SHASTIN, R.N.; KUCHERYAVYY, F.Kh.; KRANTIKOVA, T.V.

Activity of false and true cholinesterase in irradiated animals.
Med.rad.   5 no.7:88-89 '60.   (MIRA 13:12)
     (RADIATION SICKNESS)   (CHOLINESTERASE)

KUCHERYAVYY, F.Kh.; IL'INA, T.B.(Loningrad)

Nonspecific phagocyte activity in experimental bone tuberculo-
sis following the use of pyrogens and Streptomycin. Pat.fiziol.
i eksp. terap. 7 no.2:63-67 Mr-Ap'63.   (MIRA 16:10)

1. Iz laboratorii eksperimental'noy patologii i terapii (ruko-
voditel' - kand.med.nauk F.Kh.Kucheryavyy) Loningradskogo in-
stituta khirurgicheskogo tuberkuleza.
        (BONES—TUBERCULOSIS) (PHAGOCYTOSIS)
         (PYROGENS)   (STREPTOMYCIN)

KOSINSKAYA, F.Kh., kand. med. nauk

Pyrogens in the pathogenesis and treatment of experimental osteoarticular tuberculosis. Probl. tub. no.7:20 '64.
(MIRA 18:1)

1. Laboratoriya eksperimental'noy patologii i terapii (zaveduyushchiy F.Kh. Kosmaryavyy) Leningradskogo nauchno-issledovatel'skogo instituta khirurgicheskogo tuberkuleza (direktor prof. A.N. Chukanov, nauchnyy rukovoditel'- deystvitel'nyy chlen AMN SSSR prof. P.G. Kornev).

KUCHERYAVYY, N.A.

Regional conference on public health service. Zdrav. Ros. Feder.8 no.2:
40-42 F'63   (MIRA 17:3)

KUCHERYAVYY, O.A., inzh.

Experience in the operation of TV2-150-2 turbogenerators. Elek. sta.
35 no.8:78-80 Ag '64.   (MIRA 17:12)

KUCHERYAVYY, O.A., inzh.; KRYUKOV, G.Ye., inzh.

Addition of oil and its removal for sampling from operational
high-voltage entrances. Elek. sta. 35 no.11:71-72 N '64.
                                         (MIRA 18:1)

S/123/62/000/013/014/021
A004/A101

AUTHORS: Kostetskiy, B. I., Kucheryavyy, O. I., Kuyun, A. I.

TITLE: Structure and properties of the surface in steel grinding

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 13, 1962, 99, abstract
13B620 (In collection: "Kachestvo poverkhnosti detaley mashin.
v. 5", Moscow, AS USSR, 1961, 283 - 291)

TEXT: The authors present the results of measuring the temperature de-
veloping in surface grinding. Specimens from heat-treated y 8 (U8) grade steel
were tested. Grinding was carried out with a ЭБ 46СМ2К (EB46SM2K) wheel at a
speed of 23 m/sec; the depth of cut amounted to 0.1 - 0.12 mm per pass and the
workpiece speed was 47 m/min. The temperature was determined with a steel -
Copel thermocouple, representing a combination of the specimen, a Copel wire
0. 5 mm in diameter led into a hole of the specimen, and a layer of electrically
deposited chromium. It was found that the grinding temperature at a point lo-
cated 20 - 30 μ from the surface reaches 870°C. An investigation of the changes
in the structure and microhardness of the surface layer showed that a white

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S/123/62/000/013/014/021
A004/A101

Structure and properties of...

streak of 20 - 30 μ thickness is located on the specimen surface whose hardness
attains 900 - 950 kg/mm^2, at a depth of 30 - 450 μ is a zone of tempered metal,
while at a distance from the surface of 500 μ and more the initial structure of
the hardened steel is to be found. The origination of a high contact tempera-
ture causes the formation of tensile stresses in the surface layers of the
machined part. If these stresses exceed the strength limit, cracks appear on
the ground surface. If the cracks are regularly arranged perpendicular to the
direction of motion during grinding, their main cause is a low quality of grind-
ing technology. If the cracks are arranged in the form of a netting, reminding
of crystal boundaries, they are caused by deficiencies in the heat and chemical-
thermal treatment. There are 7 figures and 20 references.

I. Brozgol'

[Abstracter's note: Complete translation]

Card 2/2

KUCHERYAVYY, P.P.

Normal annual runoff in rivers of the Northern Caucasus. Sbor.
rab. po gidrol. no.2:103-114 '61.   (MIRA 15:2)

1. Severo-Kavkazskoye upravleniye gidrometeorologicheskoy sluzhby.
          (Caucasus, Northern—Runoff)

$$\cdots \quad \overline{\Sigma_{s}}(n) \cdot /\Sigma pq(c) \cdot /\Sigma_{s}q(q) - 2 /\Sigma pp(n) - 2 /\Sigma_{s}q(q) /\Sigma pq /\Sigma_{s}(n) /\Sigma_{s}q(1)$$

... ... 802 ... ... 002 ... 3127

... yev, G. A.; Veselkin, A. P.; Yegorov, Yu. A. ... 17

... A., Pankrat'yev, Yu. V.

... ation of reactor radiation by serpentine concrete

... naya energiya, v. 18, no. 2, 1965, ...

reactor radiation, radiation shielding, serpentine con-
... ical shielding, fast neutrons, gamma radiation, reactor

... the shielding characteristics of concrete (density, 2.2 t/m^3)
... ine aggregate (introduced as sand or gravel) were studied
... derated water-cooled research ... ... spatial flux
... fast neutrons under conditions ... ... finite geom-
... ... radioactive ... ... me an-
... ... and aluminum ... ... and ...
... ... concrete barriers 5, 10, ... ation takes place in
... ... hed that the greatest spectrum information ... irregularities were
... ... region. In this energy reg... ... ...

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L 26911-65

ACCESSION NR: AP5005802

noticed in a total cross section of neutron interaction calculated for
. . . . . . concrete. The results of measuring spectral neutron dis-
. . . . obtain data required . . . . calcula-
. . . . . distribution of neutrons . . . . , with
. . . . . . us, the shielding Phara . . . . serpentine
. . . . rigates are somewhat better than these . . granite con-
. . . . . . respect to gamma-rays, they are the same. . . . . the chem-
. . . . . tion of the concrete changes only at temperatures over
. . . . . . recommended as biological shielding in . . lear tower
. . . . . . temperatures up to 450C. 'rig. art. has . . tables and
. . . .   [AV]

ASSOCIATION: none

SUBMITTED: 21Feb64   ENCL: 00   SUB CODE: NP, NT

NO REF SOV: 012   OTHER: 001   ATD PRESS: 3189

Card 2/2

L 27471-66   EWT(d)/EWT(1)/EWP(v)/EWP(k)/EWP(h)/EWP(1)/ETC(m)-6   WW

ACC NR: AP6007850   SOURCE CODE: UR/0120/66/000/001/0228/0229

AUTHORS: Zinov'yev, M. V.; Il'ichev, V. Ya.; Kucheryavyy, V. A.; 48
Pustovalov, V. V.

