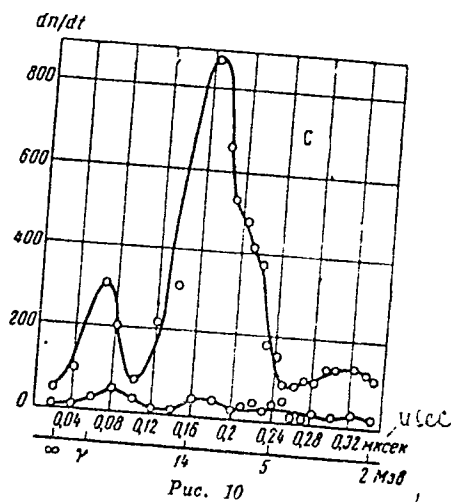
Fig. 9.

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E032/E414



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S/056/60/039/006/029/063  
B006/B056

24.6510

AUTHOR: Malkiel', G. S.

TITLE: Slow and Fast Processes of Neutron Capture in the Theory of the Origin of Elements

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 6(12), pp. 1637 - 1640

TEXT: The present paper deals with the discussion of a hypothesis on the formation of elements with  $Z > 30$  by neutron capture. It is shown that for explaining the observed rules in the nuclear distribution it is not necessary to introduce two processes; it is possible to confine oneself to one, in which it is assumed that the neutron density has a maximum during 0.1 - 1 hour, and during the following 10 - 100 days it maintains a value of 0.01 - 0.1% of the maximum value. All stable nuclei may be subdivided into three groups from the viewpoint of their formation by neutron capture : 1) Unscreened nuclei, which are formed as a result of the  $\beta^-$  decay of neutron-rich nuclei. 2) Screened nuclei, i.e. nuclei which cannot be formed by the decay of a neutron-rich nucleus, but by the

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Slow and Fast Processes of Neutron Capture;  
in the Theory of the Origin of Elements

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B006/B056

capture of a neutron by a stable nucleus. 3) "Circumvented" nuclei, for the formation of which processes other than neutron capture are necessary. In the table, the percentual fractions of the three groups (denoted with 1,2,3) for different Z-values are given. Also, the corresponding half-lives are given. It may be shown that in the region of the nuclei formed by neutron capture not a single isotope exists, for the formation of which a time of more than 10 - 100 days would be necessary. It must be possible to use the assumed duration of the neutron concentration for explaining the known peaks in the distribution of the elements over the atomic weights. For explaining the maxima in the region of the magic numbers, the corresponding isotopes (screened or non-screened) must be formed within a certain time, which is shorter than the duration of the neutron density. Besides the maxima in magic numbers, there are other maxima at  $A = 128$  and  $194$ . According to this theory, the elements with neutron numbers of 98, 108, and 116 ( $A = 164, 180, \text{ and } 194$ ) may be favored. For the formation of the screened nuclei and the maxima within the region of magic nuclei, the time for their formation by neutron trapping is of the order of 100 d, for the formation of the non-screened nuclei it is  $\leq 1h$ , and for the formation of the maximum at  $A = 128$  it is

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Slow and Fast Processes of Neutron Capture;  
in the Theory of the Origin of Elements

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B006/B056

about 5 min. The author thanks Professor D. A. Frank-Kamenetskiy for  
discussions. R. A. Demirkhanov is mentioned. There are 2 figures, 1 table,  
and 3 references: 1 Soviet and 2 US.

SUBMITTED: May 13, 1960

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S/056/60/039/006/029/063  
B006/B056

Z	Содержание изотопов, %			Z	Содержание изотопов, %		
	1 неэкранированные ядра	2 экранированные ядра (с соответствующими временами распада)	3 обобщенные ядра		1 неэкранированные ядра	2 экранированные ядра (с соответствующими временами распада)	3 обобщенные ядра
32	80	20 (1 час) <i>h</i>		48	100		
34	90	10 (8 мин) <i>дн</i>	1	60	73	27 (33 дн) <i>д</i>	0,2
36	87	11 (30 мин); <i>м.в.</i> 2 (6·10 <sup>4</sup> лет) <i>д</i>	0,3	62	79	7 (2 час); <i>h</i> 11 (11 дн) <i>д</i> 2 (47 час); <i>h</i>	3
38	82	9 (4 час) <i>h</i>	0,5	64	98	0,2 (93 лет) <i>д</i>	
40	100			66	98	2 (18 час) <i>h</i>	
42	60	16 (65 дн); <i>д</i> 9 (10 <sup>8</sup> лет) <i>д</i>	15	68	98		
44	81	12 (60 час) <i>h</i>	2,5	70	97	3 (9 дн) <i>д</i>	1,5
46	89	10 (39 дн) <i>д</i>	1	72	95		5
48	87	12 (13 час); <i>h</i> 1 (7·10 <sup>8</sup> лет) <i>д</i>	1	74	100		
50	85	14 (53 час) <i>h</i>	1	76	98	1,5 (75 дн) <i>д</i>	0,02
52	92	4,6 (39 мин); <i>м.в.</i> 2,4 (27 час) <i>h</i>	0,1	78	99	0,8 (16 дн) <i>д</i>	0,01
54	94	4 (72 мин); <i>м.в.</i> 2 (9 час) <i>h</i>	0,1	80	90	10 (18 час) <i>h</i>	0,15
56	90	7,8 (9 час); <i>h</i> 2,4 (5 дн) <i>д</i>	0,1	82	90	1,4 (46 дн) <i>д</i>	

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S/033/63/040/002/008/021  
E001/E120

AUTHOR: Malkiel, G.S.

TITLE: On the origin of elements heavier than calcium

PERIODICAL: *Astronomicheskii zhurnal*, v.40, no.2, 1963, 268-276

TEXT: Studies by E.M. Burbidge, G.R. Burbidge, W.A. Fowler and F. Hoyle (Rev. Mod. Phys., v.29, 1957, 548) on the origin of heavier elements made use of up to five separate processes. These processes are critically considered, and it is shown that their results do not lead to full agreement with the observed cosmic abundances of elements. In the present paper the possibility of forming all nuclei heavier than calcium in a single process is investigated. In order to select the most suitable process, regularities in the abundances of isotopes are studied. The following hypothesis is suggested. Nuclei were synthesized in a medium where protons and neutrons were present simultaneously at a comparatively low temperature. The idea of forming avoided nuclei from the nuclei produced by neutron capture is renounced. In general terms, the process of formation of nuclei with  $z > 20$  is conceived as follows. When the temperature of the medium attains

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On the origin of elements heavier ... S/033/63/040/002/008/021  
E001/E120

$0.5 - 0.7 \times 10^9$  °K, protons are captured by nuclei with  $z < 20$  and neutrons are simultaneously formed. In the range  $A < 60$ , the p-process (proton capture) predominates and the neutron capture process proceeds at a relatively low rate. At about  $A = 70$  the rates of both reactions,  $\nu_p$  and  $\nu_n$  are approximately equal, and for heavier nuclei the latter reaction predominates. Synthesis of nuclei proceeds by consecutive capture of neutrons and protons until

$$\tau_p = \frac{1}{n_p v \sigma(zN)}$$

the mean time of proton capture for the given nucleus, becomes of the order of  $\tau$ , the time during which the temperature is sufficient for the r- and p-processes (the former being the process of nuclei formation by fast neutron capture). Neutron capture then becomes an independent process and proton capture no longer plays an essential role. As soon as temperature drops, both processes cease, and a slow s-process of neutron capture followed by  $\beta$ -decay begins whose duration is greater, by a factor of  $10^3 - 10^4$ , than that of the r-process. The described sequence

