

Two-arc welding improves the quality of butt...

22242
S/125/61/000/001/014/016
A161/A133

electrode produces a better shaped second seam. Process parameters in the table may be recommended for metal of 40 mm thickness:

Gap between edges mm	Space between electrodes mm	Arc	Electrode arm mm	Weld. speed m/hour	Electrode feed m/hour	Current amp.	Voltage volt
9	40	1st	60	38	192	1575-1625	44-46
		2nd	60	38	192	1575-1625	50-52

The electrode wire diameter is 5 mm.

Card 2/3 2-

LEBED', D.P.; VOROB'YEV, V.M.; OKARA, V.G.; SIDORUK, V.S.

Semiautomatic welding with powder wire. Avtom. svar. 18
no.8:54-55 Ag '65. (MIRA 18:11)

1. Dnepropetrovskiy zavod imeni Babushkina.

VOROB'YEV, V.M., inzh.

Straw harvesting in the Virgin Territory. Trakt. i sel'khozmasb.
no.9:17-19 S '65. (MIRA 18:10)

1. Tselinnaya mashinolspytatel'naya stantsiya.

PANKINA, L.S., inzh.; VOROB'YEV, V.M., inzh.

Testing conveyor-type pick-up mechanisms. Trakt. i sel'khozash.
33 no.8:23-24 Ag '63. (MIRA 16:11)

1. Tselimaya mashinoispytatel'naya stantsiya.

TATARINOV, A.P.; SHCHEKAYEV, N.S.; VOROB'YEV, V.M.

Drying of sheet carboard in the CUR-4 roller dryer. Bum.prom.
[38] no.7:20 J1 '63. (MIRA 16:8)

1. Kartonnaya fabrika "Krasnaya polyana."
(Paperboard—Drying)

VOROB'YEV, V.M., insh.

Testing new wide-cutting machines for grain harvesting.
Mekh. i elek. sots. sel'khoz. 21 no.1:53-56 '63.

(MIRA 16:7)

1. Tselinnaya mashinospytatel'naya stantsiya.
(Combines(Agricultural machinery))

VOROB'YEV, V.M., kand. tekhn. nauk, dots.; SEMENCHENKO, I.I., doktor tekhn. nauk, prof., red.

[Profiling cutters for parts with helical grooves] Profilirovanie frez dlia izdelii s vintovymi kanavkami; uchebno-metodicheskaia instruktsiia po proektirovaniu frez. Pod red. I.I.Semenchenko. Moskva, Mosk. stankoinstrumental'nyi in-t, 1962. 41 p. (MIRA 16:4)
(Metal-cutting tools)

VOROB'YEV, V.M., inzh.

Results of testing a series of new grain harvesters in the Virgin Territory. Trakt. i sel'khoz mash. 32 no.5:22-25 My '62.
(MIRA 15:5)

1. Tselinnaya mashinoispytatel'naya stantsiya.
(Virgin Territory--Harvesting machinery--Testing)

LEBED', D.P., kand.tekhn.nauk; VOROB'YEV, V.M., inzh.; GUTNIKOVA, B.P.,
inzh.; SHATAYLO, D.V., inzh.

Use of rimming steel for steel elements. Prom. stroi. 39 no.11:50-
52 '61. (MIRA 14:12)

1. Dnepropetrovskiy zavod metallokonstruktsiy im. I.V.
Babushkina.
(Steel, Structural)

LEBED', D.P.; VOROB'YEV, V.M.; SIDORUK, V.S.

Automatic butt welding with suspended split electrodes and without
manual backup welding. Avtom.svar. 15 no.4:78-81 Ap '62.
(MIRA 15:3)

1. Dnepropetrovskiy ordena Trudovogo Krasnogo Znamenii zavod
metallokonstruktsiy imeni Babushkina.
(Electric welding)

VOROB^YEV, V. N.

Prisposobleniia slesaria-novatara I. P. Kartasheva (Vestn. Mash., 1951, no. 6, p. 30-37)

DLC: TN4.V

(Appliances of the fitter and innovator I. P. Kartashev.)

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

VGRQB'YEV, V.N., laureat Stalinskoy premii, inzhener.

Unit for pressure babbiting of turbine bushings. *Energomashino-*
stroenie no.1:23-24 O '55. (MLBA 9:5)

(Babbitt metal) (Bearings (Machinery))

VOROB'YEV, V.N., inzhener

A.P. Ivanov's core drills. Vest. mash. 35 no. 8:34-38 Ag'55.
(Drilling and boring) (MLRA 8:10)

IVANOV, Vasilii Vasil'yevich; ZUBOK, V.N., inzhener, retsenzent; YOROB'YEV,
V.N., inzhener, redaktor; TIKHONOV, A.Ya., tekhnicheskii redaktor

[Mechanical milling of parts for steam turbines] Mekhanicheskaya
obrabotka detalei parovykh turbin. Moskva, Gos. nauchno-tekhn.
izd-vo mashinostroit. lit-ry, 1956. 392 p. (MLRA 10:1)
(Steam turbines)

VOROB'YEV V. N.

89-3-10/30

AUTHORS: Zavoykiy, V. K. , Vorob'yev, V. N. , Serdyuk, R. L.

TITLE: The Density of a Steam-Water Mixture Formed on Reducing the Pressure in a Vessel Containing Heated Water (Plotnost' parovodyanoy smesi, obrazuyushcheysya pri umen'shenii davleniya v sosude s nagretoy vodoy)

PERIODICAL: Atomnaya Energiya, 1958, Vol. 4, Nr 3, pp. 205 - 206 (USSR)

ABSTRACT: The dependence of the density mentioned in the title was determined experimentally. The density of the steam-water mixture was measured by means of the change of intensity of a γ -ray which passed the experimental apparatus (a steel balloon). Radioactive silver served as radiator. A 3% terphenyl solution in xylene connected with a counter (resolving time 1,4 μ s) was used as counting device. 2/3 of the height of the balloon were filled with water and then heated. As soon as the steam pressure within the balloon reached about 50 atm. excess pressure the heating was interrupted for some time until all parts had an equilibrium tem-

Card 1/2

89-3-10/30

The Density of a Steam-Water Mixture Formed on Reducing the Pressure in a Vessel Containing Heated Water

perature. When the valve was then opened the counting device was automatically switched on. Each experiment lasted for 1 to 2,5 minutes. Within this time the pressure dropped to 5 atm. excess pressure.

The found dependence between the share of the steam cross section in the vessel φ and the volume velocity of the steam in relation to the total cross section of the vessel with various velocities of steam pressure drop is linear. There are 2 figures.

SUBMITTED: October 28, 1957

AVAILABLE: Library of Congress

1. Water vapor-Density-Measurement

Card 2/2

GERMAN, Avraam L'vovich; inzh.; SKOBLIN, Ivan Nikolayevich; inzh.; YQROB'YEV, V.N., inzh., retsenzent; BAUMAN, N.Ya., inzh.; red.; DUGINA, N.A., tekhn.red.