ORG: Physicotechnical Institute of Low Temperatures AN UkrSSR, Khar'kov
(Fiziko-tekhnicheskiy institut nizkikh temperatur AN UkrSSR)

TITLE: Low temperature attachment for standard testing machines

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 228-229

TOPIC TAGS: metallurgic testing machine, low temperature research

ABSTRACT: The authors describe the construction of a low temperature
attachment for standard materials testing machines, intended for defor-
mation of metals and nonmetals at temperatures down to 4.2K. Special
features of the attachment (Fig. 1) are a multi-position clamp to test
flat or round metallic and nonmetallic samples, and a cryostat in which
the cooling liquid can be stored either in a metallic or a glass Dewar
vessel. The multi-position clamp makes it possible to automatically
insert the next successive sample for testing during the idle stroke of
the testing machine. The authors thank V. I. Startsov for interest in
the work. Orig. art. has: 2 figures.

SUB CODE: 13, 14/   SUBM DATE: 16Dec64/ ORIG REF: 001/ OTH REF: 001
Card   1/2   UDC: 536.483:620.1.05
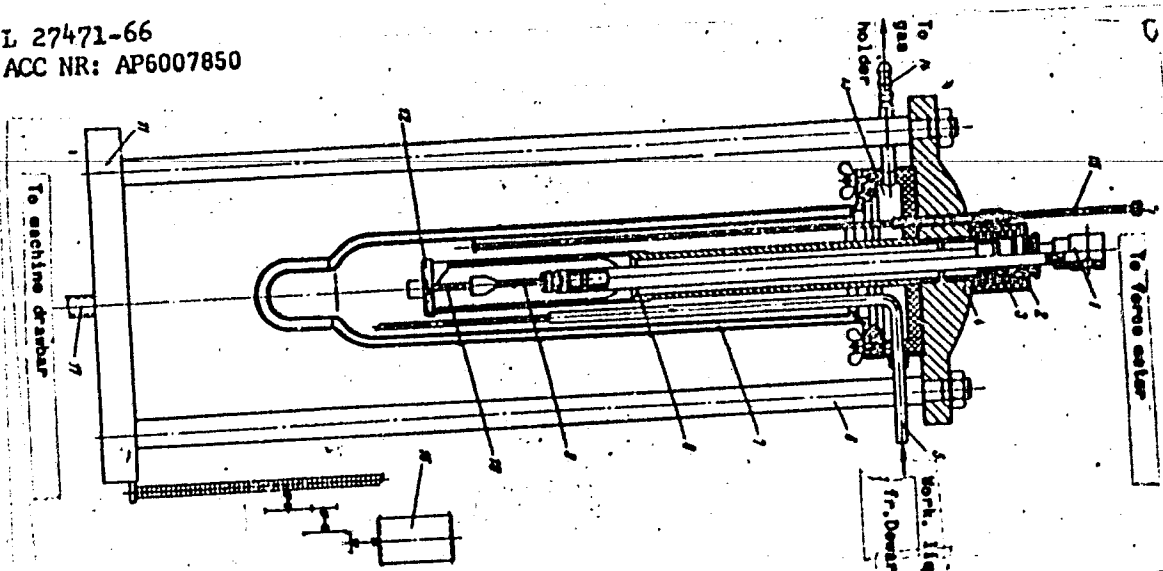
L 27471-66
ACC NR: AP6007850

Fig. 1. Diagram of low-temperature attachment. 1 - Rod, 2 - packing, 3 - bellows, 4 - upper traverse, 5 - liquid from Dewar, 6 - pull rod, 7 - Dewar, 8 - tube, 9 - clamp, 10 - sample, 11 - lower traverse, 12 - support, 13 - vacuum chamber, 14 - transfer valve, 15 - elec. level meter, 16 - recording unit.

Card 2/2 BLG

SOV/76-32-7-9/45

AUTHORS: Rabinovich, I. B., Kucheryavyy, V. I., Nikolayev, P. N.

TITLE: The Effect of the Substitution of Hydrogen by Deuterium on
              the Ultrasonic Velocity, the Refraction and the Viscosity
              of Benzene (Vliyaniye zameshcheniya vodoroda deyteriyem na
              skorost' ul'trazvuka, refraktsiyu i vyazkost' benzola)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 7, pp.1499-1505
              (USSR)

ABSTRACT: The above-mentioned properties were investigated for a deu-
              terium content of 0, 50 and 91 atom % within the temperature
              interval from 30-60°C. The viscosity of the deuterium benzene
              had already been investigated by Dixon and Schiessler (Ref 6),
              however, only at three temperatures. From the experimental
              part it may be seen that the deuterium products were obtained
              from benzene and deuterium sulfuric acid, the latter being
              produced from SO_2 and heavy water. The deuterium content was
              determined according to the data supplied by Klit and Lang-
              seth (Ref 9) from the density, while the sound velocity was
Card 1/4   determined according to the method of light diffraction.

SOV/76-32-7-9/45

The Effect of the Substitution of Hydrogen by Deuterium on the Ultrasonic
Velocity, the Refraction and the Viscosity of Benzene

The data obtained differ from those obtained by Collins and
Raffel (Ref 1). The visconimeter used is similar to that de-
veloped by A. Z. Golik and S. D. Ravikovich (Ref 11) the
flowing-out lasting at least 400 seconds, and the viscosity
of the deuterium benzene having been measured relatively to
that of benzene. Density was determined in a pycnometer,
whereas the index of light refraction was measured by means
of a refractometer of the type IRF—22 (Fulfrich type). In
relation to the equation of Schumilu (Ref 15) for the ultra-
sonic velocity based on that of van der Waal, it is assumed
that ultrasonic velocities in benzene and its deuterium homo-
loge must be inversely proportional to the magnitudes of the
square roots of the molecular weights. In the papers written
by Kincaid and Eyring (Ref 2) it was shown that the sound
velocity in liquids is directly related to the "free volumes".
From the equation given by those authors the authors of this
paper obtained a 5 % enlargement of the free volume in the
case of a 50 % substitution of the hydrogen by deuterium in
benzene, and one of 9 % with 91 % deuterium; this corresponds
to the data obtained in the isotopic effect in compressibility.

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SOV/76-32-7-9/45

The Effect of the Substitution of Hydrogen by Deuterium on the Ultrasonic
Velocity, the Refraction and the Viscosity of Benzene

In connection with this it was found that a substitution in
benzene of 91 % hydrogen by deuterium decreases the refrac-
tion index to 2.10^{-3} and the polarizability to 0.52 %. As
the zero energy of the C-D bond is smaller than that of the
C-H bond a D $\longrightarrow$ H substitution causes an increase of the
energy difference between the respective excited and the
basic electron level; this fact is explained by observations
made by Burton et al. (Ref 15 and is proved by experimental
data obtained by Ingold and Wilson (Ref 20). Proceeding from
the equation according to Slater and Kirkwood (Ref 21) it
is found that a 91 % hydrogen substitution by deuterium
causes a decrease of the dispersion energy to 0.4 %; on the
other hand it is found according to the data supplied by
Wilkinson (Ref 23) that the equations according to London
(Ref 24) as well as those according to Slater and Kirkwood
(Ref 21) supply similar values for the isotopic effect in the
dispersion energy. The observed effects described were ex-
plained by the increase in atomic dimensions and by the de-

Card 3/4

The Effect of the Substitution of Hydrogen by Deuterium on the Ultrasonic
Velocity, the Refraction and the Viscosity of Benzene

crease of the zero energy of the atomic bonds dependent on it.
Since the dispersion energy becomes smaller in the hydrogen-
deuterium substitution also a decrease of the heat of vapor
formation is expected which seems to be proved according to
data supplied by Davis and Schiessler (Ref 14) although those
data are doubtful. In the case of a 91 % substitution of ben-
zene by deuterium an increase of the viscosity from 4,8 to
5,5 % was observed, and correspondingly less in the case of
a 50 % substituted one; also an increase of the vapor pres-
sure at C_6D_6 by 2,5 - 2 % to that of C_6H_6 was found. Finally
the authors thank A. I. Brodskiy. There are 1 figure, 2 tables,
and 24 references, 5 of which are Soviet.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im. N.I.Lobachevskogo
(Gor'kiy State University imeni N.I. Lobachevskiy)

1. Benzene--Properties   2. Benzene--Analysis . 3. Deuterium
--Determination   4. Deuterium--Properties   5. Sound--Velocity

Card 4/4

S/080/60/033/008/021/022/XX
D213/D305

AUTHORS: Gol'dberg, N.A., Kucheryavyy, V.I.