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On the origin of elements heavier ... S/033/63/040/002/008/021  
E001/E120

of nuclei formation by proton and neutron capture is compared with observed regularities of isotope abundance and a satisfactory agreement is found. It follows from calculations that the value of neutron density amounts to  $10^{16} \text{ cm}^{-3}$  and temperature  $T = 0.8 \times 10^9 \text{ }^\circ\text{K}$  at hydrogen density  $\rho = 100 \text{ g/cm}^3$ . Next the problem of a maximum in the  $A = 56$  region ("iron maximum") is treated, and the observed abundances are explained on the basis of comparing Q-values, proton coupling energy, in various nuclei. The specific features are found to agree qualitatively with the hypothesis of formation of nuclei heavier than Ca at  $T \sim 0.8 \times 10^9 \text{ }^\circ\text{K}$  and density  $10^2 - 10^5 \text{ g/cm}^3$ . There are 2 figures and 1 table.

ASSOCIATION: Institut atomnoy energii im. I.V. Kurchatova, AN SSSR  
(Institute of Atomic Energy imeni I.V. Kurchatov,  
AS USSR)

SUBMITTED: January 10, 1962

Card 3/3

GORCZYCA, Stanislaw, dr inz.; MALKIEWICZ, Barbara, mgr inz.

Use of the electronic microscope in powder metallurgy.  
Rudy i metale 8 no. 5: 167-171 My '63.

ACC NR: AP6031835

SOURCE CODE: PO/0045/66/030/001/0051/0057

AUTHOR: Sujak, B.; Gorecki, T.; Malkiewicz, M.; Stepniowski, I. B

ORG: [Sujak] Laboratory for Induced Electron Emission, Institute of Experimental Physics, Wroclaw University, Wroclaw (Zaklad Wzbudzonej Emisji Elektronow przy Katedrze Fizyki Doswiadczalnej, Uniwersytet Wroclawski); Department of Experimental Physics, Opole Pedagogical College, Opole (Katedra Fizyki Doswiadczalnej, WSP w Opolu); [Gorecki; Malkiewicz; Stepniowski] Solid State Surface Physics Laboratory, Department of Experimental Physics, Opole Pedagogical College, Opole (Zaklad Fizyki Powierzchni Ciala Stalego przy Katedrze Fizyki Doswiadczalnej, WSP w Opolu)

TITLE: Photostimulated emission of exoelectrons into the atmosphere during recrystallization of metals and alloys

SOURCE: Acta physica polonica, v. 30, no. 1, 1966, 51-57

TOPIC TAGS: bismuth, cadmium, photostimulated electron emission, bismuth base alloy, cadmium base alloy, bismuth cadmium alloy, metal recrystallization, UV light stimulation

ABSTRACT: The emission of exoelectrons into the atmosphere during recrystallization of bismuth, cadmium, and their alloys has been

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ACC NR: AP0031835

studied. The exoelectrons were detected by operating an air-point counter with quenching vapor above the free surface of the liquid. It was found that UV-light stimulation is necessary to observe the emission of exoelectrons into the atmosphere during phase transformation of the tested metals and alloys, and that exoelectron emission associated with phase transformation is probably connected with the change in volume of the specimen (disruption of the covering oxide layer). Orig. art. has: 8 figures. [Based on authors' abstract.] [DR]

SUB CODE: 11, 17, 20/  
OTH REF: 012

SUBM DATE: 10Jan66/

ORIG REF: 005/

awm

Card 2/2

L 01916-67 T JK

ACC NR: AP6055156

(A) SOURCE CODE: PO/0081/65/019/002/0218/0219

SZELAG, Janusz; PESKA, Stanisława and WALKIEWICZ, Michalina; Regional Sanitation and Epidemiology Station (Wojewodska Stacja Sanitarno-Epidemiologiczna), Warsaw-Anin

19  
B

"Epidemiologic Difficulties in Determining the Outbreaks of Salmonellosis in the Warsaw Territory."

Warsaw, Przegląd Epidemiologiczny, Vol 19, No 2, 1954; pp 218-219.

Abstract: During the six years 1958 to 1963, the number of cases of Salmonellosis each year was 13, 4, 14, 4, 32, 68. During this time, S. typhurium was the most frequent causative agent (81 cases), next was S. kuntzendorf with 21. Two of the relatively large outbreaks in 1963 (37 and 28 persons respectively) are analyzed in some detail, stressing the need for close collaboration between bacteriologists, clinicians and epidemiologists. Presented at the 3rd Scientific Assembly of Polish Epidemiologists and Infectologists, Krakow, 5-6 Oct 64. [JPRS]

