NIKITIN, Ye.Ye., kand.fiziko-matem.nauk

International conference on the topic "Inelastic collisions of atoms
and simple molecules." Vest.AN SSSR 32 no.7:86-87 Jl '62.
(MIRA 15:7)

(Molecular dynamics—Congresses)

NIKITIN, Ye.Ye.

Probability of charge exchange during atomic collisions in the
case of random resonance. Izv. AN SSSR. Ser. fiz. 27 no.8:996-998
Ag '63.   (MIRA 16:10)

S/020/63/148/006/011/023
B112/B186

AUTHOR: Nikitin, Ye. Ye.

TITLE: Resonance oscillation relaxation of a system of harmonic
               oscillators

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 6, 1963, 1298-1301

TEXT: The relaxation mechanism of molecular complexes $(AB)_2$ formed by
threefold collision processes AB + AB + M is derived from the fundamental
equations

$$\frac{d}{dt}\sum x_n = 0, \quad \frac{d}{dt}\langle n\rangle = \frac{d}{dt}\sum n x_n = 0,$$

$$\frac{d}{dt}\langle n^2\rangle = 2Z\left\langle \frac{\sin^2\theta}{4}\right\rangle [-2\langle n^2\rangle + 4\langle n\rangle^2 + 2\langle n\rangle].$$

(6)..

For the mean oscillation energy relaxation of a system of harmonic
oscillators, the equation

$$d\bar{E}/dt = -Z\langle \sin^2(\sqrt{/2})\rangle \left[\bar{E} - E^0\right]$$

(13)

is obtained.
Card 1/2

Resonance oscillation relaxation of a ...

S/020/63/148/006/011/023
B112/B186

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics of the Academy of Sciences
USSR)

PRESENTED: October 15, 1962, by V. N. Kondrat'yev, Academician

SUBMITTED: May 15, 1962

Card 2/2

NIKITIN, Ye.Ye.

Bimolecular preassociation of polyatomic molecules. Dokl. AN
SSSR 152 no.6:1395-1398 O '63.   (MIRA 16:11)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom
V.N. Kondrat'yevym.

NIKITIN, Yevgeniy Yevgen'yevich KONDRAT'YEV,V.N.,akademik,otv.red.;

(Modern theories of the thermal disintegration and izomerization of molecules in the gaseous phase] Sov-remennye teorii termicheskogo raspada i izomerizatsii molekul v gazovoi faze. Moskva, Izd-vo "Nauka," 1964. 104 p.   (MIRA 17:8)

L 34062-66 EWT(1)/EWT(m)/EWP(t)/ETI   IJP(c)   JD/JG

SOURCE CODE: UR/0058/65/000/012/D058/D059

ACC NR: AR6017250

AUTHOR: Nikitin, Ye. Ye.; Bykhovskiy, V. K.

TITLE: Nonadiabatic transitions in atom-molecule collisions. Quenching of resonance fluorescence of mercury

SOURCE: Ref. zh. Fizika, Abs. 12D488

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 25-38

TOPIC TAGS: mercury, resonance absorption, fluorescence, luminescence quenching, diatomic molecule, light excitation, spin orbit interaction, optic transition

ABSTRACT: The authors investigated the mechanism of quenching of mercury by diatomic molecules, a mechanism connected with the vibrational excitation of the molecule of the quencher X. The surface potentials of the system $H_g(^2P_1) + X_2(^1\Sigma_g^+, h=0)$ are calculated with allowance of the spin-orbit interaction for the linear ($c_\infty v$), triangular (c_{2v}), and distorted triangular (c_{1n}) configurations. The method of the theory of transition state is used to calculate the probabilities of the nonadiabatic transition near the intersection of the potential-energy surfaces for different values of the resonance defect. Account is taken in the calculation of short-range exchange forces and of polarization interaction in the first order. [Translation of abstract]

SUB CODE: 20

Card 1/1

ACCESSION NR: AP4043654   S/0056/64/047/002/0750/0756

AUTHORS: By*khovskiy, V. K.; Nikitin, Ye. Ye.; Ovchinnikova, M. Ya.

TITLE: Probability of nonadiabatic transition near the turning point

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 750-756

TOPIC TAGS: nonadiabatic process, level transition, term crossing, atomic wave function, transition probability

ABSTRACT: It is demonstrated that the quasiclassical and quantum mechanical treatment are completely equivalent for the case of two linear electron terms connected by a constant interaction-matrix element. A general solution, even for only two coupled levels, has been obtained so far only for the case when the distance between the point of the term crossing and the turning point is sufficiently large, and this approximation frequently does not hold true for slow atomic collisions. Formulas are derived for the transition probabil-
Card   1/2   ♪

ACCESSION NR: AP4043654

ity in different limiting cases, which cover a large range of vari-
ation of the characteristic parameters of the problem. The system
of coupled wave equations is integrated numerically in the inter-
mediate range of the characteristic parameters. The one-dimensional
treatment given in the article can be directly generalized to the
case of three-dimensional scattering in a central field. "The
authors thank Professor N. D. Sokolov for discussions." Orig. art.
has: 3 figures and 18 formulas.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 10Mar64   ENCL: 00

SUB CODE: NP   NR REF SOV: 006   OTHER: 002

Card   2/2

L 14738-65   EEC(b)-2/EPF(n)-2/EPA(s)-2/EWT(1)/EWT(m)/EWP(b)/EWP(t)   Pt-10/
Pu-4   IJP(c)   WW/JD/JG

ACCESSION NR: AP5000542   S/0051/64/017/006/0815/0820

AUTHORS: Nikitin, Ye. Ye.; By*khovskiy, V. K.   β

TITLE: Nonadiabatic transitions in atomic collisions. Quenching
of resonant fluorescence of sodium vapor by argon

SOURCE: Optika i spektroskopiya, v. 17, no. 6, 1964, 815-820

TOPIC TAGS: atomic collision, nonadiabatic transition, luminescence
quenching, spin orbit interaction

ABSTRACT: One of the aims of this investigation was to calculate
the distribution of the energy released in quenching of resonance
fluorescence over the various degrees of freedom of the reaction
products. To this end, the authors calculate the cross section for
the quenching of resonance fluorescence of sodium by thermal colli-
sion with argon atoms. It is shown that if the temperature is not
too high the probability of non-adiabatic transition near the point

Card   1/2

L 14758-65
ACCESSION NR: AP5000542

of quasi-crossing of the terms $X^2\Sigma$ and $A^2\Pi$ is determined essentially by the spin-orbit interaction in the NaAr quasimolecule. The obtained theoretical cross section agrees with experiment provided the matrix element of the operator of spin orbit interaction between the states $X^2\Sigma$ and $A^2\Pi$ is of the order of 300--400 cm^{-1}, which is approximately 20 times larger than the fine splitting in Na(^2p). "The authors thank N. D. Sokolov for a discussion of the work." Orig. art. has: 1 figure and 15 formulas.

ASSOCIATION: None

SUBMITTED: 25Nov63   ENCL: 00

SUB CODE: OP, NP   NR REF SOV: 005   OTHER: 008

Card 2/2

ACCESSION NK: AP4020922

AUTHOR: Byekhovskiy, V.K.; Nikitin, Ye. Ye.

TITLE: Nonadiabatic transitions in atom-molecule collisions. Quenching of the resonance fluorescence of mercury.

SOURCE: Optika i spektroskopiya, v.16, no.2, 1964,   201-207

TOPIC TAGS: nonadiabatic transition, atom-molecule collision, atomic collision, deactivation, fluorescence quenching, mercury, nitrogen, diatomic molecules

ABSTRACT: One of the most thoroughly studied processes of conversion of electronic energy to vibrational-translational energy is the energy exchange involved in quenching of the resonance fluorescance of the Hg atom, i.e., deactivation of the $^3P_1$ state to the $^3P_0$ state as a result of collision of the Hg atom with a molecule or other particle. Accordingly, calculation of the rate of the process is of interest from the standpoint of comparison with experimental data. The simplest case is that of collision with a diatomic molecule composed of identical atoms. In the present work there was calculated the rate of deactivation of the Hg $^3P_1$ state incident to collisions with N_2 type molecules. The nonadiabatic transition to the $^3P_0$ state is

Card 1/2

ACCESSION NR: AP4020922

assumed to occur with intersection of the vibronic levels of the HgN_2 complex and to be accompanied by vibrational excitation of the N_2 molecule. The interaction energy is calculated by the Heitler-London method; the rate is evaluated with the aid of perturbation theory for nonadiabatic interaction. The final result is an expression for the rate constant k. The ranges of   applicability of the expression for k are discussed in the light of the experimental data. "The authors are grateful to N.D.Sokolov for discussion of the work." Orig.art.has: 20 formulas and 1 table.