[Installation, operation, and repair of the equipment of small and medium-sized hydraulic turbines] Montazh, ekspluatatsiia i remont oborudovaniia malykh i srednikh gidroturbin. Moskva, Gos.nauchno-tekhn.izd-vo mashinestroit.lit-ry, 1959. 260 p. (MIRA 13:3)
(Hydraulic turbines)

SOV/68-59-3-15/23

AUTHORS: Kolodyazhnyy, I.V., and Vorob'yev, V.N.
TITLE: From the Experience of Operation of Pyridine Plant on
the Moscow Coke Gas Works (Opyt raboty pyridinovoy
ustanovki Moskovskogo koksogazovogo zavoda)
PERIODICAL: Koks i Khimiya, 1959, Nr 3, pp 55-57 (USSR)
ABSTRACT: Changes in the design of the neutraliser, namely a
decrease in the space between the bubbler for steam-
ammonia mixture and the bottom of the neutraliser and
introduction of the feed of the mother liquor directly
under the bubbler improved the operation of the
neutraliser and the yield of pyridine bases from 4 kg
to 13-14 kg/ton of ammonia sulphate. There is 1 figure.
ASSOCIATION: Moskovskiy Koksogazovyy zavod (Moscow Coke Gas Works)

Card 1/1

KENEMAN, F.Ye.; ZALOGIN, N.G.; VOROB'YEV, V.N.; ANTOSHINA, O.S.

Mechanism of the free efflux of loose materials. Inzh.-fiz. zhur.
no.3:69-73 Mr '60. (MIRA 13:10)

1. Energeticheskiy institut im.G.M.Krzhizhanovskogo, Moskva;
(Granular materials)

80283

S/170/60/003/04/03/027
B007/B102

5.1175

AUTHORS: Zalogin, N.G., Keneman, F.Ye., Vorob'yev, V.N.

TITLE: 2. On the Mechanism of the Free Efflux of Granular Materials

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 4, pp. 18-22

TEXT: The efflux quantity of various sands and other granular materials was measured for the purpose of explaining the influence of the inclination of the container walls. The process was a free efflux from conical funnels with an opening angle of 30, 45, 60, 90 and 120° (which corresponds to an angle α of wall inclination of 75, 67.5, 60, 45 and 30°). The results shown in Fig. 1 were obtained and they agree well with one another. They show that when continuously proceeding from a container with flat bottom to a funnel, the efflux quantity even decreases, reaches a minimum at $\alpha = 45^\circ$, and increases again when α is further increased. Only with $\alpha > 55-60^\circ$ does the efflux quantity become as high as in the efflux from a container with flat bottom. Thus, this angle is considerably wider than the angle of repose which is 35-40° in the case of the materials investigated. The efflux quantity is the greater the lower is the ratio d_o / d_T . d_o denotes the diameter of the outlet, d_T the mean diameter of

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S/170/60/003/04/03/027
B007/B1022. On the Mechanism of the Free Efflux of
Granular Materials

the particles. The efflux quantity rises especially at $\alpha = 65-70^\circ$. This seems to be the moment when the new way of efflux begins to act, i.e. the efflux with gliding of the particles along the wall. The experiments showed (proceeding from the conceptions on the dynamic camber (Ref. 7)) that the dependence of the efflux quantity on the angle of inclination, α , of the container wall is determined only by the change of the form at the entrance to the outlet. This entrance part corresponds to the height of a truncated cone of about $0.5 d_0$. The shape of the bottom of the container has no effect upon the efflux quantity. Further experiments showed that the change in efflux quantity is caused by a velocity change or a change of the particle quantity in the layers flowing out to the periphery. On this occasion the relative increase in efflux quantity in the layers on the periphery of the jet is the greater the lower the ratio d_0 / d_T . Finally also the influence of a variation of the distance between the container walls and the outlet margins upon the efflux quantity in the case of a cylindrical container with flat bottom was investigated. It has been found that the walls of a cylindrical container influence the efflux quantity only when the distance between walls and outlet margin is shorter than the diameter of the outlet opening. The experiments showed that the height of the column above the

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2. On the Mechanism of the Free Efflux of
Granular Materials

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S/170/60/003/04/03/027
B007/B102

opening does not influence the outlet quantity, not even when the efflux is accompanied by a gliding of the particles along the wall. There are 4 figures and 7 references, 5 of which are Soviet.

ASSOCIATION: Energeticheskiy institut AN SSSR im. G.M. Krzhizhanovskogo, g. Moskva
(Institute of Power Engineering of the AS USSR imeni G.M.
Krzhizhanovskiy, City of Moscow)

Card 3/3

ZALOGIN, N.G., KHEZMAN, F.Ye., VOROB'YEV, I.M.

Mechanism of the free efflux of loose materials. Part 2. Inzh.-
fiz.zhur. no.4:18-22 Ap '60. (MIRA 13:8)

1. Energeticheskiy institut AN SSSR im. G.M.Krzhizhanovskogo,
Moskva.

(Granular materials)

VOROB'YEV, V.N.

Selecting indices of maintenance systems for motortrucks in
agriculture. Sbor. rab. GOSNITI no.16:28-38 ['61]. (MIRA 16:12)

44293

S/119/62/000/012/006/009
D201/D308

26.2143
AUTHOR:

Vorob'yev, V.N.

TITLE:

Performance of volumetric flow meters for small flow rates

PERIODICAL:

Priborostroyeniye, no. 12, 1962, 23-24

TEXT:

The author considers a meter consisting of two compartments divided by a diaphragm deflected by the liquid admitted alternately into each of the compartments and actuating a valve and a counter. The operation analysis of this meter shows two sources of measurement error: one is the clearance between the fixed and moving parts of the meter and the other, a much more important factor, is the finite time of valve closing. For a compartment volume of 22 cm³, the time of closing of the valve should be less than 0.02 sec for meter accuracy of 1% or less. The effect of the clearance becomes noticeable only if it is greater than 0.05 mm. Approximate formulas are given which make it possible to determine one error factor from the other. Since all types of meters have both valves

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Performance of volumetric ...

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D201/D308

and clearances, the formulas may also be applied to other types of meters. There is 1 figure.

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Card 2/2

VOROB'YEV, V.N., inzh.; TURLAKOV, A.S., inzh.

Studying the intercoil pulsation in single-pass marine boilers.
Sudostroenie 30 no.7:28-30 JI '64. (MIRA 18:9)

E 06115-67 ENT(1) CW

ACC NR: AT6025296

(N)

SOURCE CODE: UR/3174/65/000/054/0033/0039

AUTHOR: Vorob'yev, V. N. (Aspirant); Gindysh, B. V. (Aspirant)

ORG: Leningrad Higher Maritime Engineering School im. Admiral Makarov (Leningradskoye vysshaye inzhenernoye morskoye uchilishche)

TITLE: Magnitude of water and heat flow through the Drake Passage

SOURCE: Sovetskaya antarkticheskaya ekspeditsiya, 1955-. Informationnyy byulleten', no. 54, 1965, 33-39

TOPIC TAGS: ocean dynamics, temperature gradient, heat balance, temperature measurement

ABSTRACT: This paper attempts to settle the controversial question of the heat and water balance in the Drake Passage. The authors used data from 85 hydrological stations located along the Passage. To average the data obtained at different stations under different meteorologic conditions and in different years, they subdivided the Passage into rectangles containing approximately the same number of stations. The readings of temperature and salinity were then averaged for each rectangle. While there is no satisfactory method for selecting the zero-surface, perhaps the most acceptable of those is that of A. Defant, which is based on the comparison of differences of dynamic depths. The authors used this method and checked the results by the method of

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ACC NR: AT6025296

O. I. Mamayev. The investigations indicate that the depth of the zero-surface is controlled by the vertical stratification of water. The greater the vertical gradient of density, the closer is the zero-surface to the surface. Conversely, the more homogeneous the water is, the deeper is the zero-surface. The stability of the density strata in the sea is influenced by temperature changes. In summer, for example, the maximum stability gradient is observed in 2000-2400 m and 200-500 m. In winter, the maximum rises to 1000-1500 m at the station (rectangle) I and to 1300-1600 m at the station (rectangle) VIII. In other words, the zero-surface in the Drake Passage rises from the center to both south and north. It is higher in the south in summer and in the north in winter. In the central portion of the Passage, where the bulk of water comes from the Eastern Circumpolar current, the zero-surface remains at 4000 m depth the year round. Obviously, this flow is not a surface current but occurs at lower depths. The axis of this flow lies between 58° S and 59° S. Velocity may reach 22 cm/sec. In the north, the water velocity averages 17 cm/sec in summer and 7 cm/sec in the winter. In the south, summer velocities are 3.0 cm/sec and the winter velocities are about 5.5 cm/sec. The water flows from west to east; transfer in the opposite direction is slight. The volume of water going through the Passage in summer is about 30% greater than in winter. The heat balance is proportional to the balance of water. The temperature remains fairly constant through the year, being +2.28°C in summer and +2.02°C in winter. The authors conclude that the Defant method appears to be the best in existence. Orig. art. has: 3 figures, 1 table.