TOPIC TAGS: bacteriology, epidemiology

SUB CODE: 06 / SUBM DATE: none

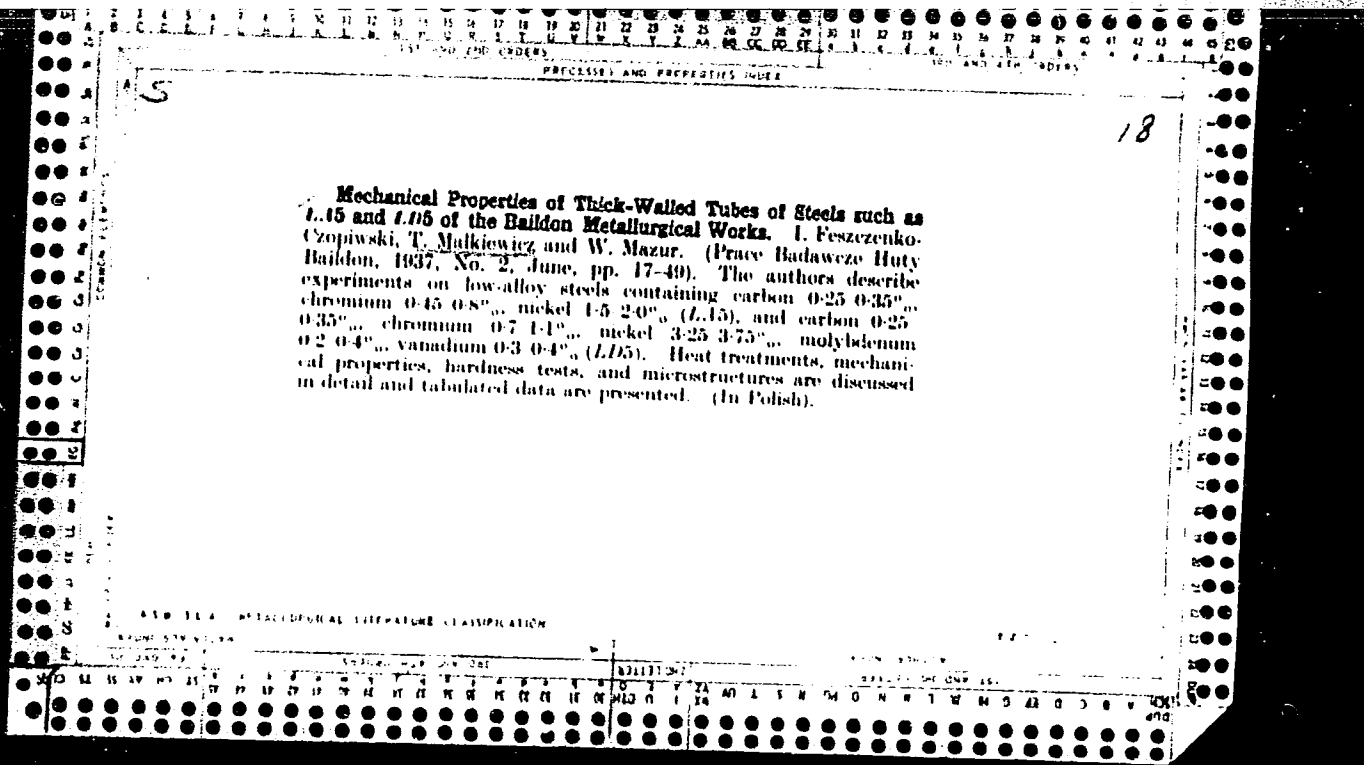
Card 1/1 blg



NOWAKOWSKI, Tadeusz; MALKIEWICZ, Stanislaw

Normal labor course in case of very severe luminal intoxication.  
Wiad. lek. 18 no.20:1621-1624 15 0 '65.

1. Z Oddziału Chorob Wewnętrznych Szpitala Wojskowego (Ordynator:  
lek. med. T. Nowakowski).

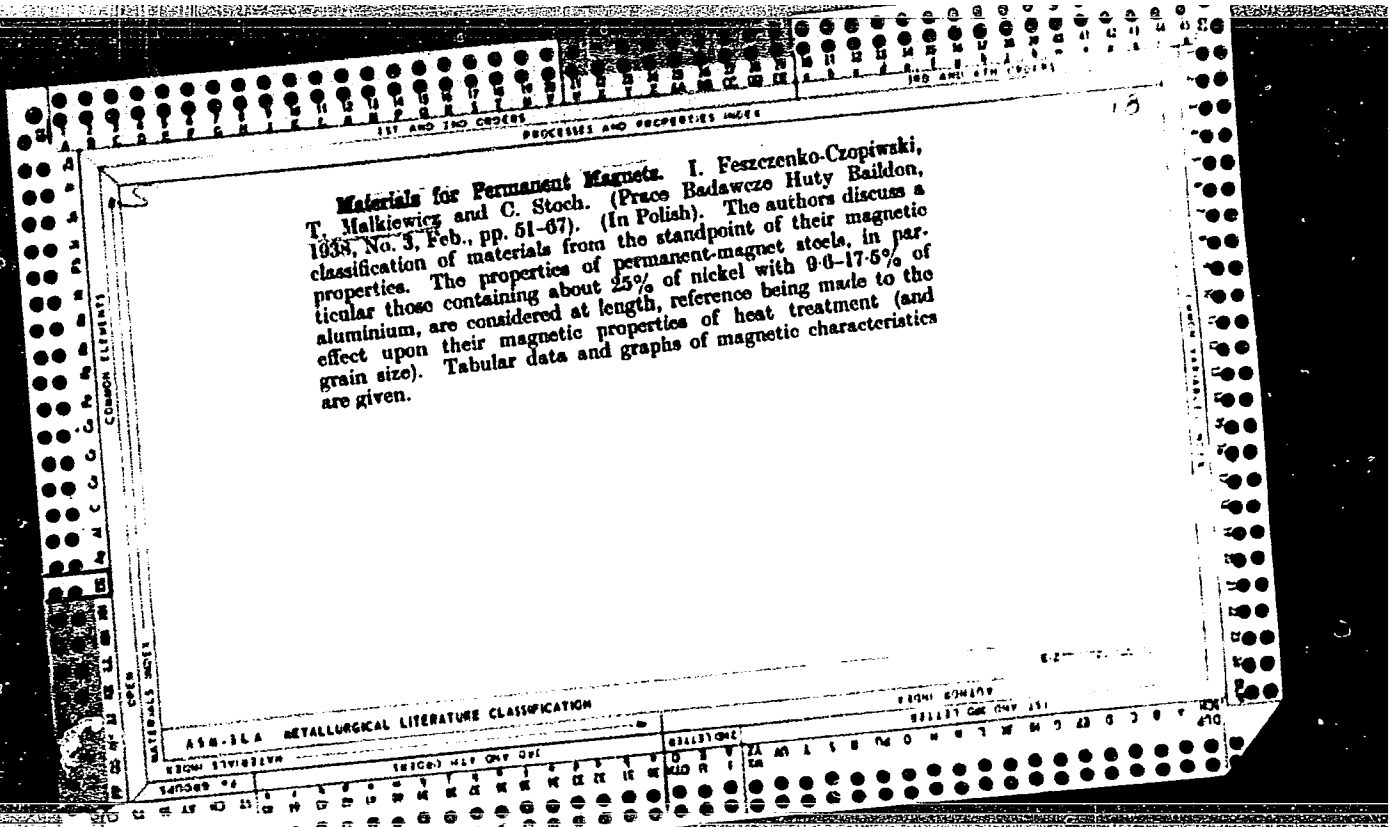


**Corrosion Phenomena during the Nitrogen-Hardening of Valve Steels.** T. Malkiewicz and S. Kullinski. (Prace Badawcze Huty Baildon, 1938, No. 3, Feb., pp. 43-51). (In Polish). The authors present a comprehensive account of the surface attack which may occur during the nitrogen-hardening of valve steels; specific reference is made to investigations on two steels containing about 13% of chromium and 2.34-2.98% of tungsten with 12.24 and 14.84% of nickel, 0.49 and 0.96% of molybdenum, and in one case 0.35% of titanium. Full details are given of the heat-treatment and hardening procedures employed. The specimens were examined metallographically. Special attention is paid to the effect of oxide inclusions in the steel and to the difference between steel with and without titanium. Tabular and graphical data are presented.