TITLE: Some physico-chemical properties of hexamethylene diisocyanate

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 8, 1960, 1912 - 1913

TEXT: The authors determine the density, viscosity, saturated vapor pressure and refractive index of hexamethylene diisocyanate. For experimental purposes, technically pure hexamethylene diisocyanate was fraction-ed under vacuum using a 12 mm diameter column packed with Fenske rings; the total height of packing was 1.2 m. During distillation the fraction b. pt. 130°C at 12 mm Hg was collected. The content of hexamethylene diisocyanate was determined according to the VTU No. 13 - X - 05 - 58 method and was found to be 99.8 % ± 0.5 %. Determinations of density, viscosity and saturated vapor pressure were carried out by earlier used methods. [Ab-

Card 1/3

S/080/60/033/008/021/022/XX
D213/D305

Some physico-chemical properties ...

stractor's note: Not mentioned] The refracting index dependence on the wave-length of the incident light was determined using an IRF-23 refractometer of the Pulfrich type at 20°C. The relation between density, viscosity and temperature is represented in tabulated form. The saturation vapor pressure-temperature relation is also represented together with the refractive index - wavelength of incident light relation. The average heat of vaporization at 130-180°C was calculated and found to be 13,800 cal/g mol. and the energy of vaporization, $E_{vap} = 13,100$ cal/g mol. The activation energy of viscous flow $E_{vis} = 2,950$ cal/g mol. and the comparison of these two values gives $\frac{E_{vap}}{E_{visc}} = 4.4$. On the basis of the theory of viscosity submitted by Eyring and coworkers, it may be assumed that hexamethylene diisocyanate is an associated liquid. The values of refractive indices fall on a straight line on $(\frac{n^2 + 2}{n^2 - 1}, \nu^2)$ co-

Card 2/3

RABINCVICH, I.B. (Gor'kyi); Pri uchastii: GOLOV, V.G.; NIKCLAYEV, P.N.;
     VCLOKHCVA, Z.V.; KUCHERYAVYY, V.I.

     Effect of substituting deuterium for hydrogen on the velocity of
     sound and the compressibility of liquids. Zhur. fiz. khim.
     34 no.2:423-431 F '60.   (MIRA 14:7)

     1. Gor'kovskiy gosudarstvennyy universitet im. N.I.Lobachevskogo,
     Institut khimii.
               (Deuterium) (Sound--Speed) (Compressibility)

S/076/60/034/010/006/022
B015/B064

AUTHORS: Rabinovich, I. B., Lobashov, A. A., and Kucheryavyy, V. I.

TITLE: The Negative Isotopic Effect in the Viscosity of the
             Deuterium Compounds

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34. No. 10.
             pp. 2202-2204

TEXT: An exchange of hydrogen by deuterium leads, in the case of non-
associated liquids, to a change of the molecular weight and the energy
of the intermolecular interaction. An increase of the two last-mentioned
values leads to an increase of the viscosity of the liquid Rabinovich
et al, showed that in the range of medium temperatures. an increase in the
molecular weight in the substitution of hydrogen by deuterium is
accompanied by a reduction of the intermolecular dispersion energy
(Refs 2-4), i.e., that an increase, but also a decrease in viscosity may
occur due to the isotopic exchange in dependence on the fact whether the
increase in molecular weight, or the change of energy of the inter-

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The Negative Isotopic Effect in the Viscosity   S/076/60/034/010/006/022
of the Deuterium Compounds   B015/B064

molecular interaction has a greater effect upon the viscosity. The in-
vestigations hitherto conducted (Ref. 5) always led to an increase in
viscosity in the isotopic exchange. The present paper shows that isotopic
exchange may also bring about a decrease in viscosity. In chloroform and
tetrabromo methane the hydrogen was exchanged for deuterium and an
increase in viscosity was found, i.e., in contrast to the cases hitherto
investigated a negative isotopic effect was observed. The decrease in
viscosity amounted to approximately 1% in both substances, which is five
times the error of measurement, and may thus be regarded as a reliable
result. Thus, it was clearly proven by experiment that an increase in
molecular weight due to the exchange of a light isotope for a heavy one
may affect an increase, but also a decrease in viscosity. Finally, the
author thanks A. I. Brodskiy, Corresponding Member of the AS USSR and
Professor A. Z. Golik for discussing the results. There are 2 tables and
8 references: 7 Soviet and 1 US.

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet im N.I Lobachevskogo
              (Gor'kiy State University imeni N. I. Lobachevskiy)
SUBMITTED: December 6, 1958
Card 2/2

GOL'DBERG, N.A.; KUCHERYAVYY, V.I.

Modeling chemical sorption processes. Khim. prom. no.9:38-44
S '61.   (MIRA 15:1)

(Sorption)

GOL'DBERG, N.A.; KUCHERYAVYY, V.I.

Model study of chemisorption processes. Zhur. prikl. khim. 34
no.1:151-156 Ja '61.   (MIRA 14:1)
                    (Chemisorption)

GOL'DBERG, N.A.; KUCHERYAVYY, V.I.

Modeling of chemabsorption processes. Zhur.prikl.khim. 35
no.2:350-356 F '62.   (MIRA 15:2)
                    (Absorption)   (Chemical models)

GOL'DBERG, N.A.; KUCHERYAVYY, V.I.

Modeling of chemisorption processes taking place in counter-
current packed columns. Dokl. AN SSSR 142 no.5:1134-1136
F '62.   (MIRA 15:2)

1. Gosudarstvennyy nauchno-issledovatel'skiy i proyektnyy institut
azotnoy promyshlennosti i produktov organicheskogo sinteza.
Predstavleno akademikom S.U.Vol'fkovichem.
                    (Packed towers)

LIVSHITS, B.S., kand. tekhn. nauk; KUCHERYAVYY, Ye.I., kand. tekhn nuak.

Rural block-type relay automatic dial telephone system. Vest.
sviaxi 17 no.11:3-5 N '57.   (MIRA 10:12)

1. Nachal'nik laboratorii Nauchno-issledovatel'skogo instituta
tekhnologii svarki (for Livshits). 2. Starshiy nauchnyy sotrudnik
Nauchno-issledovatel'skogo instituta tekhnolgii svarki (for
Kucheryavyy).

                     (Telephone, Automatic)

KUCHERYAVYY, Ye.I.; PAVLOVSKIY, I.Ye.; POLYAK, P.Yu.; FARAFONOV, L.S.,
    otv. red.; PETROVA, V.Ye., red.; DIKOV, V.N., tekhn. red.