ASSOCIATION: none

SUBMITTED: 13Jun63   DATE ACQ: 02Apr64   ENCL: 00

SUB CODE: PH   NR REF SOV: 006   OTHER: 008

Card 2/2

NIKITIN, Yo.Ye.

Model of a compound molecule in the theory of chemical reactions.
Kin.i kat. 6 no.3:377-386 My-Je '65.

(MIRA 18:10)

1. Institut khimicheskoy fiziki AN SSSR.

L 52231-65   EPF(c)/EPA(w)-2/EWT(1)/EEC(t)/EPA(sp)-2   Pr-4/Pab-10/Peb   AT

ABSTRACT: Within the framework of the theory of nonstationary per-
turbations, the probability for charge exchange between multicharged
ions ($A^{+2} + B \to A^{+} + B^{+}$) is calculated in the two-level approximation
and the approximation of the classical motion of nuclei for the case
of Coulomb interaction in one of the channels ($A^{+} + B^{+}$). Cross
sections for charge exchange in collisions were calculated by finding
approximate adiabatic electron wave functions for the two-atom sys-
tem and by solving coupled Schroedinger equations for wave functions
of the relative motion of nuclei or solving a system of time equations

Card 1/2   Submitted - 22 Dec 1964

L 52231-65

ACCESSION NR: AP5013910

in which account is taken of the interaction between adiabatic elec-
tron states induced by the motion of nuclei as well as the other
terms disregarded in the Hamiltonian. In these equations, considera-
tion is given only to the two terms between which the transition
takes place. It is assumed that the motion of the nuclei is classical
and that the trajectory of motion R = R(+) is determined by the
adiabatic potential. The time equations for transition amplitude
are integrated numerically for a broad range of variations of the
parameters of the problem (δ and γ). In cases when charge exchange
(i.e., the transition between two adiabatic electron states) takes
place at large interatomic distances R and is regarded as a single-
electron process, the adiabatic functions are approximated by a linear
combination of atomic orbits by introducing corrections accounting
for the distortions of the atomic orbits in the field of another
center into the preexponential factor of the orbits. The limits of
applicability of the Landau-Zener formula are determined. Orig. art.
has: 19 formulas and 3 figures.   [JA]

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR
(Institute of Chemical Physics, Academy of Sciences SSSR)

Card 2/2

VOLOVIK, A.A., starshiy nauchnyy sotrudnik; NIKITIN, Yu., mladshiy
    nauchnyy sotrudnik; MILOSLAVOVA, T., mladshiy nauchnyy
    sotrudnik; SIVENKOVA, A., mladshiy nauchnyy sotrudnik

    Potato wart and nitrafen preparation. Zashch. rast. ot vred.
    i bol. 9 no.8:42 '64.   (MIRA 17:12)

    1. Nauchno-issledovatel'skiy institut kartofel'nogo khozyaystva.

L 02431-67   EWP(j)/EWT(m)/T/EWP(t)/ETI   IJP(c)   RM/JD/WB

ACC NR: AP6030300   (N)   SOURCE CODE: UR/0310/66/000/008/0034/0034

AUTHOR: Nikitin, Yu. (Engineer)

ORG: TsNIIEVT

TITLE: Protection of salt freighters against corrosion

SOURCE: Rechnoy transport, no. 8, 1966, 34

TOPIC TAGS: corrosion protection, protective coating, epoxide, sodium chloride, cargo ship, desalting equipment /E-4021 epoxide

ABSTRACT: E-4021 epoxy putty, the new synthetic material for the protection of salt freighters and salt handling equipment against corrosion, is manufactured at the Zagorskiy Paint and Varnish Plant (Zagorskiy lakokrasochnyy zavod). The E-4021 material displays good protective and adhesive properties with respect to metal so that priming of metal surfaces prior to coating is not required. An epoxy coating is elastic and forms solid chemically stable films. The coating should be applied with a sprayer or brush to carefully degreased and cleaned metal surfaces. Two to three layers of the coating material provide the best protection against corrosion. A three-layer coating requires 220-250 g of E-4021 epoxy putty per $1m^2$ of metal surface. Two layers of this material applied to the interior of a saltbox at the Slavyanskiy Saltworks (Slavyanskiy sol'zavod) preserved it in good condition for three years.

SUB CODE:11,13/   SUBM DATE: none

Card 1/1

NIKITIN, Yu.A., inzhener; ZEYFMAN, S.M., inzhener.

Performance of bucket hoists. Mech. transp. 16 no.6:32-33 Je '57.
(Loading and unloading)   (Hoisting machinery)   (MIRA 10:8)

ALENCHIKOV, D.A., inzh.; BESPALOV, V.Ya., inzh.; KOPYLOV, I.P.,
kand. tekhn. nauk; NIKITIN, Yu.A., inzh.

Series of motor-amplifiers. Elektrotekhnika 35 no.6:19-24
Je '64.   (MIRA 17:8)

NIKITIN, Yu.A., inzh.

Storage of salt. Mekh. i avtom. proizv. 19 no.9:37-38 S '65.
(MIRA 18:9)

L 4004-66   EWT(d)/EWT(1)/EWT(m)/EWP(v)/EWP(k)/EWP(h)/EWP(1)   JD
UR/0286/65/000/015/0129/0129

ACCESSION NR: AP5024426

AUTHORS: Voronin, G. I.; Nikitin, Yu. F.; Kobranov, A. N.; Mauerman, M. Ye.

TITLE: A valve for a liquid or gas. Class 47, No. 173556

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 129

TOPIC TAGS: valve, electromagnetic effect, electromagnetic field

ABSTRACT: This Author Certificate presents an electromagnetically operated valve for a liquid or a gas. The valve contains starting and retaining coils, switches for connecting the coils, a plunger, and a stop (see Fig. 1 on the Enclosure). To improve the efficiency and to lower the operation cost of the valve, the stop is made in the form of a sloping cylinder sealed on the side of the main plunger. This cylinder contains a movable auxiliary plunger pulled to the bottom of the stop by the increasing magnetic force after the main plunger is worn down. The auxiliary plunger is motivated by the switches. Orig. art. has: 1 figure.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po aviatsionnoy tekhnike, SSSR (Organization of the State Committee on Aviation Technology, SSSR)

Card 1/3   UDC: 621.318.3-384

L 4004-66
ACCESSION NR: AP5024426

SUBMITTED: 05Mar64   ENCL: 01   SUB CODE: IE

NO REF SOV: 000   OTHER: 000

Card 2/3
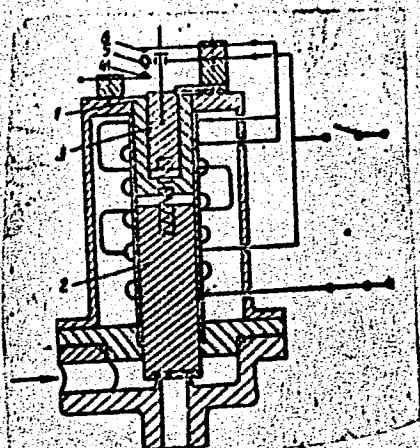
Fig. 1. 1- stop; 2- main plunger; 3- auxiliary plunger; 4—6- switches

ACC NRi   AP6035938   SOURCE CODE: UR/0413/66/000/020/0198/0198

AUTHOR: Nikitir, Yu. F., Kobranov, A. N., Tyul'pakov, N. A.; Chizhikov, Yu. V.