ASS. S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

EBONI 404107

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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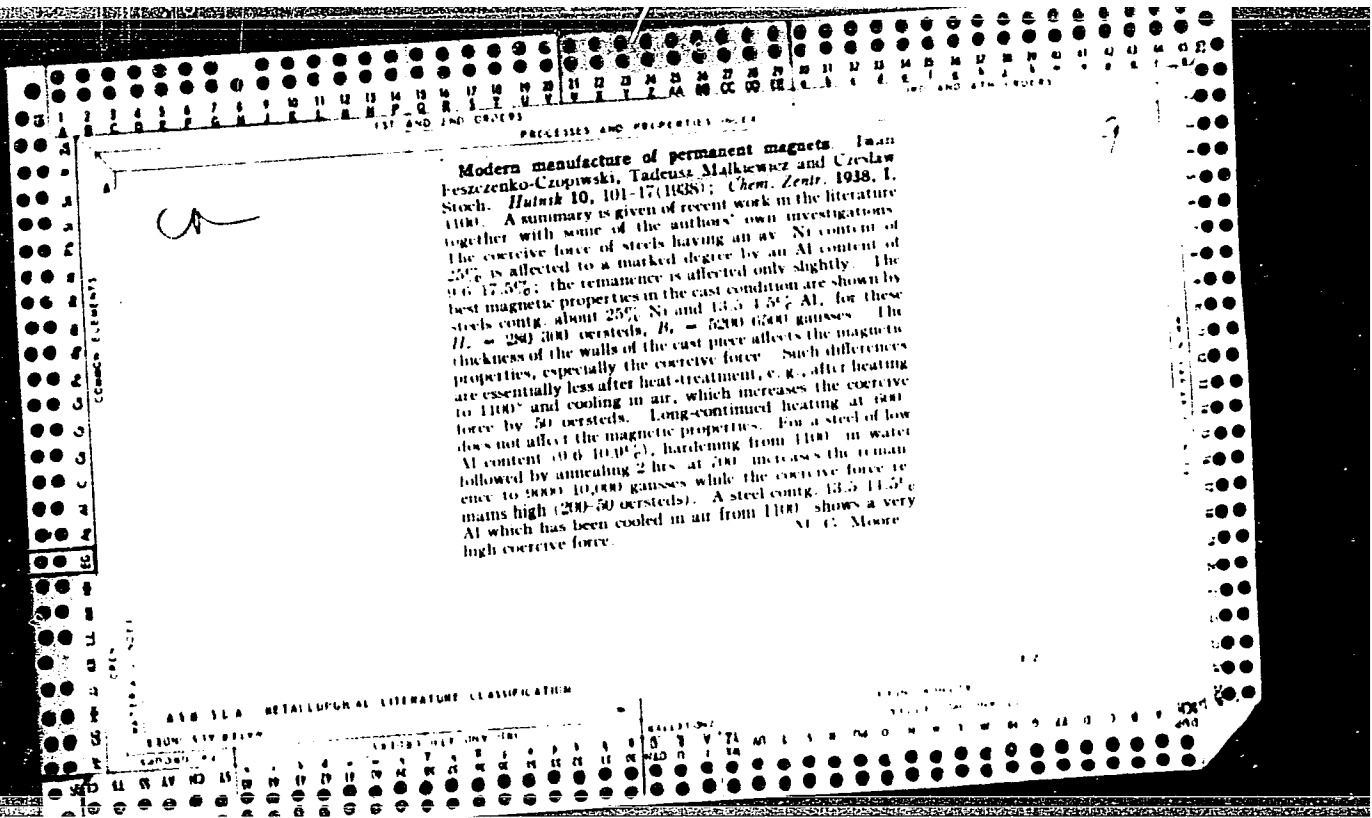
Ch

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**Corrosion phenomena during the nitriding of steels.**  
 Jacek Malkiewicz and Stanislaw Kulinski. *Hutnik* 10, 83-101 (1938) (in Polish); *Met. Abstracts (in Metals & Alloys)* 9, 679.—The effects of thermal treatment, plastic deformation (forging) and phys. conditions on the amt. of corrosion were investigated. The greatest corrosion occurred when samples were quenched at 1200°. When quenching was at 900°, only one sample was corroded. This is explained by the effect of temp. on grain growth, which facilitates the diffusion of gases. Extensive reduction by forging permitted elimination of corrosion entirely, even in samples quenched at 1200°. Less reduction by forging was required to eliminate corrosion of samples quenched at 900°. Apparently the grain-refining effect of forging hampers the diffusion of H. This, however, has no effect on the nitriding process itself. Lowering the nitriding temp. with simultaneous increase in nitriding time decreased corrosion but also lowered the hardness, and resulted in a thinner nitrated layer; this procedure is therefore impractical. Certain impurities, such as SiO<sub>2</sub>

and Al<sub>2</sub>O<sub>3</sub>, have a harmful effect on the process of nitriding and the degree of corrosion.  
 C. I. B.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



MALKIEWICZ, T.

Journal of the Iron and Steel Inst.  
June 1954  
Properties and Tests

70  
New Structural Steels. T. Malkiewicz. (*Hutnik*, 1953, 20, (10), 203-207). [in Polish]. New standards for structural steels are discussed. The old standards were revised in order to co-ordinate Polish standards with those of the U.S.S.R.





MALKIEWICZ, T., MANDYBUR, K.

New qualities of steel. p. 367. DZIENNIK URZEDOWY.