[Group connection of telephone lines] Kollektivnoe vkliuchenie tele-
fonnykh linii. Informatsionnyi sbornik. Moskva, Gos. izd-vo lit-ry
po voprosam sviazi i radio, 1961. 135 p.   (MIRA 14:9)

1. Nauchno-issledovatel'skiy institut gorodskoy i sel'skoy telefon-
noy svyazi Ministerstva svyazi SSSR (for Kucheryavyy, Pavlovskiy,
Polyak).

(Telephone lines)

KUCHERYAVYY, Ye.I.

Principles of the organization of rural telephone communication.
Vest. sviazi 24 no.6:14-15 Je '64.   (MIRA 17:11)

1. Nachal'nik laboratorii Nauchno-issledovatel'skogo instituta
gorodskoy i sel'skoy telefonnoy svyazi.

AUTHORS: Kucheryayev, A. G., Sshenov, Yu. K.,   SOV/56-34-3-50/55
              Gogichayshvili, Sh. M., Leont'yeva, I. N.,
              Vasil'yev, L. V.

TITLE: The Magnetic Nuclear Moments of Sr^{87} and Mg^{25}
              (Yadernyye magnitnyye momenty Sr^{87} i Mg^{25})

ABSTRACT: The authors found the gyromagnetic ratio of the nucleus Sr^{87}
              by means of the method of magnetic resonance in molecular
              beams (ref. 1). This molecular beam consisted of strontium
              atoms which made possible the elimination of the inter-
              molecular interactions as well as an exact taking into
              account of diamagnetic correction. The 378 cm long strontium-
              atom beam was detected by means of the method of surface
              ionization on a heated tungsten wire circumflowed by an
              oxygen current. The ions of strontium 87 were separated by
              a magnetic analyzer and were recorded by an electronic
              multiplier and a galvanometer. The value of the gyromagnetic
Card 1/3   ratio g of the nucleus is determined from the equation

The Magnetic Nuclear Moments of Sr^{87} and Mg^{25} SOV/56-34-3-50/55

$$g = 1.3122.10^{-3} \, f_p/H_p$$

where f_p denotes the resonance frequency of the oscillating field, and H_p denotes the corresponding resonance value of the constant magnetic field(in which the transitions take place). The resonance values f_p and H_p correspond to the minimum intensity of the refocused beam. The measurements were carried out according to the method of the invariable field as well as the method of invariable frequency. Also the fluctuations of the intensity of the atom beam were taken into account by means of two different methods shortly discussed. The maximum error of these measurements is estimated to amount to 0.12 %. From 26 measurement series the following mean value for the gyromagnetic ratio is obtained:

$$g(Sr^{87}) = 0.2423 \pm 0.0003$$

Card 2/3   this coincides within the error limits with the value

The Magnetic Nuclear Moments of Sr^{87} and Mg^{25} SOV/56-34-3-50/55

determined by C. D. Jeffries (Dzhefris) and P. B. Sogo (Ref 4) according to the method of "nuclear induction". The diamagnetism, of the atom demands the following correction:

$$H_{true} = (1 - \sigma)H_{measured}.$$

Here H_{true} denotes the true value of the magnetic field strength at the place of the nucleus. According to W. C. Dickinson (Dikinson) (Ref 5) here holds $\sigma = 0.00345$. Taking into account this correction as well as the unknown value of the spin of Sr^{87} ($I = 9/2$) the value of μ (Sr^{87}) $= 1.0939 \pm 0.0014$ nuclear magnetons is obtained for the magnetic moment of the nucleus of Sr^{87}.
There are 6 references, 0 of which are Soviet.

SUBMITTED: December 25, 1957

          :

Card 3/3

21(1), 24(3)   SOV/56-37-2-51/56
AUTHORS: Kucheryayev, A. G., Szhenov, Yu. K., Gogichayshvili, Sh. M.

TITLE: Measurement of the Magnetic Moments of the Atomic Nuclei of
             Alkaline Earth Metals by the Method of Magnetic Resonance in
             Molecular Beams

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,
             Vol 37, Nr 2(8), pp 582-583 (USSR)

ABSTRACT: This method offers certain advantages if compared to other
             methods, if the molecular beam consists of atoms in the S_0-state.
             It has already been used for the purpose of measuring the magnet-
             ic moments of Ba^{135}, Ba^{137}, Ne^{21}, and Sr^{87} (Refs 1-4). As already
             shown by the authors (Refs 4,5), this method may also serve the
             purpose of determining the magnetic moments of all alkaline
             earth metals. The description of the experimental arrangement
             and of the method may be found in reference 5.
             Results:

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Measurement of the Magnetic Moments of the Atomic Nuclei of Alkaline Earth
Metals by the Method of Magnetic Resonance in Molecular Beams

	t, °C	I, imp/sec	β	μ
Mg^{25}	600	200	$2 \cdot 10^{-4}$	-0.855 ± 0.002
Ca^{43}	1070	300	0.02	1.317 ± 0.003
Sr^{87}	750	10^4	0.2	-0.0924 ± 0.0009
Ba^{135}	800	500	0.6	1.8370 ± 0.0008
Ba^{137}	800	850	0.6	0.9364 ± 0.0009

t denotes the temperature of the source, I - the recorded intensity of a narrow bundle, β - the surface ionization coefficient at optimum detection conditions, μ - the magnetic moment (with diamagnetic correction) given in nuclear magnetons. Systematical errors were excluded. The authors finally thank T. S. Bokuchav, K. G. Mirzoyev, and I. N. Leont'yeva for their help in carrying out measurements, M. I. Guseva, V. M. Gusev, and D. V. Chkuaseli for the enriched Ca^{43}-preparation. There are 2 tables and 12 references, 3 of which are Soviet.

Card 2/3

SOV/56-37-2-51/56

Measurement of the Magnetic Moments of the Atomic Nuclei of Alkaline Earth
Metals by the Method of Magnetic Resonance in Molecular Beams

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk GruzSSR (Physico-
technical Institute of the Academy of Sciences, Gruzinskaya SSR)

SUBMITTED: May 19, 1959

Card 3/3

EWP(j)/EWT(1)/EWT(m)/BDS--AFFTC/ASD--Pc-4--RM   64

L 11218-63

ACCESSION NR: AP3001632   S/0192/63/004/003/0459/0460   63

AUTHOR: Baroni, Ye. Ye.; Ksenofontov, V. A.; Kucheryayev, A. G.; Oliferchuk, N. L.;
Shuander, Yu. A.

TITLE: Nuclear magnetic resonance of scintillators based on polystyroles

SOURCE: Zhurnal strukturnoy khimii, v. 4, no. 3, 1963, 459-460

TOPIC TAGS: NMR of protons, polystyrole and plastic scintillators

ABSTRACT: This study shows an experimental determination of some features of NMR
in the polystyrole and plastic scintillators based on polystyrole which could be
utilized for the study of structural properties. It was established that the NMR
proton spectrum in the polystyrole and polystyrole with added scintillating sub-
stances at temperatures higher than 20-30C consist of two components: wide with
DELTA H approximately equals 6.7 gauss and the narrow with DELTA H approximately
equals 0.35 gauss. The amplitude of the narrow polystyrole component shows a tem-
perature dependence at about 120C. With the introduction of luminescent materials
the transition point is shifted into the region of lower temperatures. The wide
component shows a transition of polystyrole at a temperature of approximately 75

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L 11218-63
ACCESSION NR: AP3001632

and 120C. The introduction of scintillating materials shifts the point of transi-
tion to lower temperatures. Small additions up to 3% do not affect the transition
at 75C. The NMR method may find its usefulness in the determination of a known
concentration added to the polystyrole by means of shifting the transition points
determined from the temperature dependence of the amplitude of the narrow compo-
nent at the appropriate temperature. "The authors express their gratitude to V. M.
Shoniya for the preparation of polystyrole and the scintillators in its base for
these investigations." Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN Cruz SSR (Physico-Technical Institute,
Cruz SSR)

SUBMITTED: 29Jan62

SUB CODE: 00

DATE ACQ: 01Jul63   ENCL: 00

NC REF SOV: 001   OTHER: 001

Card 2/2

VASIL'YEV, G.A.; VESELKIN, A.P.; Y   V, Sh.A.; N   T   ;
PANKRAT'YEV, Yu.V.