SUB CODE: 08,04/

SUBM DATE: 26Mar65/

ORIG REF: 005/

OTH REF: 003

Cont 2/2 *hh*

L 11187-67 EWT(d)/EWT(m)/EWP(f) FDN
ACC NRI AR6028227

SOURCE CODE: UR/0273/66/000/005/0027/0027

27

AUTHOR: Vorob'yev, V. N.

TITLE: A method for determining effective power and effective performance of an automotive carburetor engine ⁴¹

SOURCE: Ref. zh. Dvigateli vnutrennego sgoraniya, Abs. 5.39.159

REF SOURCE: Tr. Vses. s.-kh. in-ta zaochn. obrazovaniya, vyp. 21, ch. 1, 1965, 67-71

TOPIC TAGS: internal combustion, vehicle engine fuel system, engine performance characteristic

ABSTRACT: In automobile tests of short and long duration, it is often necessary to measure the effective power of the engine during motion of the automobile and to calculate the effective performance of the engine for a certain time interval. It is shown that the power of the engine may be determined from its rotational velocity and rarefaction in the intake manifold. An instrument developed for this purpose is described and test results are given. [Translation of abstract]

SUB CODE: 21

Card 1/1/1/1

UDC: 621.434.018.7.001.5

USSR / Human and Animal Physiology. The Effect of
Physical Factors. Ionizing Irradiations. T

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102365.

Author : Vorob'yev, V. N.

Inst : Not given.

Title : On the 'Second Blow' in Radiation Sickness.

Orig Pub: Vestn. rentgenol. i radiol., 1957, No 3, 3-5.

Abstract: Guinea pigs were subjected to a single general Ro-entgen irradiation (the intensity of dose 28.2 r per min.), as a result of which they developed acute radiation sickness of the II and III degree which led to the loss of 18 animals out of 36, 9-14 days after irradiation. At the end of 40 days and the disappearance of clinical signs of the disease - a trauma was inflicted to the surviving guinea pigs - as a "second blow" according to A.

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VOROB' YEV, V. N.

VOROB' YEV, V. N.

Relapse in radiation sickness [with summary in English]. Vest. rent. i
rad. 32 no.3:3-5 My-Je '57. (MIRA 10:10)

1. Iz 3-y khirurgicheskoy kliniki (sav. - prof. N.I.Blinov) i
kafedry radiologii (sav. - prof. M.N.Pobedinskiy) Leningradskogo
ordena Lenina gosudarstvennogo instituta usovershenstvovaniya
vrachey imeni S.M.Kirova.

(ROENTGEN RAYS, inj. eff.

exper. radiation sickness, prod. of relapse in guinea
pigs)

ВОРОБ'ЯEV, V.N.

ВОРОБ'ЯEV, V.N. (Leningrad, Mytninskaya ul., d. 9-a, kv. 56)

Surgical treatment of Dupuytren's contracture [with summary in English p.137]. Vest.khir. 79 no.12:41-46 D '57. (MIRA 11:1)

1. Iz 3-y khirurgicheskoy kafedry (zav. - prof. N.I.Blinov)
Leningradskogo ordena Lenina instituta usovershenstvovaniya vrachey
im. S.M.Kirova.

(DUPUYTREN'S CONTRACTURE, surg.
technic)

VOROB'YEV, V.N., Dupuytren's contracture and its surgical treatment."
Len, 1958. 16 pp (State Order of Lenin Inst for the Advanced Training
of Physicians in S.M.Kirov), 200 copies (KL,45-58, 152)

740 =

VOROB'YEV, V.H.

Third municipal conference of young surgeons, devoted to the 250th anniversary of Leningrad. Vest.khir. 80 no.5:140-143 My '58

(MIRA 11:7)

(SURGERY)

VOROB'YEV, V.M.; SHERMET, Z.I.; RAUSHENBAKH, M.O., prof.

Effect of ionizing radiations on preserved blood and plasma.
Med.rad. 4 no.6:65-73 Je '59. (MIRA 12:8)

1. Iz TSentral'nogo ordena Lenina instituta gematologii i
perelivaniya krovi.

(BLOOD, PRESERVED,
eff. of x-rays (Rus))

(ROENTGEN RAYS, eff.
on preserved blood (Rus))

VOROB'YEV, V.N.

Dupuytren's contracture with multiple localization. Vest.khir.
83 no.7:141-142 J1 '59. (MIRA 12:11)

1. Is 3-y khirurgicheskoy kafedry (sav. - prof.N.I.Blinov)
Leningradskogo ordena Lenina inistituta usovershenstvovaniya
vrachey im. S.M.Kirova. Adres avtora: Leningrad, ul.Saltykova-
Shchedrina, d.41, 3-ya khirurgicheskaya klinika GIDUV,
(FASCIAE (ANATOMY)--DISEASES)

KAMENSKAYA, V.V.; BORODIN, Yu.I.; MYSH, G.D.; KULIKOVA, L.A.; VOROB'YEV, V.N.

Methodology of determining the transport function of the blood vessels and lymphatic system under experimental conditions.
Biul. eksp. biol. i med. 57 no.1:120-122 Ja '64.

(MIRA 17:10)

1. Kafedra fiziki (ispolnyayushchiy obyazannosti zaveduyushchego V.V. Kamenskaya) normal'noy anatomii (zav. - prof. K.V. Romodanovskiy), fiziologii (zav. - dotsent Ya.D. Finkinshteyn), gospital'noy khirurgii (zav. - dotsent B.A. Vitsin) Novosibirskogo meditsinskogo instituta. Predstavlena deystvitel'nym chlenom AMN SSSR V.N. Ternovskim.

ACC NR: AP6012918

(N)

SOURCE CODB: UR/0020/66/167/005/1039/1041

AUTHOR: Vorob'yev, V. N.