Wiadomosci

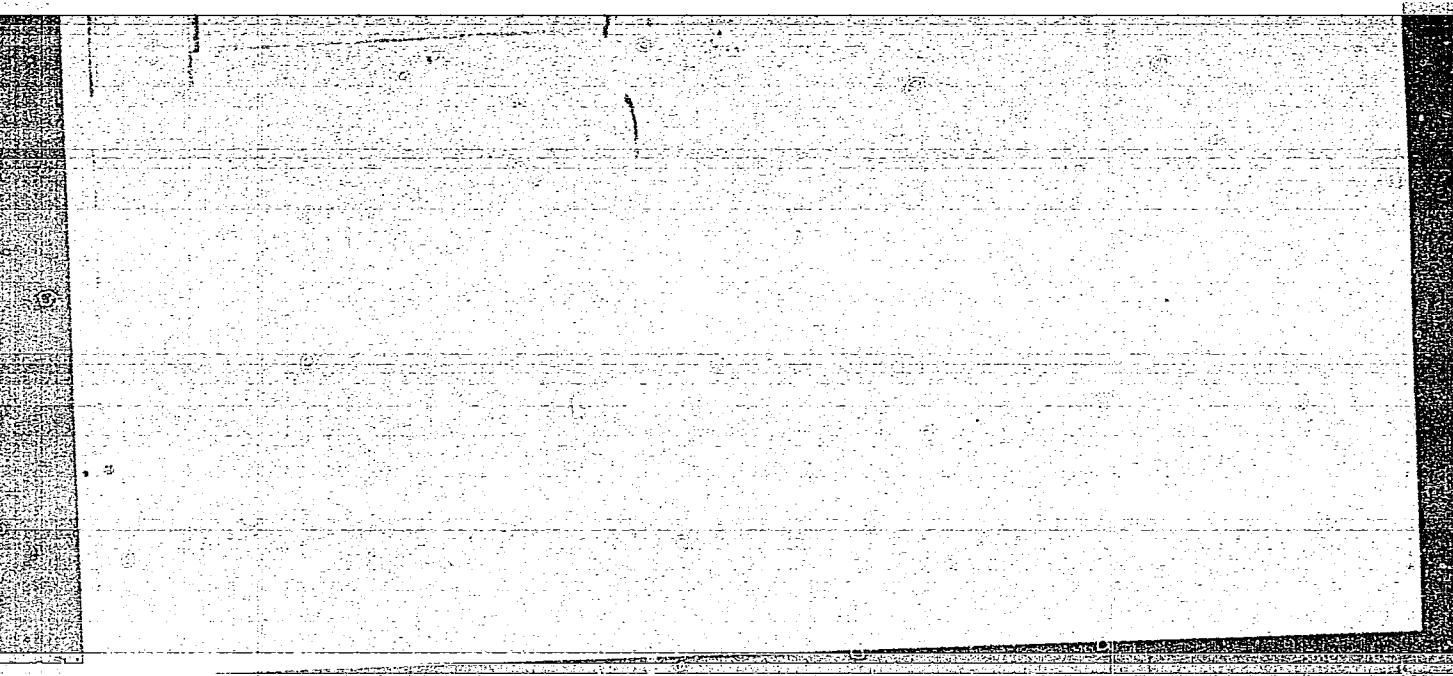
Warszawa

Vol 22, no 7, July 1955

Source: East European Accessions List (EEAL), IC, Vol 5, no 3, March 1958

**"APPROVED FOR RELEASE: 06/20/2000**

**CIA-RDP86-00513R001031820018-7**



**APPROVED FOR RELEASE: 06/20/2000**

**CIA-RDP86-00513R001031820018-7"**

MALKIEWICZ, TADEUSZ

Distr: 4F1/4E4j/4E2c

✓ The effect of hot, plastic deformation on the isothermal austenite transformation in a chromium-nickel-molybdenum structural steel. Tadeusz Malkiewicz (Winnipeg, Canada, Krakow). *Zurück 24, 327-33 (1987)* — The steel under investigation contained C 0.36, Cr 1.43, Ni 1.46, and Mo 0.23%, in addn. to Mn 0.72, Si 0.29, P 0.031, and S 0.010%. The austenite- $\beta$  transformation was studied at 850, 950, and 1050° by simply treating the steel by plastic working at these temps., and also by heating it first to 1250° and then working it at the 3 temps. mentioned.  $\beta$  will always be formed, or be present, but at 1250° the  $\beta$  will show distinctly a transformation into pearlite; at temps. of 850° plastic working is a must, if one wishes to bring about the transformation, and at 950 and 1050° the transformation will set in by itself, though slowly; plastic working simply accelerates it. These generalizations are not clear-cut though, the cooling times from the higher to the lower temps. also have their effect; also any prior working of the steel will alter the metallographic picture if such working took place at 425-400°, in comparison to such working at 375-50°.

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MALKIEWICZ, Tadeusz, prof., mgr. inż.

Present state and improving possibilities of the activities  
of industrial institutes. Przegl techn 79 no.13:573-578  
Je '58.

MALKIEWICZ, T.

Distr: 4E2c

Carbides in annealed and quenched high-speed steels.  
 T. Malkiewicz, Z. Bojarski, and J. Foryst. *Prace Inst.  
 Hutniczych* **11**, 267-8 (1956).—Carbides occurring in annealed  
 and quenched high-speed steels (I and II) cont.: I, C 0.77,  
 Mn 0.42, Si 0.21, P 0.027, S 0.020, Cr 4.00, W 18.79, V  
 1.55, Mo 0.26, and II, C 0.81, Mn 0.13, Si 0.14, P 0.013, S  
 0.014, Cr 4.54, W 8.52, V 2.20, and Mo 0.16% were examd.  
 by metallographic methods, hardness measurements, and  
 chem. and x-ray analysis of residus extd. by electrolytic  
 methods. The specimens, 10 mm. in diam. and 40 mm. in  
 length, were 1st heated to 800°, then austenitized at 900,  
 1000, 1100, or 1200° for 1, 5, 10, or 20 min., followed by oil  
 quenching. The content of alloying elements in the matrix  
 of both steels studied was the same for the as-annealed or  
 for the as-quenched condition. The differences involved the  
 phase compn. of carbides and the amt. present. Steel I  
 when annealed contained the following types of carbides:  
 $M_2C$ ,  $M_3C$ ; the former being present when quenching  
 from 1300° was applied. In steel II in as-annealed condi-  
 tion carbides of the type  $M_2C$ ,  $M_3C$ , and MC were found,  
 whereas after quenching from 1260°  $M_2C$  and MC could be  
 observed. The basis phase constituent of the carbides  
 present in steels studied appeared to be the  $M_2C$  carbide;  
 however, its chem. compn. differed in both steels; the  $M_2C$   
 carbide present in steel I contained a higher amt. of W.  
 During the austenizing annealing the most readily dissolved  
 were  $Mn_2C_3$  and  $M_2C_3$ , the process being completed below  
 1100°. A marked dissoln. of W and V in the steel matrix  
 started at 1200°. W. Esmerczyk

MALKIEWICZ, Tadeusz, prof. mgr inż.

Main development trends of techniques in the iron and steel industry. Wiad hut 16 no.3:65-68 Nr '60.

1. Dyrektor Instytutu Metalurgii, Gliwice.

P/039/60/000/010/002/00-  
A224/A026

AUTHORS: Malkiewicz, T., Professor, Master of Engineering. Karp, J.; Mazur, A.  
Masters of Engineering

TITLE: The Obtainment of Standards for Magnetic Quantitative Determination  
of Martensite ( $\alpha$ -Phase) in 18 - 8 Type Steel

PERIODICAL: Hutnik, 1960, No. 10, pp. 372 - 376

TEXT: The purpose of the paper is to obtain a martensite standard with a 100%  $\alpha$ -phase to be used for magnetic determination of the amount of austenite retained in 18 - 8 steels. The authors review the existing methods, as described in various papers (Refs. 1 through 11), and conclude that the problem of obtaining a proper standard of 18 - 8 steel for magnetic tests has not been definitely solved. To obtain this standard, experiments were conducted with specimens made of four 18 - 8 types steel having chemical composition as listed in Table 1. Specimens, made of a supersaturated wire rod, 7 mm in diameter, were stretched in liquid nitrogen and tested by X-ray diffraction. The results indicated retained austenite in the specimens. Then the wire rod was drawn on a drawbench into wires of different diameter, at ambient temperature and a drawing speed of 16 m/min. The quantitative

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P/039/60/000/010/002/004  
A224/A026

The Obtainment of Standards for Magnetic Quantitative Determination of Martensite ( $\alpha$ -Phase) in 18 - 8 Type Steel

determination of the ferromagnetic phase was made with a magnetometer designed by the Instytut Metalurgii Żelaza (Institute of Iron Metallurgy) in Gliwice. Moreover, the specimens were tested by X-ray diffraction. The curves on these figures indicate the changes of the martensite content in the specimens relative to the deformation. This dependence was calculated by the formula:  $\xi = \ln \frac{A_0}{A}$  where: A - initial cross-section of the specimen,  $A_0$  - cross-section of the specimen after deformation. Based on these experiments the authors conclude that a standard with a 100% ferromagnetic phase can be directly obtained for 18 - 8 type steel, by applying a sufficiently high deformation at proper temperature. Thereby the error should not exceed 3%. This was proved in this work for steels containing 7.27 - 8.93% Ni and about 18% Cr. For steels with a higher nickel content, either lower deformation temperatures or a higher degree of cold work, or both factors, should be applied. The cold working has a considerably higher influence upon the degree of martensitic transformation than the lowering of temperature. There are 9 figures, 1 table, and 11 references - 4 English, 2 Soviet, 2 French, 2 Polish, and 1 German.