Attenuation of reactor radiations by serpentine concrete. Atom.
energ. 18 no.2:121-127 F '65.   (MIRA 18:3)

KUCHERYAYEV, V. A.;   PANOV, D. A.

"On the Question of the Cause of the Anomalously Fast
Losses of Electrons from Plasmas in Ogra."

Report presented at the Conference on Plasma
Stability, Culham UK, 17-22 Sep '62

ACCESSION NR: AT4025312   S/0000/63/000/000/0223/0232

AUTHORS: Kucheryayev, Yu. A.; Panov, D. A.

TITLE: Use of electron and ion beams for the measurement of the electric field of the space charge of the 'Ogra' plasma

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 223-232

TOPIC TAGS: plasma research, plasma confinement, plasma sheath, particle collision, field intensity, magnetic mirror, space charge

ABSTRACT: Two methods are described for measuring the field of plasma space charge. In one method the deflection of the electron beam due to drift in crossed electric and magnetic fields is measured, while in the other method the electric-field pickup is a beam of cesium ions moving in the boundary region between the plasma and the chamber wall.   The measurements were aimed at determining the

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ACCESSION NR: AT4019060   S/0000/63/000/000/0260/0270

AUTHOR: Avayev, V. N.; Vasil'yev, G. A.; Yegorov, Yu. A.; Kucheryayev, V. A.;
Orlov, Yu. V.; Pankrat'yev, Yu. V.; Panov, Yo. A

TITLE: Counters and dosimeters for the study of shielding and shielding properties of
materials

SOURCE: Voprosy* fiziki zashchity* reaktorov; sbornik statey (Problems in physics of
reactor shielding, collection of articles). Moscow, Gosatomizdat, 1963, 260-270

TOPIC TAGS: counter, scintillation counter, dosimeter, shielding, reactor shielding,
nuclear reactor, gamma ray, neutron

ABSTRACT: In the study of the shielding properties of different materials and their com-
binations, it is important to know the following parameters: coefficients of attenuation of
γ-ray and neutron streams of different energies; coefficients of attenuation of the power
level of γ-radiation and fast neutrons; yield and spectrum of captured γ-radiation; acti-
vation of materials in a neutrons flux; and deformation of the γ-ray and neutron spectra
in their passage through the material. Since existing equipment is insufficient for shielding
studies, the authors built and tested a number of scintillation counters and dosimeters.

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ACCESSION NR: AT4019060

Among those described are a scintillation counter and spectrometer for the study of the
attenuation of γ-ray flux, consisting of a FEU-11B photomultiplier with an NaI(T1) crystal
(diameter and height 40 mm) mounted in a housing lined with aluminum foil, and a
scintillation neutron counter consisting of a FEU-11B photomultiplier with plastic scin-
tillator of ZnS(Ag) + lucite (diameter 30, height 10 mm). For neutron energies ≥ 2 MeV,
the γ-ray background is calibrated with a Co^{60} source and eliminated by the proper bias
in the analyzer. A similar neutron counter can be used as a monitor. A light guide in
conjunction with a smaller counter is used when the opening in the shielding is too small.
This light guide is made of organic glass (length 60, diameter 10 mm) and is equipped with
a light collector (Tove, P. A. Rev. of Sci. Inst. 27, 143 (1956)). For neutron energies
between 1 and 10 Mev, a stilbene crystal is used (diameter 30, height 20 mm) equipped
with the γ-discrimination arrangement described by H. W. Broch (Rev. Sci Instr. 31,
1063 (1960)). The detection efficiency for neutrons between 1 and 10 Mev is 10 - 2%. For
thermal neutron detection, a FEU-29 or FEU-31 photomultiplier with an Li_2O- $3SiO_2$ glass
scintillator is used. Detection is based on the reaction $Li^6 + n \rightarrow \alpha + H^3$. The sensitivity
of these counters to γ rays is calibrated by Zn^{65} to Co^{60} sources. All-wave-length neutron
counters are constructed as gas counters (type SNM-5) filled with BF_3 and enclosed in
paraffin, which is lined on the outside with cadmium. Dosimeters for fast neutrons are

Card 2/3

YEGOROV, Yu.A.; KUCHERYAYEV, V.A.

Possibility of using certain organic scintillators for dosimetry.
Inzh.fiz.zhur. 4 no.7:117-119 Jl '61.   (MIRA 14:8)
     (Scintillation counters) (Radiation—Dosage)

KUCHERYAYEV, M. A.; PANOV, D. A.

"On the Question of the Cause of the Anomalously Fast
Losses of Electrons from Plasmas in Ogra."

Report presented at the Conference on Plasma
Stability, Culham UK, 17-22 Sep '62

ACCESSION NR: AT4025312   8/0000/63/000/000/0223/0232

AUTHORS: Kucheryayev, Yu. A.; Panov, D. A.

TITLE: Use of electron and ion beams for the measurement of the electric field of the space charge of the 'Ogra' plasma

SOURCE: Diagnostika plazmy* (Plasma diagnostics); sb. statey. Moscow, Gosatomizdat, 1963, 223-232

TOPIC TAGS: plasma research, plasma confinement, plasma sheath, particle collision, field intensity, magnetic mirror, space charge

ABSTRACT: Two methods are described for measuring the field of plasma space charge. In one method the deflection of the electron beam due to drift in crossed electric and magnetic fields is measured, while in the other method the electric-field pickup is a beam of cesium ions moving in the boundary region between the plasma and the chamber wall. The measurements were aimed at determining the

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ACCESSION NR: AT4025312

field distributions and the collective processes occurring in an
"Ogra" device. The electron source used was a three-electrode gun
placed in one of the magnetic mirrors of the "Ogra," and the electron
beam receiver was a television-tube screen with low persistence.
The construction and operation of the apparatus are briefly described.
The quantities measured were the radial distribution of the radial
component of the electric field of the plasma space charge, the
electric field near the walls of the chamber, and the correlation
of the electric field near the cesium probe with the signal from the
fast-ion detector. It is concluded that the use of interaction be-
tween the probe charges and electromagnetic fields of the plasma,
and also of atomic and nuclear collisions with the plasma compo-
nents, yields a variety of information on the plasma properties. An
advantage of such diagnostics is the fact that it hardly disturbs
the investigated object. Orig. art. has: 6 figures.

ASSOCIATION: None

Card   2/6 2

BOGDANOV, G.F.; KARPUKOV, A.N.; KUCHERYAYEV, Yu.A.

Dissociation of fast molecular hydrogen ions and the charge
exchange of fast protons in a lithium arc. Atom. energ. 19
no.4:381 O '65.   (MIRA 18:11)

RATINOV, V.B.; KUCHERYAYEVA, G.D.; MELENT'YEVA, G.G.; PIMENOVA, S.M.