ORG: Leningrad Institute of Marine Engineering im. S. O. Makarov (Leningradskoye vysshaye inzhenernoye morskoye uchilishche)

TITLE: Lunar-solar semimonthly and monthly tides in the seas of the Soviet Arctic

SOURCE: AN SSSR. Doklady, v. 167, no. 5, 1966, 1039-1041

TOPIC TAGS: ~~tide, monthly lunar tide, semimonthly lunar solar tide, long period tide~~
amplitude, tide polar ice relationship, *ocean tide, sea ice,*
Arctic climate

ABSTRACT: The author compares the theoretically expected and the actually measured average magnitudes of the harmonic constants (amplitude; phase) of the long period tides at various points of the Arctic. Over 100 yearly cycles of water level observations made at 22 points were utilized. The results confirmed the general expectation that the actual amplitudes of the long period tides exceed those theoretically expected. The average ratio of the evaluated to theoretically expected amplitudes was 2.06. A study of the distribution of amplitudes and phase shifts for various (4) seas of the Soviet Arctic showed the largest amplitudes (33 mm for the semimonthly, and 48 mm for the monthly period tides) and phase shifts (23° , 125°) to occur in the Sea of Chukhotsk. The large amplitude ratio and phase shift of the waves relative to the acting force point to the free wave nature of the long period tides. Therefore, these ampli-

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UDC: 551.446

ACC NR: AP6012918

tudes cannot be described by the conventional equations of the long period tides. This conclusion is confirmed by theoretical considerations published before by J. Proudman (Geophys. J. Astr. Soc., 3, no. 2, 1960) who showed that on the continental shelf of the ocean the main tidal long period waves must develop as free and not as forced ones. One should therefore direct the orientation toward the experimental measurements of the average sea level. The significance of the long period tides to the hydrological and glaciological regimes in the Soviet Arctic seas remains unclear. Orig. art. has 2 tables.

SUB CODE: 08/ SUBM DATE: 02Jul65/ ORIG REF: 004/ OTH REF: 005

Card 2/2

VOROB'YEV, V.N., inzh.

Applying differentiated train weight norms with the coupling of
additional car groups to the trains. Zhel.dor.transp. 42
no.2:77-79 F '60. (MIRA 13:5)

1. Zamestitel' nachal'nika Khabarovskogo otdeleniya
Dal'nevostochnoy zheleznoy dorogi, g.Khabarovsk.
(Railroads--Making up trains)

ZAVOYSKIY, V.K.; VOROB'YEV, V.N.; SERDYUK, R.L.

Density of a water-steam mixture formed upon lowering pressure in a vessel containing hot water. Atom. energ. 4 no.3:285-286 Mr '58.

(MIRA 12:3)

(Density) (Steam)

KOLODYAZHNYI, I.V.; VOROB'YEV, V.N.

Operational experience of the pyridine section of the Moscow Coke-Oven Gas Plant. Koks i khim. no.3:55-57 '59.

(MIRA 12:3)

1. Moskovskiy koksogazovyy zavod.
(Moscow--Coke industry--Equipment and supplies)
(Pyridine)

VOROB'YEV, V.N.; ERSHLER, B.V. (Moscow)

Passivity of the AT-3 titanium alloy in sulfuric acid solution. Zhur.
fiz.khim. 38 no.8:1973-1977 Ag '64. (MIRA 18:1)

VOROB'YEV, V.N.

Efficient cutting tools. Stan.1 instr. 26 no.9:22-25 S '55.
(Cutting tools)

VOROB'YEV, V.N., inzhener.

Improve the production of power equipment. Mashinostroitel' no.1:
1-13 Ja '57. (MLRA 10:4)

(Machine tools)

MAKSIMOV, I.V., doktor geograficheskikh nauk; VOROB'YEV, V.N., mladshiy nauchnyy sotrudnik

Deep-sea currents in the Antarctic Ocean. Inform.biul.Sov. antark.eksp. no.31:35-39 '61. (MIRA 15:4)

1. Vyssheye inzhenernoye morskoye uchilishche imeni admirala Makarova.

(Antarctic regions--Ocean currents)

VOROB'YEV, V.N.

Fruiting of Siberian cedar according to altitudinal subzones
of the northeastern Altai. Izv. SO AN SSSR no.12: Ser. biol.-
med. nauk no.3:86-90 '64. (MIRA 18:6)

1. Teletskiy statsionar Biologicheskogo instituta Sibirskogo
otdeleniya AN SSSR.

VOROB'YEV, V.N.; RAVKIN, Yu.S.; DOBROKHOTOV, B.P.

New data on the ornithofauna of the northeastern Altai.
Ornitologia no.6:140-145 '63. (MIRA 17:6)

C-213

VOROB'YEV, V.O. [Vorobiov, V.O.]

Ways to increase the yield and improve the quality of long flax
fibers. Leh. prom. no.3:27-29 J1-S '64. (MIRA 17:10)

VOROB'YEV, V.O. [Vorobiov, V.O.]; MARCHENKO, M.K.

Experience of the Repki Flax Mills in the manufacture of flax
straw boards. Leh. prom. no.4:53-56 O-D '64 (MIRA 18:1)

ZHUCHKOV, V.I.; VOROB'YEV, V.P.; MIKULINSKIY, A.S.

Simultaneous measurement of temperature, electrical resistance of the charge, and position of electrodes as a method for studying the operation of charge-resistance furnaces. Izv. vys. ucheb. zav.; Chern. met. 8 no.2:73 '65. (MIRA 18:2)

1. Sverdlovskiy metallurgicheskiy institut.

VOROB'YEV, V.I.; SOLOV'YEV, A.V.; SHPAK, M.T.

Significance of the photolysis products of crystalline triphenylmethane
as 20% Inv. AN USSR. Ser. fiz. 29 no.8:1307-1308 '65. (MIRA 18:3)

I. Institut fiziki AN USSR.

BOR, Mikhail Zakharovich. Primalni uchastiye: USPENSKAYA, Ye.P.; BALASHOVA, A.A.; ABRYUTINA, M.S.; ZHUKOV, V.N.; YAKUNINA, M.I.; VOROB'YEV, V.P.; STRUMILIN, S.G., akademik, red.; LISOV, V.Ye., red.; KHOLIN, I.A., red.; GERASIMOVA, Ye.S., tekhn.red.

[Planned balance of the national economy of the U.S.S.R.; practice in working out the balance] Planovyi balans narodnogo khoziaistva SSSR; opyt razrabotki. Pod red. S.G.Strumilina. Moskva, Gosplan-izdat, 1959. 158 p. (MIRA 13:6)

1. Podotdel balansa narodnogo khozyaystva Gosplana SSSR (for Uspenskaya, Balashova, Abryutina, Zhukov, Yakunina, Vorob'yev). (Russia--Economic policy)

GUR'YANOV, Aleksandr Vladimirovich; VOROB'YEV, V.P., red.; PANKRATOV,
A.I., tekhn.red.

[Arithmetic of socialism in the Savinovs' house] Arifmetika
sotsializma v dome Savinovykh. Ivanovo, Ivanovskoe knizhnoe
izd-vo, 1961. 95 p. (MIRA 15:5)
(Collective farms)
(Home economics, Rural)

NAKHABIN, V.P.; SHOLOKHOV, V.F.; NEVSKIY, R.A.; MIKULINSKIY, A.S.;
ZHUCHKOV, V.I.; EPSHTEYN, N.Ye.; VOROI'YEV, V.P.

Using semicoke as a type of reducing agent in the production of
silicon-chromium and carbon ferrochromium. Stal' 24 no.11:1006-
1008 N '64. (MIRA 18:1)

L01266-66 EWT(1)/EWT(m)/EPF(c)/ENP(j) IJP(c) RM

ACCESSION NR: AP5020788

UR/0048/65/029/008/1307/1308

AUTHOR: Vorob'yev, V. P.; Solov'yev, A. V.; Shpak, M. T.