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P/039/60/000/010/002/004  
A224/A026

The Obtainment of Standards for Magnetic Quantitative Determination of Martensite ( $\alpha$ -Phase) in 18 - 8 Type Steel

ASSOCIATION: AGH - Kraków, Katedra metalografii i obróbki cieplnej (Academy of Mining and Metallurgy - Cracow, Chair of Metallography and Heat Treatment)

Table 1:

Designation

Oznaczenie	C	Mn	Si	P	S	Cr	Ni	Ti
S1	0,05	0,61	0,78	0,013	0,021	17,68	7,27	0,82
S2	0,09	0,47	0,56	0,012	0,015	18,47	8,02	0,58
B1	0,10	0,28	0,70	0,014	0,019	18,10	8,38	0,50
B2	0,13	0,23	0,52	0,006	0,018	18,18	8,93	0,66



Card 3/3

MALKIEWICZ, Tadeusz, Mgr Prof., Inz.; SIEMIERSKI, Jerzy, Mgr.Inz.; ZIELINSKI,  
Stefan, Mgr.Inz.; NOWAKOWSKI, Stanislaw, Inz.

Application of radioisotopes to the measurement of the wear of the  
carbon base block in the no.3 blast furnace at Lenin Ironworks.  
Huta Lenina prace no.9: 24-33 My '61.

MALKIEWICZ, T.

"Technical working steels" by W. Kuntacher, K. Werner.  
Reviewed by T. Malkiewica. Hutnik P 29 no.4:152-153 Ap '62.

MALKIEWICZ, Tadeusz, prof.; NOWAKOWSKI, Wojciech, mgr inz.

Some remembrances of the beginning of sintered carbide production  
in the Baildon Metallurgic Works in 1936-1939. Hutnik P 29  
no.5:162-164 My '62.

MALKIEWICZ, T., prof.; SIEWIERSKI, J., mgr., inż.

Application and utilization perspectives of radiating isotopes  
in the iron metallurgical industry. Przegl techn no.19:5,6  
13 My '62.

1. Instytut Metalurgii Zelaza.

MALKIEWICZ, Tadeusz

Contemporary trends in applied technological research.  
Nauka polska 12 no. 3:1-12 My-Je '64.

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MALKIMAN. E.A.

Case of multiple diaphysial tuberculosis in a 4 1/2-year-old child. Vest. rent. i rad. 35 no. 6:75-76 N-D '60. (MIRA 14:2)

1. Iz rentgenovskogo otdeleniya (zav. S.S. Ryzhik, konsul'tant - prof. N.A. Panov) Detskoy klinicheskoy bol'nitsy No. 1 (glavnyy vrach - zasluzhennyy vrach RSFSR Ye.V. Prokhorovich).  
(BONES—TUBERCULOSIS)

NIKIFOROVA, N.I.; MALKIMAN, E.A.

Essential pulmonary hemosiderosis in a 6-year old girl.  
Pediatriia 38 no.11:63-66 N '60.

(MIRA 13:12)

1. Iz kafedry detskikh bolezney (kav. - prof.M.M.Bubnova)  
lechebnogo fakul'teta II Moskovskogo meditsinskogo instituta  
imeni N.I.Pirogova (direktor - dotsent M.G.Sirotkina) na baze  
Detskoy gorodskoy klinicheskoy bol'nitsy No.1 (glavnyy vrach -  
zasluzhennyy vrach RSFSR Ye.V.Prokhorovich).

(HEMOSIDEROSIS in inf. & child)

(LUNG DISEASES in inf. & child)



Mal'shin, I I

Adenosinetriphosphate (ATP) and phosphocreatine changes in brain cortex after convulsions. M. I. Levynskii, I. I. Makinets, and B. I. Kamenetskiya (Izv. Biol. and Med. Chem., Acad. Med. Sci. U.S.S.R., and Central Inst., Psychiat., Moscow). *Dokl. Akad. Nauk SSSR*, 1964, 199: 1040 (in Russian).—There is a considerable decrease in ATP (I) and phosphocreatine (II), an increase of inorg. P, and excitability of the cerebral motor zone is sharply depressed; this is in accord with the hypothesis that ATP is an energy source of cortical excitation. Bilateral trepanations of dogs under morphine-anesthetic were made, and the dura removed. 1.5-2 hrs. after operation, when the dog showed pupillary reflexes, 1-1.5 g. of cortex was excised and immediately immersed in liquid air. After 4 hr. 2.25 ml. of 10% corazole soln./kg. wt. was injected intravenously via a glass cannula in the femoral vein. Following a latent period of 15-20 sec., tonic and then clonic convulsions of 2-3 min. duration set in, immediately after which a 2nd symmetrical sample was excised. One hr. after the 2nd sample, a series of consecutive convulsions were induced, corazole being injected immediately after cessation of convulsions, and a 3rd sample was taken. Rheobase for the normal motor zone was also determined. After a single and multiple attacks, excitability was determined by a chronaximeter, the active electrode (a swab moistened in Ringer soln. and connected by a thin Ag rod) being placed on the motor zone, and the indifferent electrode (Ag tube) being placed in the rectum. Excitability was estimated by threshold contraction of the extensor muscles of the hind contralateral limb. Samples were analyzed for inorg. P, I, and II. Protein samples were powdered and then ground in a porcelain mortar with 4% CCl<sub>3</sub>COOH (1:4), protein pptn. being limited to 10 min. to avoid rupture of labile P compounds (II). I was pptd. in 1 filtrate by addn. of 25% mercuric acetate (0.25 ml./3 ml. of CCl<sub>3</sub>COOH filtrate). To a 2nd portion of filtrate (1 ml.) NaOH was added to a light phenolphthalein pink, followed by 0.2 ml. of 25% barium acetate. Inorg. P was detd. in the ppt. and II in the centrifugate. Chayton Holoway

(2)

CHAYLON, F. F.

Changes in phosphocreatine and adenosinetriphosphate (ATP) contents of brain cortex during anoxia. T. P. Kurokhtina, I. I. Matkiman, and O. I. Parfenova (Inst. Biol. and Med. Chem., Acad. Med. Sci. U.S.S.R., Moscow). *Ukrain. Biokhim. Zhur.* 22, 83-91(1950)(in Russian).—In acute anoxia there is observed a decrease in phosphocreatine and ATP at the point of abrupt decrease in excitability of the dog-brain cortical motor zone. Phosphocreatine and ATP returned to the initial level upon return to the normal state. Morphine, which increases organism resistance to anoxia, did not affect the fall and return of phosphocreatine and ATP in the brain cortex.

Clayton F. Holoway

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MALKINAN, I. I.  
CA

Effect of adenosinetriphosphoric acid on the chronaxy  
of the motor zone of the cerebral cortex. P. B. Babitski  
and I. I. Malkinan. *Doklady Akad. Nauk SSSR* 74,  
1145 (1972). Suboccipital administration of adenosine  
triphosphate (as Na salt) to dogs leads to the following re-  
sults. Repeated use of small doses (10-20 mg) lowers  
the rheobase by 20-45% and the chronaxy by 10-20%  
within 3-5 min., after which both begin to return to sub-  
stantially normal levels within about 80 min. Use of large  
doses (30-50 mg), however, causes a convulsion stage,  
after which the sensitivity of the cortex declines (rheobase  
rises) and the chronaxy is extended; max. values reach 120  
15% and 130-60% resp. after some 30 min., after which a  
decline to normal gradually takes place. Larger doses  
cause convulsions and death. Administration of 15-20  
mg into the blood stream gives qualitatively the same results  
as the suboccipital method, but the effect is seen after 1-2  
hrs. This occurs only in intra-arterial administration; the  
intravenous method gives no changes in the cortex. It  
appears that ATP plays a significant role in determining the  
level of sensitivity of the cortex and in the rapidity of re-  
sponse to a stimulus. G. M. Kosolapov

U S S R .