Thermodynamic and diffusion characteristics of the basic
components of cement when they are dissolved in water. Izv.
vys.ucheb.zav.; stroi. i arkhit. 4 no.6:135-145 '61.(MIRA 15:2)

1. Nauchno-issledovatel'skiy institut zhelezobetonnykh
izdeliy, stroitel'nykh i nerudnykh materialov.
                    (Cement)

S/081/61/000/023/030/061
B138/B101

AUTHORS: Ratinov, V. B., Rozenberg, T. I., Dovzhik, O. I. Kucherya-
yeva, G. D., Smirnova, I. A.

TITLE: Corrosion inhibitors for reinforcement bars in concrete
containing calcium chloride

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1961, 290, abstract,
231272 (Tr. N.-i. in-ta betona i zhelezobetona Akad. str-va
i arkhitekt. SSSR, no. 22, 1961, 40 - 53)

TEXT: An investigation of the mechanism of reinforcement iron corrosion
in concrete with additions of $CaCl_2$ and $NaNO_2$ has shown that the process
takes place with diffusion control. It is noted that $NaNO_2$ is an
effective corrosion inhibitor for reinforcements, due to its power of
rapidly creating or healing protective films, passivating the metal
thereby. The addition of $NaNO_2$ together with $CaCl_2$ will increase the
strength of concrete without making plastic deformation any greater than

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Corrosion inhibitors for reinforcement...

S/081/61/000/023/030/061
B138/B101

in concrete without these additions. [Abstracter's note: Complete
translation.]

Card 2/2

RATINOV, V.B.; KUCHERYAYEVA, G.D.; MELENT'YEVA, G.G.

Thermodynamic and diffusion characteristics of silicate ingredients
of cement when they are dissolved in water. Dokl. AN SSSR 136 no.4:
875-878 F '61.   (MIRA 14:1)

1. Nauchno-issledovatel'skiy institut zhelezobetonnykh izdeliy,
stroitel'nykh i nerudnykh materialov. Predstavleno akademikom
P.A. Rebinderom.
                          (Calcium silicate)

ANFINNIKOV, M., kand. sel'skokhoz. nauk; SHVIDKOY, V., inzh.; KUCHEVOY,
        V., inzh.

    Pine geometrid control. Zashch. rast. ot vred. i bol. 10
    no.7:26 '65.   (MIRA 18:10)

    1. Ukrainskiy institut lesnogo khozyaystva i agrolesomelioratsii,
    Khar'kov.

TITOV, M.; KUCHEVSKAYA, F.

Calculating production norms for the work on semiautomatic devices. Biul.nauch.inform.; trud i zar.plata 3 no.6:17-20 '60.
(MIRA 13:6)
(Glass blowing and working--Production standards)

RODIN, A.M.; KUCHEY, S.A.

Measuring the penetration depth and diffusion coefficient of
gases in metals. Prib. i tekh.eksp. no.4:68-69 Jl-Ag '57.
(MIRA 10:10)

(Gases in metals) (Diffusion)

KUCHIEWICZ, W.

Remarks on precision traverse surveying after the introduction
of the news instruction by the Central Administration of
Geodesy and Cartography in 1955, p. 140. Vol. 12, no. 4, Apr. 1956
Warszawa
PREGLAD GEODEZYJNY

SOURCE: East European Accession List (EEAL) Library of Congress
            Vol. 5, no. 8, August 1956

KUCHIKYAN, L.M.

Automatic moisture control of aluminum oxide hydrate. TSvet. met.
37 no.9:46-51   S '64.   (MIRA 18:7)

ACC NR: AM0021848   Monograph   UR

Grinshteyn, M. M.; Kuchikyan, L. M.

Photoelectric concentration meters for automatic control and regulation
  (Fotoelektricheskiye kontsentratomery dlya avtomaticheskogo kontrolya
  i regulirovaniya) Moscow, Izd-vo "Mashinostroyeniye", 1966. 170 p.
  illus., biblio. Errata slip inserted. 4000 copies printed.

TOPIC TAGS: photoelectric cell, radiation detector, photoresistor,
  photometer, light modulation, refractometer, polarimeter, AUTOMATIC
  CONTROL DEVICE

PURPOSE AND COVERAGE: This book is intended for technical personnel
  concerned with the automation of industrial processes and may also
  be useful to students at higher schools of education specializing in
  the field of automation. The principles of designing circuits for
  photoelectric concentration meters are discussed, and a description
  is given of the elements of these circuits. In addition, the theory
  and methods of determining the concentrations of liquid and gaseous media
  by means of automatic photoelectric devices are covered. Soviet and
  foreign photoelectric concentration meters for automatic control and
  regulation are described in detail.

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ACC NR:AM6021848

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   3. Classification of automatic photoelectric concentration meters
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ACC NR: AM6021848

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ACC NR: AM6021848

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SUB CODE: 09/ SUBM DATE: 04Jan66/ ORIG REF: 048/ OTH REF: 010/

Card 4/4

GRINSHTEYN, Mark Mikhaylovich; KUCHIKYAN, Leonid Mikhaylovich;
        YELISEYEV, R.Ye., red.

[Photoelectric relays in amateur radio receivers] Foto-
rele v radioliubitel'skoi praktike. Moskva, Izd-vo
"Energiia," 1964. 72 p. (Massovaia radiobiblioteka,
no.533)   (MIRA 17:6)

KUCHIKYAN, L.

Automatic measurement of moisture content in aluminum hydroxide.
Prom.Arm. 6 no.2:26-29 F '63.   (MIRA 16:5)

1. Nauchno-issledovatel'skiy institut "Avtomatika".
                        (Aluminum hydroxide—Testing)

KUCHIKYAN, L.

Automatic control of copper sulfate content of electrolytes.
Prom.Arm. 5 no.9:26-28 S '62.   (MIRA 15:9)

1. Nauchno-issledovatel'skiy institut avtomatizatsii proizvodstvennykh
pro'sessov khimicheskoy promyshlennosti i tsvetnoy metallurgii.
     (Copper plating)   (Electrolytes)

RUSHKYAN, L. .; DADAYAN, A.A.

Photocolorimetric method for measuring the concentration of hemicellulose in alkali solutions. Khim.volok.no.5:36-38 '64.   (MIRA 17:10)

1. Nauchno-issledovatel'skiy institut avtomatizatsii proizvodstvennykh protsessov khimicheskoy promyshlennosti i tsvetnoy metallurgii, Kirovakan.

KUCHIN, A.I.; ARUTYUNOV, S.A.

Results of industrial testing of bottom discharge devices of petroleum tank cars. Transp. i khran. nefti i nefteprod. no.7:17-21 '65.
(MIRA 18:9)

1. Glavnoye upravleniye po transportu i snabzheniyu neft'yu i nefteproduktami pri Sovete Ministrov RSFSR.

KUCHIN, A.M., inzhener.

      Avtobus dining car. Avt.transp.32 no.10:37 O '54.   (MLRA 7:12)
      (Motor buses)

KUCHIN, Aleksey Mikhaylovich; ABRAMOVICH, A. D., redaktor; MAL'KOVA,
N.V., tekhnicheskiy redaktor.

[New method in adjusting automobiles for fuel economy] Novyi
metod regulirovki avtomobilei na toplivnuiu ekonomichnost'.
Moskva, Nauchno-tekhn.izd-vo avtotransp.lit-ry, 1955. 23 p.
    (Automobiles--Fuel consumption)   (MLRA 8:8)

KASHIRKIN, Yu.; KUCHIN, A.; SEROV, A.