TITLE: Luminescence of the products of photolysis of crystalline triphenylmethane at 20°K Report, 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 6, 1965, 1307-1308

TOPIC TAGS: photolysis, organic crystal, free radical, luminescence analysis, electron paramagnetic resonance

ABSTRACT: Two of the authors and collaborators have previously found that irradiation of triphenylmethane crystals at 20°K with unfiltered light from a mercury arc gives rise to five new bands in the luminescence spectrum, which they have called the A, B, C, D, and E bands, in order of increasing wavelength (Ukr. fiz. zh., 7, 122, 1962). The present paper reports results of an examination of initially very pure triphenylmethane crystals which have been further purified by zone refining. After irradiation with mercury arc light these crystals showed only the A band, the B, C, D, and E bands being absent. The A luminescence band of the purified irradiated crystals was identical with the luminescence spectrum

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L 01266-66

ACCESSION NR: AP5020788

6

of triphenylmethyl radicals produced in other samples by chemical means, and the electron paramagnetic resonance spectra of the purified irradiated crystals and the crystals containing chemically produced triphenylmethyl radicals were also identical. It is concluded the A luminescence band induced in triphenylmethane crystals by irradiation with mercury light is due to triphenylmethyl radicals, $\dot{C}(Ph)_3$, and $\dot{C}(Ph)_2$ in equal proportions. It is noted that the $\dot{C}(Ph)_2$ radical is a byproduct of the thermal decomposition of crystalline triphenylmethane and is more sensitive to the electron paramagnetic resonance method than the $\dot{C}(Ph)_3$ radical. A. B. GIKHATKO, under whose direction this work was carried out, is available for information and help." Orig. art. has 1 figure.

ASSOCIATION: Institut fiziki Akademii nauk UkrSSR (Institute of Physics, Academy of Sciences, UKRAINE) 44, 75

SUBMITTED: 00

ENCL: 00

SUB CODE: SS, OP

NO REF: YES

OTHER: 002

Card 2/2

MIKULINSKIY, A.S.; VOROB'YEV, V.P.; KOTEL'NIKOV, I.A.; Primal
uchastiye LALETIN, G.M.

Use of tubular electrodes in industrial electric furnaces for
steel smelting. Stal' 22 no.4:318-219 Ap '62. (MIRA 15:5)
(Steel--Electrometallurgy) (Electric furnaces)

S/133/62/000/004/005/008
AO54/A127

AUTHORS: Mikulinskiy, A.S.; Vorob'yev, V.P.; Kotel'nikov, I.A.
TITLE: Tubular electrodes used in industrial-scale electric steel smelters
PERIODICAL: Stal', no. 4, 1962, 318 - 319

TEXT: The authors, together with G.M. Laletin, carried out tests with tubular electrodes to investigate the electric conditions of the furnace operation for different smelting periods, the duration of smelting, the total and reactive electric power consumption, the quantity of molten steel, electrode consumption, the external condition of the electrodes, (working end) after each smelting, the nature of cracks and the degree of oxidation of nipple-joints when these electrodes were used. Tubular electrodes, 400/80 mm were tested and compared to conventional 400-mm diameter electrodes, in 27 - 29-ton furnaces with a three-phase, 8,000 kw transformer. The furnace crown was made of dinas bricks, the walls of chrome-magnesite bricks and the bottom of magnesite. The transformer operated in five stages: 260, 229, 208, 150 and 118 v, the rated phase current on the up-side being 780 amp, that of the down-side 17.7 amp. The behavior of the electric arc when operating with conventional and tubular electrodes was determined by

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S/133/62/000/004/005/008
A054/A127

Tubular electrodes used in ...

high-speed filming (900 - 1,000 frames per second) with an CKC-1M (SKS-1M) camera. The current intensity was recorded with a self-recording H-376 (N-376) ammeter. The following furnace operation parameters were obtained using tubular and conventional electrodes:

	Tubular electrode	Conventional electrode
Electrode consumption, kg/ton steel	6.98	6.31
Idem, with deduction of the burning losses	6.51	6.11
Electric power consumption, kwh/ton steel	718	708
Average periodicity of electrode build-up, heats/electrode	4.1	4.4
Furnace runs (calculated by the crown condition) smelts	92	85
Average number of cut-offs of the oil switch per heat	2.2	3.1
Power coefficient per heat, cos φ	0.831	0.827

The tests did not reveal any economic effect of using tubular electrodes; they have certain advantages, however. Tubular electrodes, as compared to conventional ones, are capable of focusing the electric arc below the operating end; the per-

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Tubular electrodes used in

S/133/62/000/004/005/008
A054/A127

iodical flashes of the arc of tubular electrodes are less intensive and less concentrated and, therefore, they are less harmful to the furnace lining. The current load per phase is more stable, and depending on the phase conditions of the furnace, increases by an average of 20 - 30%. This can be explained by the arc burning conditions being improved, due to factors affecting the arc-discharge stability, which, as time progresses, shows less change than when using conventional electrodes. The number of automatic cut-outs of the oil switch is reduced by 30%, on account of a stable current load of the transformer rendered possible by a physical contact between the electrode and the charge. In view of the results, tubular electrodes are most expediently used in smelting carbon-free ferrochrome in refining furnaces. They are expected to contribute to a prolonged service life of the furnace lining and due to their electric load stabilizing effect they will make possible higher voltages in electric steel smelters and ore-smelters. There are 3 figures. ✓

Card 3/3

MIKULINSKIY, A.S.; NAKHABIN, V.P.; SHIRER, G.B.; NEVSKIY, R.A.; STEBLYANKO,
N.V.; YEFREMKIN, V.V.; VOROB'YEV, V.P.; ZHUCHKOV, V.I.;
KURNUSHKO, O.V.

Change in the position of the electrodes and the capacity coefficient
in obtaining manganese alloys. Trudy Inst. met. UFAN SSSR no.7:
147-151 '61. (MIRA 16:6)

(Manganese alloys) (Sintering)

MIKULINSKIY, A.S.; ZHUCHKOV, V.I.; VOROB'YEV, V.P.; SHOLOKHOV, V.F.

Obtaining manganese-silicon from Northern Ural ores. Trudy Inst.
met. UFAN SSSR no.7:177-181 '61. (MIRA 16:6)
(Manganese alloys) (Sintering)

STEBLYANKO, N.V.; VOROB'YEV, V.P.; MIKULINSKIY, A.S.

Nature of the electric load in arc-type thermal ore furnaces.

Trudy Inst. met. UFAN SSSR no.7:153-156 '61.

(MIRA 16:6)

(Electric furnaces)

VOROB'YEV, V.S.; RUSANOV, A.K.

Quantometric and spectrographic analysis of silicate rocks.
Zav. lab. 30 no.8:945-949 '64. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya.

VOROB'YEV, V.S.

~~Our experience in transloading lumber by grab cranes. Rech. transp.~~
16 no.6:28-29 Je '57. (MLBA 10r8)

1. Kranovshchik Gor'kovskogo porta.
(Lumber--Transportation) (Cranes, derricks, etc.)

GRIGOR'YEV, A.T.; PANTRELYMONOV, L.A.; KUPRINA, V.V.; VOROB'YEV, V.S.

Study of the system gold - silver - cobalt. Zhur. neorg. khim. 3
no. 11:2532-2536 N '58. (MIRA 11:12)
(Gold-silver-cobalt alloys)

SOV/78-3-11-17/23

AUTHORS:

Grigor'yev, A. T., Panteleymonov, L. A., Kuprina, V. V.,
~~Verob'yev, V. S.~~

TITLE:

The Investigation of the System Gold-Silver-Cobalt (Issledovaniye
sistemy zoloto-serebro-kobal't)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2532-2536
(USSR)

ABSTRACT:

The phase diagram of the system gold-silver-cobalt was constructed and investigated. The investigations covered the thermal analysis, microstructure, Brinell hardness, electric resistance, and its temperature coefficients. The purest metals with impurities of a maximum of 0,01% were the source material. The alloys were treated in krypton furnaces under a barium chloride layer.