The effect of adenosinetriphosphate (ATP) upon the stimulation of the cerebral cortex. I. I. Minkman (A. A. Bogomolovs Inst. Clinical Physiol., Acad. Sci. U.S.S.R., Kiev). *Dokl. Akad. Nauk SSSR*, 1951, 37, No. 9, 14-17 (1951).  
Injection of monobromacetate causes depression of glycolysis in the cerebral tissue and disruption of carbohydrate-P metabolism and of resynthesis of ATP. The excitability of the motor zone of cerebral cortex which rises immediately upon injection of monobromacetate gradually subsides and ends with the death of the animal. If ATP is injected subcutaneously when the irritability begins to drop, it will rise temporarily as evidenced by the diminution of the rheobase and shortening of the chronaxia. Tests with Ringer's solution were without effect.  
A. Minkin

**MALKIMAN, I.I.**

Dynamics of modifications of irritability of the cerebral cortex before and after convulsive seizures. *Biul. eksp. biol. i med.* 38 no.7:27-30 J1 '54.  
(MLRA 7:8)

1. Iz otdela obshchey fiziologii (nauchnyy rukovoditel' deystvitel'-nyy chlen AN USSR E.B.Babkiy) Insituta klinicheskoy fiziologii imeni A.A.Bogomol'tsa AN USSR, Kiyev.

(CEREBRAL CORTEX, physiology

irritability before & after convulsions in dogs)

(CONVULSIONS, experimental

cerebral cortical irritability in dogs before & after convulsions)

MALKIMAN, I. I., Cand Med Sci -- (diss) "Value of adenosine-triphosphoric acid in changes in excitability of the motor area of the cortex of the great cerebral hemispheres." Moscow, 1960. 13 pp; (Academy of Medical Sciences USSR, Inst of Normal and Pathological Physiology); 210 copies; free; (KL, 18-60, 156)

BABSKIY, Ye.B., akademik; BELOUSOV, A.S.; MALKIMAN, I.I.; NESTEROVA,  
A.P.; SORIN, A.S.

Application of radiotelemetry in studying the evacuatory func-  
tion of the stomach. Dokl. AN SSSR 156 no. 3:719-720 '64.  
(MIRA 17:5)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR i  
Vtoraya terapevticheskaya klinika Tsentral'nogo instituta  
usovershenstvovaniya vrachey. 2. AN UkrSSSR (for Babskiy).

BABSKIY, Ye. B., akademik; SORIN, A. M.; BELOUSOV, A. S.; MALKIMAN,  
I. I.; NESTEROVA, A. P.

Radiotelemetric study of the pH in the digestive tract. Dokl.  
AN SSSR 156 no. 1:222-224 My '64. (MIRA 17:5)

1. Institut normal'noy i patologicheskoy fiziologii AMN SSSR i  
TSentral'nyy institut usovershenstvovaniya vrachey. 2. AN  
UkrSSSR (for Babskiy).



ACCESSION NR: AP4012882

S/0248/64/000/002/0071/0078

AUTHOR: Belousov, A. S. (Moscow); Malkiman, I. I. (Moscow); Sorin, A. M. (Leningrad)

TITLE: Radiotelemetric study of alimentary canal functions

SOURCE: AMN SSSR. Vestnik, no. 2, 1964, 71-78

TOPIC TAGS: radiotelemetry, digestive tract, alimentary canal, miniature transmitter, endoradiocapsule, barometry, thermometry, pH measurement.

ABSTRACT: Studies are described, conducted since 1961 by a team of Leningrad engineers in cooperation with the Institut normal'noy i patologicheskoy fiziologii AMN SSSR (Institute of Normal and Pathological Physiology), in which tiny radiotelemetric devices were developed and inserted in the alimentary canal to detect disorders. These devices are miniature cylindrical radio transmitters which consist of a pickup, a high frequency electromagnetic wave generator, and a power source. Via an antenna placed close to the patient and a radioreceiver, the waves are amplified and demodulated by a frequency discriminator so that the low-frequency component of the signal which is characteristic of the disorder is singled out. Endoradiocapsules have been produced for recording pH, pressure, and temperature in the stomach and intestines (overall dimensions: height - 18-20 mm, Card 1/2

ACCESSION NR: AP4012882

diameter - 8 mm, and weight - 2 g). The development of these devices and their clinical application in detecting cancer, colitis, etc. are surveyed at length. It is believed that the development of further types of these capsules with suitable pickups would extend the scope of their application to the measurement of enzymatic activity, Cl-Ion concentration, ionizing radiation, O<sub>2</sub> and CO<sub>2</sub> partial pressure, the presence of blood, and other characteristics. Orig. art. has: 4 figures and 7 graphs.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 02Mar64

ENCL: 00

SUB CODE: AM

NO REF SOV: 000

OTHER: 000

Card 2/2

ACCESSION NR: AP4038532

S/0020/64/156/003/0719/0720

AUTHOR: Babskiy, Ye. B.; (Academician); Belousov, A. S.; Malkiman, I. I.;  
Nesterova, A. P.; Sorin, A. S.

TITLE: Application of radiotelemetry for investigation of the evacuating function  
of the stomach

SOURCE: AN SSSR. Doklady\*, v. 156, no. 3, 1964, 719-720

TOPIC TAGS: radiotelemetry, stomach evacuation function, physiology, duodenum,  
stomach ulcer

ABSTRACT: The authors have previously described (DAN 156, #1 (1964)) a method  
for investigation of pH of the content of the stomach and intestines by a radio-  
capsule. In the present paper, they compare the recording of pH of the duodenum  
of healthy people with that of people with ulcers, taken both on empty stomach  
and after a breakfast of bread. The pH content follows in time a different pattern  
in healthy and in ill people. The method permits the investigation of the stomach  
evacuation in people in a similar way as it is done in dogs with the fistula of  
the duodenum. Orig. art. has: 2 figures.

Card 1/2

ACCESSION NR: AP4038532

ASSOCIATION: Institut normal'noy i patologicheskoy fiziologii Akademii meditsinskikh nauk SSSR (Institute for Normal and Pathological Physiology). Vtoraya terapevticheskaya Klinika Central'nogo instituta usovershenstvovaniya vrechey (Second Therapeutic Clinic of the Central Institute for the Advancement of Physicians)

SUBMITTED: 27Feb64

DATE ACQ: 09Jun64

ENCL: 00

SUB CODE: LS

NO REF SOV: 001

OTHER: 000

Card 2/2

BABSKIY, Ye.B., akademik; SORIN, A.M.; BELOUSOV, A.S.; DIMANIS, V.I.;  
MALKIMAN, I.I.

Radiotelemetric study of the pressure inside the human digestive tract. Dokl. AN SSSR 158 no.4:993-996 0 '64.