Stand for testing ignition devices. Avt.transp.34 no.11:32-33 N
'56.   (MLRA 9:12)
    (Automobiles--Ignition)

KUCHIN, A.P.

> Winter bird fauna of the upper Ob' Valley. Izv. Alt. otd. Geog.
> ob-va SSSR no.5:152-153 '65.
>
> Biology of the turtledove Streptopelia orientalis in the
> Biya-Katun' piedmont interfluve. Ibid.:157-158   (MIRA 18:12)
>
> 1. Gorno-Altayskiy pedagogicheskiy institut.

KUCHIN, A.P.

    Materials of phenological observations in the Altai Territory.
    Izv. Alt. otd. Geog. ob-va SSSR no.1:75-79 '61.   (MIRA 17:5)

KUCHIN, A. P.

Ecology of some predatory birds of the Biya-Katun interfluve.
Zool. zhur. 40 no.5:730-735 '61.   (MIRA 14:5)

1. Altai Branch of the U.S.S.R. Geographical Society.
            (Biya Valley--Birds of prey)
            (Katun Valley--Birds of prey)

KUCHIN, A.P.

Ecology of some predatory birds of the upper Ob' Valley. Zool.
zhur. 42 no.9:1418-1420 '63.   (MIRA 16:12)

1. Altai Branch of the Geographical Society of U.S.S.R., Biysk.

KUCHIN, ____, aspirant. IVANOVA, I.e., nauchnyy rukovoditel' raboty

Treating strongyloidiasis in lambs. Veterinariia 41 no.1:
54-55 Ja '65.   (MIRA 18:2)

1. Vitebskiy veterinarnyy institut.

KUCHIN, K. V.

Technology

Prominent Russian metallurgist Vladimir Efimovich Grum-Grzhimailo, Khar'kov, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1951

9. Monthly List of Russian Accessions, Library of Congress, March 1952 ~~1953~~, Uncl.

137-58-3-6023

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 226 (USSR)

AUTHOR: Kuchin, A. V.

TITLE: Mechanical Properties of Non-magnetic Steel as a Function of
            the Degree of Cold Deformation (Cold Hardening)[Vliyaniye
            stepeni kholodnoy deformatsii(naklepa) na mekhanicheskiye
            svoystva nemagnitnoy stali]

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1957, Vol 11, pp 107-115

ABSTRACT: Investigations were performed in order to evaluate the
            influence of the extent of cold deformation (CD) on mechanical
            properties of austenite steel containing 0.49 percent C, 5.10
            percent Mn, 0.44 percent Si, 10.55 percent Ni, 9.47 percent
            Cr, 0.01 percent S, and 0.027 percent P. Specimens cut from
            heavy forged stock which had been tempered starting at a
            temperature of 1100° were subjected to various degrees of
            CD. Mechanical tests performed on samples of cold hardened
            metal have shown that σ_s and σ_b increase considerably and
            that, at increasing degrees of CD, the γ_s increases at a greater

Card 1/2   rate than the σ_b. Initially the ratio σ_s / σ_b equals 42 percent,

137-58-3-6023

Mechanical Properties of Non-magnetic Steel (cont.)

whereas after a CD of 26 percent the value of the ratio increases to 91.6 percent. The fact that σ_s approaches the σ_b value indicates that the steel has suffered a loss of plasticity and that, therefore, the process of cold hardening may be carried on only up to a certain limit at which the steel still exhibits sufficient ductility and plasticity. For the steel investigated this critical degree of CD lies between 26 percent and 30 percent.
Bibliography: 16 references.

N. K.

Card 2/2

137-58-3-5967

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 216 (USSR)

AUTHOR: Kuchin, A. V.

TITLE: Resilience of Medium Manganese Steel at Normal and Low
Temperatures (Udarnaya vyazkost' srednemargantsovistoy
stali pri normal'noy i nizkikh temperaturakh)

PERIODICAL: Tr. Khar'kovsk. politekhn. in-ta, 1957, Vol 11, Nr 2, pp
83-94

ABSTRACT: Mechanical properties of forged axles (A) and of an A of
current production were investigated together with their macro-
and microstructure in order to explore the possibility of
employing medium manganese steel (MMS) (0.25-0.35 percent
C, 1.5 percent Mn) in the production of locomotive axles.
Along with mechanical testing, carried out at normal tem-
peratures, the a_k was also determined at temperatures of $-20°$
and $-50°$. It is established that MMS fully meets the speci-
fications for material employed for the manufacture of
locomotive A's. Compared with carbon steel, the a_k of MMS
is considerably greater at low temperatures, the σ_w of MMS

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137-58-3-5967

Resilience of Medium Manganese Steel (cont.)

exceeds the σ_w of carbon steel by 4-5 kg/mm^2. Mechanical tests performed on specimens taken from an experimental A (0.32 percent C, 1.48 percent Mn), which was subjected to normalization at 830° and 780°C and was annealed at 600°, have shown that Mn has a favorable effect on the quality of structural steel, particularly on the a_k at normal and at low temperatures. The MMS is recommended for the manufacture of locomotive A's.

N. K.

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S/137/61/000/008/030/037
A060/A101

AUTHOR: Kuchin, A. V.

TITLE: Change in the mechanical properties at different depths of austenitic
               steel forgings after cold hardening

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1961, 12, abstract 8198
               ("Tr. Khar'kovsk. politekhn. in-ta.", 1960, 15, 91-94)

TEXT: An investigation was carried out on the nature of the variation in
the mechanical characteristics at various depthsof an article subjected to
cold-hardening, using a tire-ring forging with wall thickness 100 mm of non-
magnetic steel with composition (in %): C 0.7, Mn 7.42, Si 0.26, Cr 2.80, Ni
7.54, W 0.80, S 0.013, P 0.040. After forging and stripping the tire-ring was
hardened at 1,150° and subjected to cold deformation under a press. The
mechanical characteristics of the tire-ring forging varied noticeably along the
radial direction. The maximum value of σ_s (85 - 87 kg/mm^2)was observed at the
inner surface of the tire-ring and the minimum value (71 - 73 kg/mm^2) at the
middle of the tire-ring thickness. In order to study the hardness as a function
of the degree of cold deformation and the depth of the readings along the radius

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Change in the mechanical properties ...   S/137/61/000/008/030/037
                                             A060/A101

of the forging, nonmagnetic tire-rings were taken which had been subjected to
various degrees of cold deformation. The hardness of austenitic steel increased
with an increase in the degree of cold deformation for every measurement zone
starting with the outside surface. The minimum value of the hardness was found
in the middle zone of the tire-ring.

                                             T. Rumyantseva

[Abstracter's note: Complete translation]

Card 2/2

S/137/61/000/008/029/037
A060/A101

AUTHOR: Kuchin, A. V.

TITLE: Effect of the chemical composition of nonmagnetic steel upon the critical degree of reduction under cold deformation

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 8, 1961, 12, abstract 8197 ("Tr. Khar'kovsk. politekhn. in-ta", 1960, 15, 95-100)

TEXT: Two heats of austenitic steels were investigated, having the composition (in %): C 0.6; 0.7, Mn 3.69; 8.13, Si 0.26; 0.36, Cr 9.82; 3.46, Ni 10.68; 8.39, S 0.028; 0.016, P 0.019; 0.025, W 0; 0.72. A certain quantity of Ni contained in nonmagnetic steel may be replaced by the corresponding equivalent quantity of less scarce Mn without deteriorating the valuable properties of nonmagnetic steel. The introduction into the steel of a small quantity of W (0.7 - 1.0%) makes the single-phase austenitic structure of the steel more stable and thus allows a greater degree of cold hardening for raising the strength characteristics of the steel while retaining a sufficient viscosity. For $\sigma_s \leqslant 70$ kg/mm^2 it is possible to use steel of the austenitic class without

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Effect of the chemical composition ...   3/137/61/000/008/029/037
                                                A060/A101

adding W. For $\sigma_s > 70$ kg/mm^2 in order to use a greater degree of cold-hardening for increasing the strength, it is worth while to introduce 0.7 - 1.0 % W into steel. There are 9 references.