The fusion and hardness diagrams of the system Ag-Co in the case of a varying Au-content are given in the figures 2 and 3. The determination of the electric resistance was carried out by means of a potentiometer at 25° and 100°C. The electric resistance of the system Ag-Co in the case of a varying Au-content is given in figure 4. The electric resistance reaches a maximum

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The Investigation of the System Gold-Silver-Cobalt

SOV/78-3-11-17/23

approximately at a ratio of Ag : Co = 1 : 1. The results of the calculation of the temperature coefficients of the electric resistance in the temperature range 25 - 100°C are given in the tables 1 and 5. The diagrams of the temperature coefficients analogous to the diagrams mentioned above have a maximum and a minimum.

The microstructure of the alloys was investigated after the determination of the hardness of the latter. Dark phases in the alloys are rich in cobalt, light phases are rich in gold. The limits of the individual ranges in the phase diagram were determined by means of the microstructure investigations. The investigations showed that the separation zone in the binary system silver-gold exists at room temperature and is reduced by the addition of gold. It vanishes completely in the range of about 67% gold.

There are 6 figures, 2 tables, and 10 references, 4 of which are Soviet.

SUBMITTED: October 21, 1957

Card 2/2

BIBERMAN, L.M.; VOROB'YEV, V.S.; NORMAN, G.E.

Energy emitted by an equilibrium plasma in spectral lines. Opt. i spektr.
14 no.3:330-335 Mr '63. (MIRA 16:4)
(Plasma (Ionized gases)) (Hydrogen—Spectra)

VOROB'YEV, V.S.; NORMAN, G.E.

Energy emission in the spectral lines of an equilibrium plasma.
Opt. i spektr. 17 no.2:180-188 Ag'64 (MIRA 17:8)

RUSANOV, A.K.; VOROB'YEV, V.S.

Even injection of powders in a highly dispersed state into the flame of the arc during the spectral analysis of substances. Zav. lab. 30 no.1:41-43 '64. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

VOROB'YEV, V.S.; RUSANOV, A.K.

Spectrographic and photometric analysis of solutions and
silicate rocks after the solubilization of samples. Zhur.
anal. khim. 19 no.3:286-292 '64. (MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo
syr'ya, Moskva.

ACCESSION NR: AP4041567

S/0293/64/002/003/0441/0454

AUTHOR: Biberman, L. M.; Vorob'yev, V. S.; Norman, G.E.; Yakubov, I. T.

TITLE: Radiation heating in the case of hypersonic flow

SOURCE: Kosmicheskaya issledovaniya, v. 2, no. 3, 1964, 441-454

TOPIC TAGS: radiation heating, hypersonic flow, shock wave, aerodynamic heating, blunt body, boundary layer

ABSTRACT: The problem of the heating of a blunt body by shock-wave radiation in the case of hypersonic flow (velocities > 8 km/sec) is examined with particular attention given to the case of heating caused by flow under conditions where the gas is almost completely dissociated following a density jump. General expressions are given to compute the radiant fluxes. The main elementary radiation processes involved in the determination of the plasma formed after the density jump are analyzed. Methods of computing the contribution of the individual radiation processes to the radiating capacity of the air are presented. The radiation in the continuous spectrum and in the entire aggregate of spectral lines is considered. Compu-

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ACCESSION NR: AP4041567

tations indicate that: 1) there is a broad interval of temperatures, pressures, and thicknesses of the radiating layer in which the lines make the major contribution to the energy emitted by the plasma, 2) the total energy of a large number of weak lines, computed integrally, with a growth of optical density may noticeably increase the contribution of the individually computed strong lines, and 3) in addition to the visible lines, the lines in the ultraviolet may also play an important role. Computations were also made of the coefficients of absorption and the degree of air darkening in the pressure interval $p = 0.001-100$ atm and for temperatures to 20,000K. The values of the flow parameters at which the radiant heat flux may exceed the convective flow and cause aerodynamic heating are found. The state of the gas behind the shock wave front is discussed. The causes for the departure from a state of equilibrium and the regions of relaxation and quasi-stationary inequilibrium are analyzed. The main processes determining the structure of the inequilibrium zone at high flow velocities are explained. Orig. art. has: 5 formulas and 3 figures.

ASSOCIATION: none

Cord 2/72

ACCESSION NR: AP4043003

S/0051/64/017/002/0180/0188

AUTHORS: Vorob'yev, V. S.; Norman, G. E.

TITLE: Energy radiated by an equilibrium plasma in spectral lines, II.

SOURCE: Optika i spektroskopiya, v. 17, no. 2, 1964, 180-188

TOPIC TAGS: plasma radiation, plasma spectral line, nitrogen, oscillator strength, line broadening, continuous spectrum, line spectrum

ABSTRACT: The method developed by the authors previously (with L. M. Biberman, Opt. i spektr. v. 14, 330, 1963) for the calculation of line radiation energy is extended from a hydrogen plasma to include a plasma of arbitrary composition. Account is taken of the specific difficulties arising in connection with individual complex atoms, such as differences in oscillator strengths, in the broadening

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ACCESSION NR: AP4043003

mechanism and in the values of the line half-widths, in the multiplet level structures, and in the overlap of certain series. The specific broadening mechanisms of different lines of complex atoms and ions are taken into account, and expressions are derived for the integral contributions of aggregates of weak lines. The influence of the continuous spectrum is estimated. The calculation method is illustrated with nitrogen plasma as an example for which energy balances are calculated for several pressures and optical thicknesses. It is shown that the results obtained for nitrogen are general enough to cast light on the relative role of individual processes. "In conclusion we thank L. M. Biberman for interest in the work and for a discussion of the results. We are also grateful to I. T. Yakubov for useful remarks." Orig. art. has: 1 figure, 10 formulas, and 2 tables.

ASSOCIATION: None

Card 2/3

L 12001-66 EWT(1)

ACC NR: AF5022859

SOURCE CODE: UR/0051/65/019/003/0326/0530

AUTHOR: ^{410 55} Biberman, L. M.; ^{411 55} Vorob'ev, V. S.; ^{412 55} Lagar'kov, A. N. 47

ORG: none B

TITLE: Radiation transfer in an ionization continuum

SOURCE: Optika i spektroskopiya, v. 19, no. 3, 1965, 326-330

TOPIC TAGS: ionization, radiation spectrum, continuous spectrum, spectral line, photon emission

ABSTRACT: This is a continuation of work by one of the authors (Biberman, ZhETF v. 17, 416, 1947), where a theory of radiation transfer in spectral lines was proposed. In the present article this theory is extended to include certain cases of radiation transfer in a continuous spectrum, and in particular to the case of radiation transfer in an ionization continuum. It is shown that such radiation transfer should be considered as a combination of re-emission acts, during which the photon frequencies vary within the limits imposed by the width of the continuum. An integral equation for the concentration of the electrons is obtained, and its approximate solution is given. A system of equations which describes the processes of radiation transfer both within the continuum and in the discrete spectrum is formulated. The extent to which the beam of photons emitted by the elementary domains deviates from an exponential dependence on the distance traversed is analyzed and it is shown that for the very common case when the absorption coefficient is inversely proportional to the cube of the fre-

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UDC: 535.2.001.1

L 12001-66

ACC NR: AF5022859

quency the deviation from exponential is considerable. The theory can be easily generalized to radiation transfer in continuous spectra of other types, such as radiation transfer in the continuum of negative ions. Orig. art. has: 1 figure and 20 formulas.