ORG: none

TITLE: Rotary valve for pipelines. Class 62, No. 187537

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 198

TOPIC TAGS: valve, pipeline, pipe flow, ~~liquid~~ flow control

ABSTRACT: An Author Certificate has been issued for a rotary pipeline valve, e.g.,
such as used in aircraft-compartment heat-control systems. In its housing is mounted
a rotating shaft with a disk connected by a coupling (through a profiled cam) with an
electric drive and a control valve. To assure a proper seal between the disk and the
housing's inner surface, into the housing is pressed a thick-walled cylinder, and
connected with it at the ends is a thin-walled cylinder (diaphragm). The sealed space
between them is connected with the rotary valve inlet through a control valve, which
assures the pressing of the diaphragm to the disk during the feeding of pressure to it.
Orig. art. has: 1 figure.   [WA-98]

SUB CODE: 13/ SUBM DATE: 09Dec64

Card 1/1   UDC: 629.13.01/06

NIKITIN, Yu.I.

Treatment of alcoholism. Vrach.delo no.1:1309-1311 D '58.

(MIRA 12:3)

1. Kiyevskiy gorodskoy psikhonevrologicheskiy dispanser.
(ALCOHOLISM)

NIKITIN, Yu.I.

Selective flotation of copper ore from of the special in ore.
TSvet. met. 37 no.6:14 5   ve   '65.

VIDRENKO, A.Ye.; NIKITIN, Yu.I.

Concerning the reorganization of the psychoneurologic service
in Kiev. Vrach. delo no.4:415 Ap '59.   (MIRA 12:7)

1. Kiyevskiy respublikanskiy psikhonevrologicheskiy gospital'
i Kiyevskiy gorodskoy psikhonevrologicheskiy dispanser.
          (KIEV--PSYCHIATRIC HOSPITALS)

NIKITIN, Yu.I.; VORONKOV, G.L., red.; CHUCHUPAK, V.D., tekhn. red.

[Health and efficiency are incompatible with alcohol] Zdorov'e
i rabotosposobnost' nesovmestimy s alkogolem. Kiev, Gos.med.
izd-vo USSR, 1961. 25 p.   (MIRA 14:12)
                    (ALCOHOLISM)

NAGIRNYAK, F.I.; KISLYAKOV, L.D.; NIKITIN, Yu.I.

    Practical experience with hydraulic cyclones at the Krasnouralsk
    concentration plant. TSvet.met. 29 no.2:9-15 F '56. (MIRA 9:6)

    1.Uralmekhanobr.
          (Krasnouralsk--Copper--Metallurgy)

Nikitin, Yu. I.

AUTHORS: Kurumchin, Kh.A. and Nikitin, Yu.I.   136-7-1/22

TITLE: Results of introducing hydrocyclones in the third section
of the Sredneural'sk beneficiation works. (Rezul'taty
vnedreniya gidrotsiklonov na tret'ey sektsii Sredneural'-
skoy obogatitel'noy fabriki).

ABSTRACT: At the Sredneural'sk works the ores treated have a very
fine dissemination of copper and zinc minerals in pyrites
and non-ore minerals, and also an almost emulsion-like
dissemination of chalcopyrite in sphalerite with inter-
growing of minerals. Experiments by the Uralmekhanobr
Institute and the works experimental plant showed that a
high degree of grinding was essential for efficient bene-
ficiation but classification facilities were insufficient
and a compromise scheme (shown in tabular form in this
article) was adopted. In 1956 a total of eight hydro-
cyclones, 400 and 350 mm in diameter were installed in
the third section of the works and three variants of
grinding were tried. Flow sheets and tabulations of re-
sults for these are given, as are comparative data for
1/2   work with and without the hydrocyclones. The full-scale
tests showed that with hydrocyclones an ore sizing of

136-7-1/22
Results of introducing hydrocyclones in the third section
of the Sredneural'sk beneficiation works. (Cont.)

90.1 - 98.1% - 74μ instead of 84 - 86% could be achieved
with improved flotation indices. When the hydrocyclones
are supplied with material of very uneven grain size
(0.005-0.2 mm) and their concretions the discharge contains
mainly free small grains and single concretions, the large
grains and their concretions appearing in the sludge. The
discharge from hydrocyclones is more even and fine than
that from pan classifiers. The hydrocyclones were so sat-
2/2   isfactory that they are to be installed in the other sec-
tions of the Sredneural'sk works.

ASSOCIATION: Uralmekhanobr Institute. (Institut Uralmekhanobr).
AVAILABLE: Library of Congress

NIKITIN, YU.I.

137-58-5-8738

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 3 (USSR)

AUTHORS: Nikitin, Yu.I., Mironov, Ya. V.

TITLE: Results of the Employment of Hydrocyclones for Classification of Particles at a Concentrating Plant of the SUMZ (Resul'taty klassifikatsii promproduktov v gidrotsiklonakh na obogatitel'noy fabrike SUMZa)

PERIODICAL: Byul. tsvetn. metallurgii, 1957, Nr 11-12, pp 42-43

ABSTRACT: In 1956, in connection with the change-over to finer grades of crushed products (up to 92-94 percent of the -74 μ class instead of 85-88 percent of the same class), measures were undertaken at the Sredneural (Central Ural) plant in order to adapt hydrocyclones (H) to operation in the capacity of classifiers. In section III of the plant H's were installed at the drains of bowl-type classifiers, as well as in conjunction with flotation machines for purposes of classification of flotation products. As indicated by operational results, the H's can effectively classify particles of both the -44 μ class and the -74 μ class.
                                                                    A. Sh.
1. Ores--Flotation   2. Ores--Processing

Card 1/1

SOV/136-58-8-16/27

AUTHORS: Kurumchin, Kh.A., Nikitin, Yu.I. and Zykova, M.I.

TITLE: Use of the Hydrocyclone for Classifying Roasted Zinc
             Concentrate Before Leaching (Ispol'zovaniye gidrotsiklona
             dlya klassifikatsii obozhzhennogo tsinkovogo kontsentrata
             pered vyshchelachivaniyem).

PERIODICAL: TsvetnyyeMetally, 1958, Nr.8, pp.68-70 (USSR)

ABSTRACT: The cone classifiers at the Chelyabinskiy tsinkovyy zavod
             (Chelyabinsk Zinc Works) have not worked satisfactorily.
             It was therefore decided to adopt hydrocyclones in the new
             classification plant planned in connection with the proposed
             conversion to fluidized-bed roasting. A special investi-
             gation, the results of which are dealt with in this report,
             was carried out at the works to study hydrocyclone operation.
             A 500-mm diameter hydrocyclone designed by the Ufimskiy
             zavod gornogo oborudovaniya (Ufa Mining Equipment
             Plant) was used (Fig.), the pulp being injected at 0.5-0.7
             atm with the aid of a centrifugal sand pump. The results
             (Table 2) show that the effluent contained 96% of minus
             0.5 mm fraction, the main mass of the coarse particles being

Card 1/2

SOV/136-58-8-16/27

Use of the Hydrocyclone for Classifying Roasted Zinc Concentrate
Before Leaching.

concentrated in the sand, which fulfilled design require-
ments.   The product was suitable for grinding in a ball
mill and the hydrocyclone productivity was 1.5 m²/min.
The sand contained (Table 4) 1.5-2 times more acid-soluble
zinc than the effluent; leaching tests indicated that
pre-grinding of sands was desirable.   Considerable erosion
of parts of the hydrocyclone were observed.   The authors
consider that the adoption of hydrocyclones at the works
would be advantageous.   There are 1 figure and 4 tables.

1. Zinc ores--Processing   2. Industrial equipment--Performance

Card 2/2

SOV/136-59-7-4/20

AUTHORS: Nagirnyak, F.I., Nikitin, Yu.I.