                                                T. Rumyantseva

[Abstracter's note: Complete translation]

Card 2/2

KUCHIN, I., kapitan dlge range

Operativeness and effectiveness. Kom. Voorush. 5 no.10: 53-54 My '65.

(MIRA 18:6)

VIKSNE, K.A.; KUCHIN, G.M.

[Equipment for the air classification of cinder at the
V.I.Lenin Lead and Zinc Combine in Ust'-Kamenogorsk]
Ustanovka dlia vozdushnoi klassifikatsii ogarka na Ust'-
Kamenogorskom svintsovo-tsinkovom kombinate im. V.I.
Lenina. Alma-Ata, TSentr. in-t nauchno-tekhn. informatsii,
1961. 5 p.   (MIRA 17:2)

SAVRAYEVA, K.Yo.; KUCHIN, G.M.; PANKRATOV, E.G.

Continuous shaking-off of electric filter electrodes according
to a magnetic pulse flow sheet at the Ust'-Kamenogorsk Lead-
Zinc Combine. TSvet.met. 38 no.10:22-25 O '65.

(MIRA 18:12)

KUCHIN, G.P., inzh.; SOLODOV, D.F., inzh.

New materials for fine filtration of oil. Energomashinostroenie
11 no.7:32-33 Jl '65.   (MIRA 18:7)

KUCHIN, I.A.; UCIK, P.A.

Inelastic nucleon-nucleon interactions. Zhur. eksp. i teor.
fiz. 43 no.5:1569-1574 N '62.   (MIRA 15:12)

1. Institut yadernoy fiziki AN Kazakhskoy SSR.
                        (Nucleons)

43359

AUTHORS: Kuchin, I. A., Usik, P. A.

TITLE: Inelastic nucleon-nucleon interactions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1569-1574

TEXT: The asymmetry in the angular distribution of secondary protons in the center-of-mass system as found in 9 Bev pn-interaction experiments (V. A. Botvin et al., ZhETF 41, 993, 1961; T. Vishki et al., ZhETF 41, 1069, 1961) is studied theoretically in a one-meson approximation. The two cases are treated: (a) where only one of the nucleons is excited, and (b) where neither of the nucleons is excited. In case (b) the process occurs via $\pi - \pi$ - interaction. Expressions for the corresponding cross sections and for their asymptotic behavior in the limiting case of high energies are derived. Table 1 shows the calculated cross sections for various energies in the laboratory system. In Table 2 the asymmetries calculated for the two cases (a) and (b), and for various numbers of secondary particles in the reaction, are compared with the experimental results by Botvin et al. It is concluded that the one-meson NN-interaction

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Inelastic nucleon-nucleon interactions   S/056/62/043/005/G01/058
                                           B163/B186

with only one nucleon excited is an important contribution to the
inelastic NN-interaction cross section. The experimental data can be
explained in this way, as well as under the assumption that one-meson
interactions in which both nucleons are excited play the most important
role. In order to specify theoretical assumptions from a single aspect
further experimental research is proposed. There are 2 figures and 2
tables.

ASSOCIATION: Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR
               (Institute of Nuclear Physics of the Academy of Sciences
               of the Kazakhskaya SSR)

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Table 1: Nucleon-nucleon interaction cross section (in mbarn) for various
energies E_1 in the laboratory system. First column: Type of reaction.
Table 2: Asymmetry η in the angular distribution of protons in the three-
ray-cases of p-n interaction at an energy of $E_1 = 9$ Bev.
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Inelastic nucleon-nucleon interactions

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Legend to the tables: (1) Type of reaction. (2) Total number of secondary particles in the reaction. (3) Proton asymmetry in three-ray-cases. (4) Experiment; (5) over all reactions.

Table 1

Тип реак. ции (1)	Δ'$_{max}$	E_π, BeV				
		9	18	200	800	5000
a	0,83	37	38	38	38	38
	0,67	32	30	30	30	30
б	0,83	8,5	10,5	13	13	13
	0,67	7,3	7,8	8,1	8,1	8,1

Table 2

Тип реакции (1)	Полное число вторичных частиц в реакции (2)	Асимметрия протонов в трехлучевых случаях (3)
a	3	0
	4	—0,20
	5	—0,30
	6	—0,28
б	4	—0,35
	6	—0,47
эксперимент (4)	по всем реакциям (5)	—0,32±0,11

Card 3/3

KUCHIN, I.A.; CHIK, P.A.

Interpretation of experimental data on nucleon-nucleon
interaction at an energy of 300 Bev. Izv. AN SSSR, Ser. fiz.
28 no.11:1821-1823 N '64.   (MIRA 17:12)

1. Institut yadernoy fiziki AN KazSSR.

ACCESSION NR: AP4031147   8/0056/64/046/004/1257/1265

AUTHORS: Kuchin, I. A.; Usik, P. A.

TITLE: One meson exchange and asymptotics of scattering of nucleons and pions by nucleons

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 4, 1964, 1257-1265

TOPIC TAGS: one meson exchange, nucleon nucleon scattering, pion nucleon scattering, vertex function

ABSTRACT: The properties of the vertex functions in one-meson exchange graphs for NN and πN interactions are investigated for the purpose of ascertaining the conditions which the vertex (cutoff) functions must satisfy in order that the one-meson approximation be applicable to interactions at very high energies. It is found that the one-meson interactions must be described by one generalized graph and not by two, as previously assumed, and that the one-meson ex-

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change approximation is valid at very high energies with the head-on
NN and πN collisions not contributing significantly. It is con-
cluded that the one-meson approximation gives a correct description
of the basic features of inelastic interactions of nucleons and
pions with nucleons for a wide range of energies (from several BeV
upwards). The one-meson interactions play a predominant role be-
cause of the existence of one-meson states in the structure of the
nucleon. However, the agreement between theory and experiment is
bought at the price of giving up the locality of the pion-nucleon
interaction. "In conclusion we express our deep gratitude to Pro-
fessor Zh. S. Takibayev and D. S. Chernavskiy for discussions and
advice, to V. I. Rus'kin for useful comments, and to M. P. Zhetbayeva
and K. I. Khomenko for their great help in the computations." Orig.
art. has: 2 figures and 18 formulas.

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Card   2/3

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Card 3/3

KUSHIN, I.A.; USIK, P.A.

Hyperon production in γ-N and NN-collisions. Izv. AN, Ser. fiz.
547-550 Mr '65.

(MIRA 18:5)

1. Institut yadernoy fiziki AN Kazakhskoy SSR.

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   V.K., dotsent, kand.pedagog. nauk, podpolkovnik; BARANOV, G.A.,
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   CHERNAVSKIY, V.A., podpolkovnik

Reviews and bibliography. Mor. sbor. 48 no.1:87-93 Ja '65.
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Izv. vys. ucheb. zav.; radiotekh. 4 no.1:106-110 Ja-F '61.
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