SUB CODE: 20/ SUBM DATE: 26May64/ ORIG REF: 006

18/

HW
Card 2/2

L 36226-66 EWT(1)/EWP(m) IJP(c) WW/AT
ACC NR. AP6024510

SOURCE CODE: UR/0386/66/004/002/0043/0046
77
B

AUTHOR: Vorob'yev, V. S.; Yakubov, I. T.

ORG: Scientific Research Institute of High Temperatures (Nauchno-issledovatel'skiy institut vysokikh temperatur)

TITLE: Causes of formation of a radiation peak behind a shock wave in a nonequilibrium gas

SOURCE: Zh eksper i teor fiz. Pis'ma v redaktsiyu. Prilozheniye, v. 4, no. 2, 1966, 43-45

TOPIC TAGS: shock wave front, electron collision, plasma radiation, plasma shock wave, excitation spectrum, spectral distribution

ABSTRACT: The authors show that the rise of the radiation from a nonequilibrium relaxing gas above the equilibrium level in general, and the radiation peak observed behind a shock wave in particular, are caused by the nonequilibrium state distribution of the radiating atoms and by heating of the electron gas by inelastic collisions with molecules. The state of the nonequilibrium plasma produced behind a shock wave is described with the aid of the conservation equations, and the equations for the ionization kinetics and the energy balance. The distribution of the atoms over the states is obtained with the aid of the Fokker-Planck equations. The upper and lower limits of the ratio of the intensity of the radiation in the 3s - 3p lines of nitrogen to their values at equilibrium are presented in graphic form. Similar results are ex-

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L 36226-66

ACC NR: AP6024510

pected for the case of a band spectrum behind strong shock waves, where the radiation peak can be attributed to excitation of the molecules by electrons. The authors thank L. M. Biberman and G. E. Norman for valuable discussions. Orig. art. has: 1 figure and 3 formulas. 2

SUB CODE: 20/ SUBM DATE: 07May66/ ORIG REF: 004/ OTH REF: 003

Card 2/2 *lll*

L 46140-66 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/JW

ACC NR: AP6029773

SOURCE CODE: UR/0294/66/004/004/0494/0498

AUTHOR: Vorob'yev, V. S.

121
117
B

ORG: Moscow Power Engineering Institute (Moskovskiy energeticheskiy institut)

TITLE: Influence of radiation reabsorption on the deviation from thermodynamic equilibrium

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 4, 1966, 494-498

TOPIC TAGS: thermodynamic equilibrium, radiation effect, radiation spectrum, excited state, line spectrum, continuous spectrum, light absorption, hydrogen plasma, transport property, ionization

ABSTRACT: The author determines deviations from thermodynamic equilibrium, produced by the emission of radiation from a volume of optically dense gas, as a result of the reduction of the number of excited electrons and atoms in the gas. Earlier papers dealing with this subject were restricted to optically thin layers. It is assumed that all the excited states and the continuous spectrum are closely related to impact processes and are in relative equilibrium with one another. Both direct radiative processes (spontaneous emission and radiative recombination) and inverse ones (photoionization and radiative excitation) are considered. The radiation transport is treated by an approximate method developed for spectral lines by L. M. Biberman (Dokl AN SSSR v. 49, 659, 1958) and subsequently extended by Biberman and the author (with

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UDC: 533.932

L 46140-66

ACC NR: AP6029773

A. N. Lagar'kov, Optika i spektroskopiya v. 19, 1965) to include the ionization continuum. Account is taken of the reabsorption of all the components of the discrete and continuous spectrum, by replacing the true lifetime of the excited or ionized state by some equivalent lifetime. The role played in the deviation from equilibrium by various radiative transitions is discussed. By way of an example, the nonequilibrium concentrations are obtained for a plane layer of hydrogen plasma. The degree of validity of the approximations employed is discussed. The author thanks L. M. Biberman for continuous interest in the work and I. T. Yakubov for remarks. Orig. art. has: 2 figures, 3 formulas, and 1 table [02]

SUB CODE: 20/ SUBM DATE: 15May65/ ORIG REF: 005/ OTH REF: 004/ ATD PRESS: 5087

Card 2/2 mjs

08177-67 EWT(1) IJP(c) AT

ACC NR: AP6024893

SOURCE CODE: UR/0056/66/051/001/0327/0336

AUTHOR: Vorob'yev, V. S.

ORG: Institute of High Temperatures, Academy of Sciences SSSR (Institut vysokikh temperatur Akademii nauk SSSR)

TITLE: Excited-state distribution of atoms in the absence of equilibrium

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 1, 1966, 327-336

TOPIC TAGS: excited state, electron collision, atomic physics, physical diffusion, plasma physics, particle distribution

ABSTRACT: The author uses a single-quantum approximation and the Fokker-Planck equation to determine the nonequilibrium distribution of atoms over the states for conditions under which the kinetics of the creation and annihilation of the quanta is determined by collisions with electrons. A simplified approach is used, in which the concentration of the neutral atoms, the electrons, and the ions are assumed known and the plasma is assumed quasineutral. The plasma is assumed to be optically dense for the lines of the resonance series, so that the radiation yields of these lines are not significant, and the electron densities assumed to be sufficiently large to make the radiative transitions between the excited states much less frequent than transitions due to collision. In the single-quantum approximation employed, account is taken of the discreteness of the levels of the atoms, but only transitions between

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L 08177-67

ACC NR: AF6024893

2
neighboring states are considered. Comparing the results obtained with the aid of the single-quantum approximation, and the Fokker-Planck diffusion equation, an approximate expression is derived for the concentration of the atoms at any level; the expression takes into account the discreteness of the levels and the different transitions between them. The results obtained are compared with numerical calculations and are used to explain the nonequilibrium distributions of the excited states of the atoms observed in arcs and to explain the deviations from the Boltzmann distribution. The author thanks L. M. Biberman and I. T. Yakubov for valuable discussions and help with the work. Orig. art. has: 2 figures and 29 formulas.

SUB CODE: 20/ SUBM DATE: 17Feb66/ ORIG REF: 010/ OTH REF: 006

Card 2/2 nst

VOROB'YEV, V.T., inzh.

Electric power supply of consumers in conjunction with
railroad electrification using commercial frequency a.c.
Izv. vys. ucheb. zav.; energ. 5 no. 8:116-117 Ag '62.
(MIRA 17:7)

VOROB'YEV, V.V.
KHELIMSKIY, M.A.; VOROB'YEV, V.V.

Perforation of the alimentary canal by fish bones. Sov.med. 21
Supplement:22 '57. (MIRA 11:2)

1. Iz kliniki gosptal'noy khirurgii Khabarovskogo meditsinskogo instituta.
(ALIMENTARY CANAL--FOREIGN BODIES)

FEDOTOV, Leonid Yefimovich; VOROB'YEV, V.V., red.

[Copper welding] Svarka medi. Leningrad, 1964. 26 p.
(MIRA 17:9)

AGAPOVA, T.I., red.; DORODNOV, Ye.V., red.; KASHCHENKO, Ye.I., red.; KRUSHANOV, A.I., red.; REYKHBERG, G.Ye., red.; VOROB'YEV, V.V., red.; BORZUNOV, V.F., red.