TITLE: Results of a Study of Density-Pulsations in Mechanical-Classifier Overflow

PERIODICAL: Tsvetnyye metally, 1959, Nr 7, pp 20-22 (USSR)

ABSTRACT: The authors noticed that in mechanical classifiers the constancy of the process is periodically interrupted by the discharge of accumulations of limiting-size grains. They now present the results of their investigations on a two-spiral classifier (spiral diameter 2m) and a pan classifier at the Sredneural'skiy obogatitel'nyy zavod (Sredenural'sk Beneficiation Works) with Degtyarskoye deposit's copper pyritic ores. Samples were taken at 1-minute intervals across the whole discharge stream, the duration of an experiment being 30 min. The percentage content of -0.074 mm particles and of solid in the spiral-classifiers overflow are shown as functions of time of sampling, min, (curves 1 and 2, respectively) in Fig 1; the corresponding curves for the pan classifiers are shown in Fig 2. A more

Card 1/2   detailed picture of the pan classifiers results (percentages

SOV/136-59-7-4/20

Results of a Study of Density-Pulsations in Mechanical-Classifier Overflow

of -0.13 + 0.074 and -0.208 + 0.13 mm, percentage solid) is given in Fig 3: this shows that the coarser-particle contents are especially subject to periodic fluctuations. The periodic rise and fall in the solid content occurs within the ranges 5-7%. It has been shown experimentally that hydrocyclones are not subject to these deleterious effects. The authors attribute this to the considerable excess of centrifugal over gravitational forces on particles. They recommend the use of hydrocyclones. There are 3 figures.

ASSOCIATION: Uralmekhanobr

Card 2/2

REVNIVTSEV, V.I.; KAKOVSKIY, I.A.; NIKITIN, Yu.I.

Determining the content of fine class products of a hydrocyclone by its content of solids. Obog. rud 5 no.1:17-21 '60. (MIRA 14:8)

1. Ural'skiy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki poleznykh iskopayemykh.

(Ore dressing)

NIKITIN, Yu.I., gornyy inzh.

Use of hydrocyclones for the classification of pulp with a
high content of solid particles. Gor. zhur. no. 11:64-66
N '60.
(MIRA 13:10)

1. Institut Uralmekhanobr, Sverdlovsk.
(Separators (Machines))   (Ore dressing)

NIKITIN, Yu.I.; CHEPELEV, M.I.

Results of adopting a two-stage flowsheet for the comminution of bauxite. TSvet. met. 36 no.5:78-80 My '63.   (MIRA 16:10)

NIKITIN, Yu.I.; KLYACHIN, V.V.

Power consumption by an industrial hydrocyclone during the
classification of pyrite ores. TSvet. met. 36 no.9:16-21 S
'63.
                                                    (MIRA 16:10)

CHOPIK, V.I.; NIKITIN, Yu.I.

Club moss Lycopodium selago L., a new medicinal plant. Bot. zhur,
49 no.1:113-117 Ja '64.   (MIRA 17:2)

1. TSentral'nyy respublikanskiy botanicheskiy sad AN UkrSSR, Kiyev
i Kiyevskiy gorodskoy psikhonevrologicheskiy dispanser.

MIRITSKIY, D.I. [Miritskii, D.I.]

Physiology of the secretory and the function of the small intestines in swine. Veter. M RTR Ser. biial. nav. no.3:119-122
'58.   (MIRA 18:1)

NIKITIN, Yu.I., kand. tekhn. nauk; KLYACHIN, V.V., inzh.

Effectiveness of the process of single and multistage classi-
fication of mineral suspensions. Izv. vys. ucheb. zav.; gor.
zhur. 7 no.5:158-161 '64.   (MIRA 17:12)

1. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut
obogashcheniya i mekhanicheskoy obrabotki poleznykh iskopayemykh.
Rekomendovana kafedroy obogashcheniya poleznykh iskopayemykh
Sverdlovskogo gornogo instituta.

Nikitin, Yu.K.

68-8-7/23

AUTHOR: Nikitin, Yu.K.

TITLE: An Automatic Air Supply Control for Heating Coke Ovens,
            (Avtomaticheskoye regulirovaniye podachi vozdukha dlya obogreva
            koksovykh pechey).

PERIODICAL: Koks i Khimiya, 1957, No.3, pp. 21-25 (USSR)

ABSTRACT: The possibilities of an automatic control of air supply for heat-
            ing coke ovens is discussed. Using a general equation for the
            flow of gas in coke oven flues, the relationship between the
            pressures at the top of gas and air regenerators and the volumes
            of gas and air can be found. For a gas of a given composition,
            under conditions of its complete combustion, there is a definite
            value of differential pressure between the top of the gas and air
            regenerators. When heating ovens with a blast-furnace gas-coke
            oven gas (4-8%) mixture and when a constant consumption of heat is
            maintained, a change in the calorific value of the blast-furnace
            gas (due to a change in the proportion of coke oven gas), has no
            practical influence in the differential pressure between the top of
            the gas and air regenerators. This differential pressure can be
            maintained using an automatic control of draught (using a con-
            troller with sensitive membrane). There are 2 tables and 6 figures.

Card 1/2

An Automatic Air Supply Control for Heating Coke Ovens, (Avtomaticheskoye regulirovaniye podachi vozdukha dlya obogreva koksovykh pechey).

ASSOCIATION: Kuznetskiy Metallurgical Combine. (Kuznetskiy Metallurgicheskiy Kombinat [located in Stalinsk, Kemerovskaya o.]

AVAILABLE: Library of Congress

Card 2/2

SOV/68-58-2-7/20

AUTHOR: Nikitin, Yu.K.

TITLE: On the Problem of Complex Automation of Heating Coke
             Ovens (K voprosu kompleksnoy avtomatizatsii obogreva
             koksovykh pechey)

PERIODICAL: Koks i Khimiya, 1959, Nr 2, pp 27 - 29 (USSR)

ABSTRACT: On a number of batteries of the Kuznetsk Metallurgical
             Combine an automation of the supply of heat for heating
             ovens has been introduced but the pressure in the heating
             system and the supply of air still vary, which has a
             negative influence on the distribution of temperature in
             the batteries and individual walls. The following system
             of maintaining a constant pressure on ascending stream
             and controlling the air-gas ratio was introduced on a
             battery which has no automatic control of the supply of
             heat. The suction on the top of gas regenerators on the
             ascending stream is controlled by changing the draught in
             the side flue. For obtaining a signal, two control gas
             regenerators of normally working ovens were chosen Suction
             at the top of air regenerators on the ascending stream is
             controlled by moving plates in the air valves. The signal
             for the control is taken from two control regenerators. The
Card1/2   scheme is shown in Figure 1. A comparison of suction on

SOV/68-58-2-7/20

On the Problem of Complex Automation of Heating Coke Ovens

the top of the gas regenerators from the coke side before and after the introduction of the scheme is shown in Figures 2 and 3, respectively, and the draught in the collector from the coke side after the introduction of the scheme in Figure 4. Analyses of the waste gas confirmed that its composition became much more constant. On changes of the consumption of blast-furnace gas within a range of 0.5 -1.5 thousand m^3/h, the draught in the side flue automatically changes, whereupon suction on the ascending stream is maintained on the same level and the coefficient of air excess is practically constant. There are 4 figures.

ASSOCIATION: Kuznetskiy metallurgicheskiy kombinat
               (Kuznetsk Metallurgical Combine)

Card 2/2

NIKITIN, Yu. K.

Control of the air supply for heating P.K. coke ovens, based on rarefaction in gas regenarators.   Koks i khim. no.3:31-33 '60.
(MIRA 13:6)

1. Kuznetskiy metallurgicheskiy kombinat.
(Coke ovens)

NIKITIN, Yu.K.

Automatic regulation of the heating regime of coke ovens. Koks i
khim. no.9:19-21 '60.   (MIRA 13:9)

1. Kuznetskiy metallurgicheskiy kombinat im. I.V.Stalina.
                        (Coke ovens)

VARSHAVSKIY, T.P., kand.tekhn.nauk; BEZDVERNYY, G.N.; RAKOV, V.V.;
RASKIN, V.Z.; NIKITIN, Yu.K.

Coal charge for the production of other than blast-furnace coke.
Koks i khim. no.11:18-20 '62.   (MIRA 15:12)

1. Vostochnyy uglekhimicheskiy institut (for Varshavskiy,
Bezdvernyy). 2. Kuznetskiy metallurgicheskiy kombinat (for
Rakov, Raskin). 3. Kuznetskiy filial Vostochnogo uglekhimi-
cheskogo instituta (for Nikitin).
                         (Coke)

KUPERMAN, P.I.; NIKITIN, Yu.K.; RAKOV, V.V.; RASKIN, V.Z.; KUZNETSOVA,
A.I.