(MIRA 17:11)

1. Institut normal'noy i patologicheskoy fiziologii ~~AMN~~ SSSR i  
TSentral'noy institut usovershenstvovaniya vrachey. 2. AN UkrSSR  
(for Babbskiy).

BABSKIY, Ye.B.; PARIN, V.V.; MALKIMAN, I.I., red.

[Physiology, medicine and technical progress] Fiziologiya,  
meditsina i tekhnicheskii progress. Moskva, Nauka, 1965.  
137 p. (MIRA 18:4)

BELOBON A.S.; MALKEMAN, I.I. (Moskva); SORIN, A.M. (Leningrad)

Radiotelemetric study of the functions of the alimentary tract.  
Vest. AMN SSSR 19 no.2:71-78 '64.

(MIRA 18:1)

L 13637-65 EWG(j)/EWG(r)/EWT(l)/FS(v)-3/EWG(v)/EWG(a)/EWG(c) Pb-4/Pe-5/Pb-4  
AMD/AFMDC/AFTC(b)/ESD(c) DD S/0020/64/158/004/0993/0996  
ACCESSION NR: AP4047333

AUTHOR: Babskiy, Ye. B. (Academician AN UkrSSR); Sorin, A. M.;  
Belousov, A. S.; Dimanis, V. I.; Malkiman, I. I. B

TITLE: Radiotelemetric investigation of pressure in the human gastro-  
intestinal tract

SOURCE: AN SSSR. Doklady\*, v. 158, no. 4, 1964, 993-996

TOPIC TAGS: biotelemetry, radio capsule, gastrointestinal pressure,  
biointstrumentation

ABSTRACT: A radiotelemetric device for studying pressure along the gastrointestinal tract is presented, consisting of a radio transmitter, an endoradiosonde, and a receiver-analyzer with an antenna and a recording instrument. The endoradiosonde for registering pressure consists of an inductance pickup, a high-frequency generator, and a feed source. The overall dimensions of this device are: 1) length, 18-20 mm; 2) diameter, 8 mm; 3) weight, 2.1 gm. The pressure pickup consists of an inductance coil with two ferrite rings on end plates and a mobile ferrite rod suspended by a spiral spring and attached to

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L 13637-65

ACCESSION NR: AP4047333

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a hermetically sealed membrane which, in turn, is connected to the end plates of the capsule. During pressure fluctuations between 0 and 200 cm (water column), displacement of the ferrite rod does not exceed 0.5 mm. Some of the radiocapsules can measure pressure from -50 to +200 cm. The generator operates at a frequency of 2 mc. The feed source serves a miniature 1.35-v, mercury-oxide unit, with a capacitance which ensures continuous operation of the generator for 100 hr. The capsule is enclosed in a thin, hermetic shell and takes 1-2 days to pass through the human GI tract. The position of the capsule in the GI tract is determined by x-ray. The construction of the capsule is such that it can register pressure variations and duration of muscle contraction along the entire GI tract. Orig. art. has: 4 figures.

ASSOCIATION: Institut normal'noy i patologicheskoy fiziologii Akademii meditsinskikh nauk SSSR (Institute of Normal and Pathological Physiology, Academy of Medical Sciences, SSSR); Tsentral'nyy institut usovershenstvovaniya vrachey (Central Institute of Graduate Medicine)

Card 2/3

L 13637-65

ACCESSION NR: AP4047333

SUBMITTED: 28 Apr 64

ENCL: 00

SUB CODE: LS, EC

NO REF SOV: 000

OTHER: 004

ATD PRESS: 3130

Card 3/3

1ST AND 2ND QUOTES      PROCESSES AND PROPERTIES INDEX      100 AND 4TH QUOTES

**CA**  
**MALKIMAN, I.V.**

The reaction of the digestive glands as an index of the change in correlation between the neural and humoral mechanisms of regulation of functions under various physiological and pathological conditions. IV. I. V. Malkiman. *Bull. biol. med. exper. U. R. S. S. R.*, 1957, 17(188) (in English). -- During a period of starvation there is a gradual and continuous rise in gastric secretion in response to the injection of 0.1 mg. of histamine (H) into dogs. Doses of 0.25 mg. do not further increase, and doses of 0.5 mg. of H cause a decrease in the vol. of secretion. The excitability of the glands remains at a high level for some time after starvation is discontinued. S. A. K.

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST QUOTE      2ND QUOTE      3RD QUOTE      4TH QUOTE

14D AND 47M COLUMNS

117 AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

MALKIMAN, I. V.

Ca

11F

The effect of reduced barometric pressure on gastric secretion. E. S. Zelmanova and I. V. Malkiman. *Bull. Acad. med. expl. U. R. S. S. 9, 328-3 (1940) (in English)*. Dogs with isolated pouches were placed in a "baro-chamber" at pressures corresponding to 4000-8000 m. for 3-5.5 hrs. In all cases there was an inhibition of gastric secretion upon exposure. The degree of inhibition varied widely, secretion in some cases decreasing by 20-30%, in others disappearing altogether. The secretory changes continued for 5-27 days after exposure, but considerable individual variation was found here also, in some cases an increase and in others a decrease in secretion being observed. In 2 dogs a tendency toward an increase in acidity was observed irrespective of the rate of secretion. The solid residue showed irregular variations in all dogs. S. A. Karjala

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

14D AND 47M COLUMNS

117 AND 2ND ORDERS

14D AND 47M COLUMNS

117 AND 2ND ORDERS

Experimental atophan ulcers in dogs. I. V. Malkin and E. A. Rudik (Inst. Physiol. Acad. Sci. U.S.S.R., Moscow). *Arkh. Patol.* 17, No. 1, 71-75 (1955).—The administration of atophan to dogs for 14-15 days in doses of 0.1-0.2 g/kg. produces gastric ulcers in all experimental animals and duodenal ulcers in some. Smaller doses will do the same if the period of administration is prolonged. The location and macro- and microscopical pictures of human ulcers are identical with those of atophan-produced ulcers in the dog. Atophan administered in the doses indicated acts on the central and intramural nervous systems causing prolonged and persistent circulatory disturbances in isolated sections of the vascular and capillary systems of the stomach, predominantly in the subepithelial layer of the gastric mucosa (subepithelial hemorrhages). Vasomotor disturbances arise which impede the tissue nutrition. This leads to lowered resistance of the gastric wall and to a consequent partial wall autodigestion. B. S. Levin

MALKIMAN, I.V.; VASILEVSKIY, M.A.

The role of the functional state of the alimentary center in the motor and evacuatory activity of the stomach in dogs. Biul. eksp. biol. i med. 43 no.1 supplement:74-78 '57. (MLRA 10:3)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - deystvitel'nyy chlen AMN SSSR I.P.Bazhenkov [deceased]) Instituta fiziologii AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. V.N.Chernigovskiy) Predstavlena deystvitel'nyy chlenom AMN SSSR V.N.Chernigovskim.

(STOMACH, physiol.

evacuatory & motor funct., exam. of alimentary center in CNS)

(CENTRAL NERVOUS SYSTEM, physiol.

alimentary centers, study by determ. of evacuatory & motor funct. of stomach)

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