[Abstracts of papers and reports of the Third Far Eastern Conference on History, archaeology and Ethnography Section: Socialist building projects in Siberia and the Far East] Tezisy dokladov i soobshchenii. Sektsia: Sotsialisticheskie novostroiki Sibiri i Dal'nego Vostoka. Komsomol'sk-na-Amure, Komsomol'skii-na-Amure Gospedinstitut, 1962. 76 p. (MIRA 17:9)

1. Dal'nevostochnaya konferentsiya po istorii, arkheologii i etnografii. 3d, Komsomolsk-on-Amur, 1962.
2. Komsomol'skiy-na-Amure Gosudarstvennyy pedagogicheskii institut (for Kashchenko).
3. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR (for Reykhberg).
4. Institut geografii Sibirskogo otdeleniya AN SSSR (for Vorob'yev).
5. Institut istorii AN SSSR (for Borzunov).

VOROB'YEV, V.V.

Improved system of organizing car flows in a division. Zhel.dor.transp.
44 no.12:58-60 D '62. (MIRA 15:12)

1. Glavnyy inzh. Khabarovskogo otdeleniya Dal'nevostochnoy dorogi,
Khabarovsk.

(Railroads—Making up trains)

POKSHISHEVSKIY, V.V., doktor geogr. nauk, prof.; VARLANOV, V.S.; KHOREV,
B.S.; STEPANOV, M.N.; BOTVINNIKOV, V.I.; KOLOBKOV, M.N.;
VOROB'YEV, V.V., kand. geogr. nauk; KLIMOV, A.I.; STEPANOV,
A.A.; MYAKUSHKOV, V.A., red.; BELICHENKO, R.K., mladshiy red.;
MAL'CHEVSKIY, G.N., G.N., red.kart; VILENSKAYA, E.N., tekhn. red.

[Moscow - Vladivostok; railroad guide] Moskva - Vladivostok; pu-
tevoditel' po zheleznoi doroge. Moskva, Geografiz, 1962. 266 p.
(MIRA 15:11)

(Railroads—Guides)

VOROB'YEV, V.V., assistant (Kabarovsk, ul. Nekrosova, d.64, kv.74)

Two-phase rupture of the liver. Vest.khir. no.5:104-105 '62.
(MIRA 15:11)

1. Iz gosspital'nov khirurgicheskoy kliniki (zav. - prof. M.A. Khelinskiy) Khabarovskogo meditsinskogo instituta (dir. - prof. S.K. Nechepayev).

(LIVER--RUPTURE)

FEDOTOV, L.Ye.; YEVSTAF'YEV, S.G.; VOROB'YEV, V.V.; KARPOV, V.S.;
VEYSMAN, I.A.

Welding bus bar compensators. Avtom.svar. 13 no.7:87-90
J1 '60. (MIRA 13:7)

1. Trest "Gidroelektromontazh" (for Veysman). 2. Leningradskiy
filial instituta "Orgenergostroy" (for all except Veysman).
(Bus conductors (Electricity)--Welding)

S/137/62/000/004/168/201
A154/A101

AUTHORS: Fedotov, L.Ye.; Vorob'yev, V.V.

TITLE: The effect of the shielding medium on the heat influx into an article during welding

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 26, abstract 4E132 ("Inform. byul. Vses. in-t po proyektir. organiz. energ. str-va", 1960, no. 4, 14 - 16)

TEXT: The use of N₂ as a shielding medium for welding Cu with a W electrode is of great practical interest, since on the one hand N₂ is very cheap, non-scarce and safe gas, and on the other hand welding in N₂ permits greatly increasing the heat influx into the article as compared with welding in argon for the same amount of electric power supplied. ✓

V. Klyuchnikova

[Abstracter's note: Complete translation]

Card 1/1

8/135/61/000/009/003/006
A006/A101

AUTHORS: Fedotov, L.Ye., Engineer, Vorob'yev, V.V.

TITLE: On the effective heat efficiency during arc welding of copper in shielding gases

PERIODICAL: Svarochnoye proizvodstvo, no. 9, 1961, 11 - 12

TEXT: For the purpose of replacing argon by nitrogen in gas shielded welding of copper, experiments were made to determine the effective efficiency of heating 12 mm thick M2 copper plates, during welding with non-consumable tungsten electrodes of 5 mm in diameter, using 400 - 460 amps current, in argon and nitrogen gas shield. The heating time varied within 15 to 39 seconds. The effective efficiency of heating the work by the arc heat was determined by comparing the heat equivalent of full electric power with heat content of the heated specimen measured in a calorimeter

$$\eta = \frac{Q}{0.24 I_w U t_w};$$

Q = Q_c + Q_{copper} where I_w is the welding current in amps; U_{arc}

Card 1/2

On the effective heat efficiency ...

S/135/61/000/009/003/006
A006/A101

is the arc voltage in v, t_w is the welding time in sec; $Q_0 = (180 + G_w)(T_{fin} - T_{in})$,
 is the heat content of the calorimeter in cal [180 cal/degree is the calorimeter
 constant]; G_w is the water mass in the calorimeter tank (12,500 g), T_{in} and T_{fin}
 are the initial and final water temperature in the calorimeter tank after immer-
 sion of the specimen, in °C; $Q_{copper} = G_{copper} C_{copper} (T_{fin} - T_{in})$ is the heat
 content of the specimen to be welded (G_{copper} is the plate weight, 1,370 g, C_{copper}
 is the specific heat capacity of copper, 0.94 cal/g.degree C). The experiments
 showed that the effective efficiency during the welding of copper in nitrogen at-
 mosphere was by 20 - 30% higher than in argon. Therefore the use of nitrogen as a
 shielding gas is of practical interest for the described purpose, since nitrogen
 makes it possible to considerably increase the heat supply to the work piece as
 compared to argon, at the same values of the electric power supplied. There are
 3 tables and 5 Soviet-bloc references.

ASSOCIATION: Leningradskiy filial instituta "Orgenergostroy" (The Leningrad Branch
of the Orgenergostroy Institute)

Card 2/2

VOROB'YEV V.V.

Production is increasing. Mas.ind,SSSR 28 no.4:7-8 '57.

(MLRA 10:7)

1. Direktor Moskovskogo ptitsekombinata.
(Poultry)

I 02516-67 EWI(c)/T/ENP: V/EMI IJP(c) JD/JG/WB

ACC NR: AP6023000 (N) SOURCE CODE: UR/0185/66/011/004/0416/0423

AUTHOR: Vorobyov, V. V. -- Vorob'yev, V. V.ORG: Kharkov State University im. O. M. Hor'kyy (Kharkivs'kyy derzhuniversytet) 37TITLE: Oxidation of yttrium in air 8

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 4, 1966, 416-423

TOPIC TAGS: yttrium, oxidation kinetics, high purity metal

ABSTRACT: The author studies the oxidation kinetics of yttrium, with a purity of 97.2% and 99.8% by weight in air at a relative humidity of 34 and 47% at 1 atm. It is shown that oxidation rate is affected by metal purity. The rate of oxidation decreases as the purity of the metal is increased. The diffusion of oxygen anions through the oxide into the oxide-metal interface plays a significant role in the oxidation of yttrium. It was found that two stages of oxidation of metallic yttrium exist at the same temperature and that oxidation varies with temperature increase of the metal and its commercial purity. The rate of yttrium oxidation is determined as a function of ambient humidity. The rate of yttrium oxidation varies in water vapor. The lower the purity of the metal the greater is the variance in the rate of oxidation. Orig. art. has: 7 figures, 1 table, 1 formula.

SUB CODE: 07/ SUBM DATE: 18Jun65/ ORIG REF: 002/ OTH REF: 010

Card 1/1 eqf