Characteristics of large dimenison coke ovens in connection
with the cokihg of charges of Kuznetsk Basin coals. Koks 1
khim. no.12:22-27 '62.   (MIRA 16:1)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Nikitin).
2. Kuznetskiy metallurgicheskiy kombinat (for Rakov, Raskin,
Kuznetsova).
                        (Coke ovens)

NIKITIN, Yu.K.; STRAKHOV, A.M.; LAZAREV, Yu.

Uniformity of the heating f the a large of the the
ovens. Koks i khim. no.7:3-15 196.

1. Kuznetskiy filial Vost an i nauchn'minmersk pro ror titu 'for
Nikitin, Strakhov. 2. Kuznetskiy metallur herx' a m no
Lazarev .

MIZIN, V.G., inzh.; SAFONOV, B.P., inzh.; SEROV, G.V., inzh.; KOROBEYNIKOV,
    V.V., inzh.; FISHMAN, B.D., inzh.; STRAKHOV, V.M., inzh. NIKITIN, Yu.K.

Production of 75% ferrosilicon with coke from a charge with
an increased content of gas coal. Stal' 25 no.2:133-135
F '65.   (MIRA 18.3)

1. Kuznetskiy zavod ferrosplavov i Kuznetskiy filial Vostochnogo
nauchno-issledovatel'skogo uglekhimicheskogo instituta.

NIKITIN, YU. M.

Nikitin, Yu. M., Trifel', N. G., Datiyev, R. I., Contamination by industrial runoff waters of the aquatorium of Baku Bay, *Sb. nauchn. rabot. Basseyn. san.-epidemiol. st. Azvodzdrava, A erb. med. in-t* (Collection of Scientific Works of the Basin Sanitary-Epidemiological Station of Azerbaydzhan Medical Institute), No 3, 1957, p 113-119; (RZhGeofiz 3/59-2430)

S/125/60/000/007/002/010
A161/A029

AUTHORS: Lyubavskiy, K.V.; Nikitin, Yu.M.

TITLE: Local Destruction of Welds in Austenitic Steam Piping

PERIODICAL: Avtomaticheskaya Svarka, 1960, No. 7, pp. 12 - 25

TEXT: At several Soviet heat power plants pipings and other equipment
parts are made of austenitic steel ЭИ257 (EI257) [same steel has also the desig-
nation "X14H14B2M",(or Khl4N14V2M), or X18H12T (Khl8N12T)]. The welds made by
ЦТ-7 (TsT-7) or ЦТ-15 (TsT-15) electrodes have not exactly the same chemical
composition as the parent metal due to the formation of recrystallization cracks.
In laboratory tests the welds satisfied all property requirements in room and
work temperature (580 - 600°C), but in operation they failed partly and sometimes
even nearly completely in separate spots where additional stresses could be ex-
pected. Cracked welds in one piping system are indicated by circles in the dia-
gram (Fig. 3), and the blackened sectors in the circles show the length of the
cracked portion of the pipe circumference; the digits indicate the year in which
the cracks had been revealed. Photographs in the article show a circular weld
crack (Fig. 4) and radiograms and microphotographs made in experiments undertaken

Card 1/2

Nikitin, Yu. M.

Konstruirovaniye elementov detaley i uzlov aviatsionnykh dvigateley (Designing Component Parts and Subassemblies for Aircraft Engines) Moscow, Oborongiz, 1961. 288 p. Errata slip inserted. 9000 copies printed.

Ed. (Title page): G. S. Skubachevskiy, Doctor of Technical Sciences, Professor; Reviewers: Kuybyshev Aviation Institute and S. K. Tumanskiy, Doctor of Technical Sciences; Ed.: I. L. Yanovskiy, Engineer; Ed. of Publishing House: A. A. Khrustaleva; Tech. Ed.: V. I. Oreshkina; Managing Ed.: S. D. Krasil'nikov, Engineer.

PURPOSE: This textbook is intended for advanced students of aircraft engine design.

COVERAGE: Procedures and solutions for the design of aircraft engine components are presented. General requirements, design recommendations, and practical examples of design solutions are given for each design situation. This presentation of systematized illustrative material purportedly fills a gap in the field of aircraft engine design instruction. The author thanks G. S. Skubachevskiy, Doctor of Technical Sciences, Professor; A. F. Gurov, Doctor of

Card 1/5

Designing Component Parts   (Cont.)   SOV/5878

Technical Sciences, Professor; D. V. Khronin, Candidate of Technical Sciences,
Docent; S. K. Tumanskiy, Doctor of Technical Sciences; A. M. Soyfer, Candidate
of Technical Sciences, Docent; and K. A. Zhukov, Engineer. There are 13 refer-
ences, all Soviet (including 1 translation).

TABLE OF CONTENTS:

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Designing Component Parts   (Cont.)   SOV/5878

Card 3/5

SOV/5878

Card 4/5

Designing Component Parts (Cont.)   SOV/5878

AVAILABLE: Library of Congress

SUBJECT: Aerospace

AD/dmp/gmp

Card 5/5   2-12-62

L 34082-65   EPA(s)-2/EWP(k)/EWA(c)/EWT(m)/EWP(b)/T/EWA(d)/EWP(v)/EWP(t)   Pf-4
MJW/JD/HM/HM

ACCESSION NR: AP5007335   S/0135/65/000/003/0008/0011   35
                                                                          31

AUTHOR: Lyubavskiy, K. V. (Doctor of technical sciences); Morozov, B. I. (Engineer);
Nikitin, Yu. M. (Candidate of technical sciences); Timofeyev, M. M. (Candidate of
technical sciences)

TITLE: The effect of non-uniformity in the strength characteristics of welded joint
on their tendency toward local breakdown

SOURCE: Svarochnoye proizvodstvo, no. 3, 1965, 8-11

TOPIC TAGS: weld breakdown, weld seam strength, austenitic steel, steel welding,
high temperature strength, bending strength, residual stress / 1kh18N12T steel,
1kh14M14V2M steel

ABSTRACT: This article reports the results of a study of the effect of lack of uni-
formity in the strength characteristics in different weld zones on the propensity
of these welded joints toward local breakdown at high temperatures. The steels
used in the tests were types 1Kh18N12T and 1Kh14N14V2M. Electrodes, providing for
different degrees of alloying of the melted metal, were employed to measure the
level of the strength characteristics. Samples of two types were studied, thus
making it possible to estimate the effect of residual weld stresses and stresses
developing when the welds are subjected to twisting on the tendency of such joints

Card 1/3

L 34082-65

ACCESSION NR: AP5007335

toward localized failure when there are non-uniform strength properties present in
the "base metal - weld metal" zone. These samples, and the method of their pre-
paration, are described in some detail in the article. The breakdown tendency was
studied both under conditions of slowly relaxing residual weld stresses and torque
moments. The authors show that as the non-uniformity in strength properties in
the various zones of the weld joint is increased, the working capacity of the weld
decreases under the conditions described above. Specifically, the possibility of
local breakdowns in austenitic steel welds under the influence of slowly relaxing
residual weld stresses is confirmed. An increase in the strength characteristics
in the seam metal and, correspondingly, in the residual stress level in the weld
leads to accelerated local failure in the zone around the seam at high tempera-
tures. Of the two austenitic steel types tested, type 1Kh18N12T shows a more
marked tendency toward such breakdown throughout this zone under the influence of
weld stresses. The authors also demonstrate the considerable effect of non-uni-
formity in the strength and plastic properties of the joint on its propensity to-
ward local breakdown when subjected to torque forces. It is found that high-temper-
ature austenization (1100 C) of the weld joint, equalizing the strength character-
istics and sharply reducing the level of residual weld stresses, promotes enhanced
operational reliability in welded joints under actual working conditions. "Bending

Card 2/3

L 34082-65

ACCESSION NR: AP5007335   3

tests at a constant rate of strain were carried out at TskTI under the guidance of
Dr. Tech. Sci. V. N. Zemzin." Orig. art. has: 4 tables and 5 figures.

ASSOCIATION: TsNIITMASh

SUBMITTED: 00   ENCL: 00   SUB CODE: MM

NO REF SOV: 004   OTHER: 000

Card 3/3

45643

S/875/62/000/000/003/010
D237/D308

AUTHORS: Nikitin, Yu.M. and Metlin, V.B.

TITLE: Determination of local deflections in the walls of
             a ZhRD chamber with closely spaced ribs

SOURCE: Nekotoryye voprosy mekhaniki; sbornik statey, Ed.
             by V.I. Feodos'yev. Moscow, Oborongiz, 1962, 26-32

TEXT: Local deflections in the walls of the combustion
chamber ZhRD are solved by V.I. Feodos'yev for the case when the
wall thickness is much smaller than the distance between the reinfor-
cing ribs. The authors deal with the case when both are of the same
order; in addition to flexural components, sharing forces and defor-
mations are considered. The curvature of the shell is neglected, and
it is assumed that the stresses and deformations vary only in the
plane of transverse cross-section. By energy considerations, the
expression for the pressure drop on the wall is obtained, and inte-
grated numerically. The results obtained were found to be in good
agreement with experimental data. There are 5 figures and 7 tables.

Card 1/1

NIKITIN, Yu. M. (Engineer)   (TsNIITmash)

"The question of the cause of local failures in welded joints of austenitic pipe lines"

Report presented at the regular conference of the Moscow City administration NTO Mashprom, April 1963.
(Reported in Avtomaticheskaya Svarka, No. , August 1963, pp 73-76, M. M. Potechin)

JPRS24,65: - 1) May (4

L 62485-65   EPA(s)-2/EWT(m)/EWP(w)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(z)/
EWP(b)/EWA(c)   MJW/JD/HM/EW

ACCESSION NR: AP5018872   UR/0096/65/000/008/0047/0050
                                                621.791.05:621.772.1.539.4

AUTHORS: Timofeyev, M. M. (Candidate of technical sciences); Nikitin, Yu. M.
(Candidate of technical sciences)

TITLE: On improving the reliability of welded joints in steam conduits made of
austenitic steel

SOURCE: Teploenergetika, no. 8, 1965, 47-50

TOPIC TAGS: welding defect, welding rod, weld, stress load, stress concentration,
austenite, steel/ 1Kh14N14V2M austenitic steel, 1Kh18N12T austenitic steel, TsT-7
welding rod, TsT 15 welding rod, TsT 26 welding rod

ABSTRACT: The strength of welded joints in high-pressure, high-temperature steam
tubes was analyzed and certain recommendations were made. The tubes are made of
austenitic steels 1Kh18N12T and 1Kh14N14V2M. Two types of defects have been found
in the weld joint: circular or ring, fractures and misorientation fractures.
The causes of ring fractures are shown to be the weakening of mechanical properties
near the weld joint under the heating action of the weld arc, residual stresses in
the weld, and inhomogeneities in the mechanical properties of the weld joint. To

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L 62485-65

ACCESSION NR: AP5018872

rectify these defects, a new electrode (TsT-26) is recommended; it has mechanical properties close to those of the parent material, thus minimizing nonhomogeneities in the weld. Another step that would increase the working capacity of the joints is "austenitizing" of the weld joint at temperatures of 1100C for one hour. This heat treatment will also help to dissolve the δ-phase, which in turn stabilizes the strength and plastic properties of the weld. Orig. art. has: 6 figures and 3 tables.

ASSOCIATION: TsNIITMASh

SUBMITTED: 00   ENCL: 00   SUB CODE: IE PR

NO REF SOV: 003   OTHER: 000

Card 2/2

L 43618-65   EPF(c)/EPR/EWG(j)/EPA(s)-2/EWP(k)/EWP(z)/EWA(c)/EWT(d)/EWT(m)/EWP(h)/
EWP(b)/T/EWA(d)/EWP(1)/EWP(w)/EWP(v)/EWP(t)   Pf-4/Pr-4/Ps-4   IJP(c)   JD/HM/HW/GS
                                              S/0000/64/000/000/0225/0246

ACCESSION NR: AT5008306

AUTHOR: Lyubavskiy, K. V. (Doctor of technical sciences); Nikitin, Yu. M.
(Candidate of technical sciences)

TITLE: Effect of the thermal welding cycle on the properties of austenitic heat resistant steels

SOURCE: AN UkrSSR. Institut elektrosvarki. Novyye problemy svarochnoy tekhniki
(New problems in welding technology). Kiev. Izd-vo Tekhnika, 1964, 225-246

TOPIC TAGS: welding, austenitic steel, steel welding, heat resistant steel, welding
temperature, steel mechanical property, weld seam strength, electroslag welding

ABSTRACT: This paper is a continuation of one published by the authors in 1960. The
paper considers the effect of welding conditions on local failure of weld joints. The
IMET-1 machine was used for testing. Deviations at the maximum temperature of
1340C were ±20C. The tests registered the change in overall strength, plasticity, strength at
580-610C, and strength of round samples. Twelve different melts of 1Kh14N14V2M and
1Kh18N12T steel were tested. The results indicated that cracks are formed in both materials
(at the seam); they have a wide, high temperature interval of brittleness and a lower level
of strength while cooling. It was also found that both materials show similar changes in
strength and plasticity at the weld joint under the influence of heat. The sensitivity of the

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ACCESSION NR: AT5008306

steel depends on its natural features (composition and metallurgical processes). Metallographic analysis showed that at welding temperatures above 1200C the grain boundaries are melted, leading to incomplete restoration of strength and plasticity. Close to these melted grains, microfractures are formed due to variable stress caused by vacancies. Concentration of these vacancies into pores is a factor aiding the formation of microfractures. The relatively higher content of oxygen and sulfur causes local fractures, so that decreasing these inclusions decreases the defects. Electroslag welding is a positive factor in this respect. Tests were made with samples of large cross section to investigate the effect of welding on short-term and long-term strength. The same grades of steel were used for these tests. Metallographic analysis showed that short-term fractures were transcrystallized. In other words, the strength and plasticity of the metal was determined by the grain material. Prior to the tests, the steel was heated to the solidus temperature and then cooled under tensile stress, leading to loosening of the metal by vacancies and dislocations. Further treatment for forming an austenitic steel at 950-1100C could not improve the quality of the metal. The transcrystalline grains were hardened, causing the above-mentioned type of fracture. The tests performed indicated that it is impossible to estimate the effect of welding on the strength of weld joints by short-term strength studies. The paper also describes other tests on austenitic steel after welding, as well as of pipes. The presence of inclusions

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L 43618-65

ACCESSION NR: AT5008306

consistently lowered the strength of the metal near the weld joint. Metals with coarse grains have lower strength than those with fine ones. "Tests were performed under the guidance of Candidate of Technical Sciences M. M. Timofeyev, while Engineer B. I. Morozov participated in the experimental work." Orig. art. has: 22 figures and 7 tables.

ASSOCIATION: TsNIITMash

SUBMITTED: 05Nov64   ENCL: 00   SUB CODE: IE, MM

NO REF SOV: 009   OTHER: 000

Card 3/3 CC

ACC NR: AP7002975   (A, N)   SOURCE CODE: UR/0413/66/000/024/0072/0072

INVENTOR: Beylin, A. Yu.; Nikitin, Yu. N.; Lamshina, V. A.

ORG: None

TITLE: A method for sintering cermet products. Class 40, No. 189583

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 24, 1966, 72

TOPIC TAGS: cermet product, sintering, hydrocarbon, gasoline

ABSTRACT: This Author's Certificate introduces a method for sintering cermet products (e. g. thermoelectric half cells) under pressure in a liquid medium. The mechanical properties of the products are improved and the productivity of the method is increased by sintering the pressed products in hermetically sealed vessels filled with a liquid hydrocarbon, e. g. gasoline.

SUB CODE: 11, 13/ SUBM DATE: 02Jul63

UDC: 621.762.52

Card 1/1

BURLAY, A. V.,

NIKITIN, Yu.P.

Method for determining prothrombin in blood according to D.P.
Borovskaia's procedure. Lab.delo 6 no.2:9-10 Mr-Ap '60.
(MIRA 13:6)

1. Kafedra terapii (zav. - prof. G.M. Shershevskiy) Stalinskogo
instituta usovershenstvovaniya vrachey.
(PROTHROMBIN)

NIKITIN, Yu.P.

Effect of vitamins of group B on the development of experimental fluorosis. Vop. pit. 19 no. 5:47-49 S-O '60.   (MIRA 14:2)

1. Iz kafedry terapii (zav. - prof. G.M. Shershevskiy) Instituta usovershenstvovaniya vrachey, Stalinsk.
         (FLUORINE—TOXICOLOGY) (VITAMINS—B)

NIKITIN, Yu.P., assistent

Change in calcium metabolism during fluorine intoxication and the influence of some mineral salts and vitamin D. Gig.i san. 25 no.2:34-39 F '60.
(MIRA 13:6)

1. Iz kafedry terapii Stalinskogo instituta usovershenstvovaniya vrachey.
(CALCIUM)
(FLUORINE)
(VITAMIN)
(MAGNESIUM)
(PHOSPHATES)

NIKITIN, Yu. P. (Stalinsk)

Pathogenesis of hemorrhagic phenomena in workers of aluminum
factories. Gig. truda i prof. zab. 5 no.7:33-36 Jl '61.
(MIRA 15:7)

1. Stalinskiy institut usovershenstvovaniya vrachey.

(HEMORRHAGE)
(ALUMINUM INDUSTRY—HYGIENIC ASPECTS)

NIKITIN, Yu.P.

Effect of vitamin B on lipoid ... patients with atherosclerosis. Vo. p.t. 2.

1. I? 1-y kafedry tars ... Institute usovershenst ...

GOL'DBERG, G.A.; KAN'SHINA, N.F.; NIKITIN, Yu.P.

Necrotic granulomatosis combined with disseminated vasculitis (Wegener's syndrome). Sov.med. 26 no.12:84-91 D '62.

(MIRA 16:2)

1. Iz 1-y kafedry terapii (zav. - prof. G.M. Shershevskiy), 2-y kafedry terapii (zav. - dotsent G.A. Gol'dberg) i kursa patologicheskoy anatomii Novokuznetskogo instituta usovershenstvovaniya vrachey.
(NOSE—DISEASES)   (RESPIRATORY ORGANS—DISEASES)

BARMIN, V.V.; KRESTNIKOV, Yu.S.; KUZNETSOV, Ye.V.; MESHKOVSKIY, A.G.;
NIKITIN, Yu.P.; SHEBANOV, V.A.

Recent data on the production of $\widetilde{\pi}^{0}$ -mesons in the Coulomb
field of the nucleus. Zhur. eksp. i teor. fiz. 44 no.2:
748-749 F '63.   (MIRA 16:7)

1. Institut teoreticheskoy i eksperimental'noy fiziki AN SSSR.

BERKOV, A.V.; ZHIZHIN, Ye.D.; MUR, V.D.; NIKITIN, Yu.P.

       Regge poles in the photoproduction amplitude. Zhur. eksp. i teor.
       fiz. 45 no.5:1585-1594 N '63.   (MIRA 17:1)

ACCESSION NR: AP4009109   S/0056/63/045/006/1879/1890

AUTHORS: Barmin, V. V.; Dolgolenko, A. G.; Krestnikov, Yu. S.;
Meshkovskiy, A. G.; Nikitin, Yu. P.; Shebanov, V. A.

TITLE: Observation of the decay

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963,
1879-1890

TOPIC TAGS: Omega meson decay, Omega meson charge parity, radiative
decay, Omega meson width, Omega neutral particle decay, pion proton
interaction, negative pion proton interaction

ABSTRACT: The reaction $\pi^- + p \to n + \omega \to n + \pi^0 + \gamma$ was investigated
for negative-pion momenta of 1.25, 1.55, and 2.8 BeV/c in a 17-
liter propane-xenon bubble chamber. The purpose of the investiga-
tion was to detect the decay $\omega \to \pi^0 + \gamma \to 3\gamma$, the existence of
which was established on the basis of the excess of number of events

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ACCESSION NR: AP4009109

with three γ-rays as compared with the number of background events
from the reactions $\pi^- + p \rightarrow n + m\pi^0$ $(m \geq 2)$, and was further con-
firmed by a statistical method based on the kinematics of the $\omega \rightarrow$
$\rightarrow \pi^0 + \gamma$ decay. The cross sections for the reaction under study
were estimated in the indicated momentum interval. "In conclusion,
we express our deep gratitude to A. I. Alikhanov for constant
interest and valuable advice. We thank the ITEF (Institute of
Theoretical and Experimental Physics) proton synchrotron crew who
enabled us to obtain the large number of photographs in a short
time. We thank I. Ya. Pomeranchuk, L. B. Okun', I. Yu. Kobzarev,
B. L. Ioffe, Yu. A. Simonov, and A. S. Zhizhin for fruitful theo-
retical discussions. We are very indebted to A. S. Kronrod, R. S.
Guter, and Ye. M. Landis for valuable advice and for organizing
and carrying out the calculations on the ITEF electronic computer.
We thank the scanning staff under the direction of V. P. Rumyant-
seva for scanning the pictures, Yu. I. Makarov, N. S. Khropov, and
B. I. Chistyakov for operating the bubble chamber, Yu. V. Trebukhov-

Card 2/3

ACCESSION NR: AP4009109

skiy for aid in the work and V. V. Vladimirskiy for helpful discus-
sion of the results. Orig. art. has: 8 figures, 27 formulas, and
2 tables.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
(Institute of Theoretical and Experimental Physics)

SUBMITTED: 03Jul63   DATE ACQ: 02Feb64   ENCL: 00

SUB CODE: PH   NO REF SOV: 003   OTHER: 010

Card   3/3

ACCESSION NR: AP4042585   S/0056/64/046/006/2202/2211

AUTHORS: Berkov, A. V.; Nikitin, Yu. P.; Terent'yev, M. V.

TITLE: Regge poles in the amplitude of vector meson production

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 2202-2211

TOPIC TAGS: V particle, Regge pole, omega meson, meson reaction, differential cross section

ABSTRACT: Continuing an earlier analysis of the spin structure of inelastic-process amplitudes (ZhETF v. 45, 1585, 1963), the authors investigate the spin structure of the amplitude for the production of the ω^0 mesons in the reaction $\pi + N \rightarrow N + \omega^0$, from the point of view of the hypothesis of moving poles in the angular-momentum complex plane. Under the assumption that one pole makes the predominant contribution at high energies, the authors calculate the differential cross section of the reaction, the polarization of the

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ACCESSION NR: AP4042585

produced vector mesons, and also the angular distribution of the products of the decay $\omega^0 \to \pi^0 + \gamma$. The polarization of the ω^0 meson is investigated under various assumptions concerning the mutual placement of the Regge poles corresponding to different quantum numbers in the t-channel of the reaction. In addition, the production of the ω^0 meson at zero angle is considered separately, since it has distinct properties. All the results are applicable without noticeable modification to the production of ρ mesons in analogous reaction, but it is pointed out that the large width of ρ-meson resonance casts some doubts on the applicability of the Regge method ρ-meson production. "The authors thank V. D. Mur, I. Ya. Pomeranchuk, and K. A. Ter-Martirosyan for useful discussions." Orig. art. has: 38 formulas.

ASSOCIATION: None

SUBMITTED: 17Jan64

SUB CODE: NP   NR REF SOV: 007

ENCL: 00

OTHER: 002

Card 2/2

ACCESSION NR: AP4043649   S/0056/64/047/002/0708/0714

AUTHORS: Nikitin, Yu. P.; Shebalin, Ye. P.

TITLE: Production of pion pairs by high-energy neutrinos on nuclei

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 708-714

TOPIC TAGS: neutrino, pion, momentum transfer, Coulomb repulsion force, diffraction analysis

ABSTRACT: Although reactions of the type $\nu + A \to \mu^- + \pi^+ + \pi^0 + A$ involve strong interacting particles (pions and the nucleus), for which there is no theory at present, it is shown that the cross sections of such reactions at low momentum transfers can be obtained on the basis of the Coulomb and diffraction mechanisms for the production of pion pairs. It is shown that the diffraction mechanism dominates in the neutrino energy region $E \leq 60$ BeV, and the Coulomb mechanism is almost always weaker than the diffraction mechanism ex-

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S/056/60/039/003/023/045
B006/B063

AUTHORS: Grashin, A. F., Nikitin, Yu. P.

TITLE: The Nucleon - Nucleon Potential

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
              Vol. 39, No. 3(9), pp. 713-719

TEXT: Following a previous paper (Ref. 1) in which the nucleon - nucleon potential was studied at large distances, the authors now describe a method of representing the local potential (with the non-relativistic locality range $p^2 \ll m^2$) in the form of series (1):

$$U(x) = \sum_{n=1}^{\infty} U^{(n)}(x) \quad \text{with} \quad U^{(n)}(x) \sim e^{-nx} \quad \text{for } x \to \infty.$$

It is still possible to estimate the accuracy with which the relativistic scattering matrix is produced by the potential. Application of this method to the case of two-mesonic interaction of nucleons leads to the local potential with the large locality range $p^2 \ll m^2$. The anomalous non-locality of the pseudo-potential seems to be an equivalent method for describing the higher

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Born approximations of the actual potential, and has no physical signi-
ficance. First, the authors represent the general method, confining them-
selves to a consideration of the interaction of particles of the same kind
(of mass m). This interaction is assumed to take place only by exchange
of mesons of mass μ, and anomalous graphs are supposed to be absent. It
is shown that series (1) may be regarded as an expansion in a power series
of "peripherity", and not as an expansion in a series of the interaction
constant. The recurrence formulas required for the development of the
$U^{(n)}$ series are given by (4). From the first of these formulas one obtains
the well-known static single-meson potential formula by means of the
single-meson nucleon - nucleon amplitude and by passing over to x-re-
presentation. This formula may be used in the range $p^2/m^2 \ll 1$ to cal-
culate the two-meson potential. Using the same approximation as in Ref. 1
for obtaining the pseudo-potential (expansion in a series of $1/x$, ε^2,
and $\varepsilon\sqrt{x}/2$), the authors find an explicit expression for $U^{(2)}(x)$. (x is
the distance in $1/\mu$ units, μ - pion mass; $\varepsilon^2 = \mu^2/m^2$). The expression
derived for the peripheral nucleon interaction practically consists of
the tensor and the central attractive forces which are slightly dependent

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on the isotopic state. The properties of two-meson interaction are final-
ly discussed. The authors thank V. N. Gribov, I. Yu. Kobzarev, L. D.
Landau, L. B. Okun', I. Ya. Pomeranchuk, and K. A. Ter-Martirosyan for
discussion of the results obtained. There are 2 figures and 18 references:
7 Soviet, 2 Italian, 3 Japanese, and 6 US.

SUBMITTED: April 8, 1960

Card 3/3

NIKITIN, Yu.P.

Scattering of K-mesons on nucleons in the case of large orbital momenta. Zhur. eksp. i teor. fiz. 40 no.6:1856-1853 Je '61.
(MIRA 14:8)

(Mesons—Scattering)
(Nucleons)

NIKITIN, Yu.P.; POMERANCHUK, I.Ya.; SHMUSHKEVICH, I.M.

Formation of high-energy π-meson beams. Zhur.eksp.i teor.fiz.
41 no.3:963-968 S '61.   (MIRA 14:10)

(Mesons)

NIKITIN, Yu. P.

BARMIN, V. V.; KRESTNIKOV, Yu. S.; KUZNETSOV, Ye. V.; MESHKOVSKY, A. G.;
NIKITIN, Yu. P.; SHEBANOV, V. A.

"π°-Production in the Coulomb Field of Nucleus"

report presented at the 11th Intl. Conference on High Energy Physics,
Geneva, 4-11 July 1962

Institute of Theoretical and Experimental Physics, Moscow, USSR

NIKITIN, Hu. P.

GALANIN, A. D., GRASHIN, A. F., MELNIKOV, V. N. and NIKITIN, Hu. P.

"The Effects of $\pi-\pi$ Interaction in $\gamma+\gamma\to\pi+\pi$, $\gamma\to\pi+\pi$, $N\cdot N\to\gamma$ and $N+N\to NN$ Amplitudes"

report presented at the Intl. Conference on High Energy Physics, Geneva.
4-11 July 1962

Inst. of Theoretical and Experimental Physics, Moscow, USSR

NIKITIN, Yu. P., POMERANCHUK, I. Ya., SHMUSHKEVICH, I. M.

"The Formation of High Energy γ - Meson Beams"

report presented at the Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Inst. of Theoretical and Experimental Physics, Moscow, USSR

ZHIZHIN, Yu. D. and NIKITIN, Yu. P.

    "On diffractional Production of Particles at High Energies"

Report presented at the Intl. Conference on High Energy Physics, Geneva,
4-11 July 1962

Moscow Engineer-Physical Inst., Moscow, USSR   (Zhizhin)
Inst. of Theoretical and Experimental Physics, Moscow, USSR (Nikitin)

S/056/62/043/003/060/063
B104/B102

AUTHORS: Nikitin, Yu. P., Shabalin, Ye. P.

TITLE: Inverse $\pi \longrightarrow \mu + \nu$ decay in a nuclear Coulomb field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 3(9), 1962, 1119-1120

TEXT: Cross sections of the processes $\nu + Z \rightarrow \mu(e) + \pi + Z$,
$\nu + Z \rightarrow \mu(e) + K + Z$ are calculated by the Weizsäcker-Williams method in
a form suggested by I. Ya. Pomeranchuk and I. M. Shmushkevich (Nucl. Phys.,
23, 452, 1961). These cross sections are

$$\sigma_{1,2} = \frac{Z^2 \alpha}{\pi} \int F^2(t) \, \frac{dt}{t^2} \left[t - \frac{s^4}{4E_\nu^2} \right] \frac{\sigma_{\phi 1,2}(s)\,ds}{s}, \qquad (3),$$

where Z is the atomic number, $\alpha = 1/137$, $s^2 = (p_\mu + p_\pi)^2$, t is the square
of the momentum transferred to the nucleus, F is the electromagnetic form
factor of the nucleus, $\sigma_{\phi 1,2}$ are the cross sections of the photoprocesses

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S/056/62/043/004/016/061
B102/B180

AUTHORS: Bar in, V. V., Krestnikov, Yu. S., Kuznetsov, Ie. V., Mesh-
ovskiy, A. G., Nikitin, Yu. P., Shebanov, V. A.

TITLE: π^0 meson production in the nuclear Coulomb field

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 4(10), 1962, 1223 - 1230 .

TEXT: To study the mechanism of coherent interaction, in which momentum
transfer is very low and nuclear excitation absent, $\pi^- + N_Z^A \to \pi^- + \pi^0 + N_Z^A$
reactions were examined. They can only occur via interaction with the
nuclear Coulomb field, diffractive pion "dissociations" being strongly for-
bidden. Only one pion dissociation experiment is hitherto known (Bardasar-
re et al. Nuovo Cim. 21, 459, 1961). Using a 2-liter xenon bubble chamber
and 2.8 bev/c π^- mesons from the proton-synchrotron of the OIYaI about
10,000 stereophotographs were obtained, and a similar number with a freon
chamber. 48 and 31 events of π^- scattering through 3-30° accompanied by
two electron-positron pairs were found respectively. After kinematic ana-

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π meson production ...

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lysis, there remained ... an. 13 events which could be attributed to the $\pi^- + Xe \to \pi^- + \pi^0 + Xe$ reaction. This is $(3.7 \pm 1.3) \cdot 10^{-3}$ of the total number of inelastic interactions, the cross section of which was 12... mb, from which the pion production cross section was found to be $\sigma_c = ...4 \pm 1.0$ mb. Recording efficiency was taken into account. There was a sharp peak at $\theta < 10$ in the angular distribution of this reaction. For σ_{ph} the mean cross section of the photoprocess $\gamma + \pi^- \to \pi^- + \pi^0$, 0.6 ± 0.2 mb was obtained using the relation $\sigma_c = 0.5 \bar{\sigma}_{ph}$. It holds for the energy range $4m^2 \ll w^2 \ll 10m^2$, where m is the pion mass and w the center-of-mass total energy of the pions produced in the photoprocess. There are 3 figures and 1 table.

ASSOCIAT: :   Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

SUBMITTED: May 17, 1962

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