THE BEGINNING

109

DOLZHENKO, V. T.

    "Effect of Treatment on the Prowazek's Bodies," Vest. Oftalmol. Vol. 28, No. 6, 1949.

Chuvash Science Research Trachoma Inst.

16(1)

AUTHOR: Dolzhenko, Ye.P.   SOV/20-125-5-4/6

TITLE: Construction of a Function Nowhere Differentiable on a Nowhere
            Dense Continuum and Developable into a Series in Terms of
            Rational Functions (Postroyeniye na nigde ne plotnom kontinuume
            nigde ne differentsiruyemoy funktsii, razlagayushcheysya v
            ryad po ratsional'nym funktsiyam)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 970-973 (USSR)

ABSTRACT: Theorem: On every continuum K nowhere dense on the complex
            plane, a (continuous) function $f(z)$ can be defined possessing
            the following properties: 1) $f(z)$ is developable into a series
            in terms of rational functions, convergent uniformly on K,
            2) $f(z)$ is differentiable with respect to K for no $z \in K$.
            There are 2 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
            (Moscow State University imeni M.V.Lomonosov)

PRESENTED: January 12, 1959, by A.N.Kolmogorov, Academician

SUBMITTED: January 8, 1959

Card 1/1

DOLZHENKO, Ye. P., Cand Phys-Math Sci -- (diss) "Differential pro-
perties of functions and some problems in approximation theory."
Moscow, 1960. 8 pp; (Moscow State Univ im M. V. Lomonosov); 165
copies; price not given; bibliography at end of text (16 entries);
(KL, 25-60, 126)

16(1)   16.3000   66-61

AUTHOR: Dolzhenko, Ye.P.   SOV/20-129-1-5/64

TITLE: Boundary Value Theorems on the Uniqueness and Behavior of
           Analytic Functions Near the Boundary

PERIODICAL: Doklady Akademii nauk SSSR,1959,Vol 129,Nr 1,pp 23-26 (USSR)

ABSTRACT: Theorem 1: To every $r:0 < r < 1$ and complex number a there exists
           a function $f(z)$ with the properties 1) $f(z)$ is analytic (regular)
           in $K_1:|z| < 1$; 2) to every $\zeta \in C_1$, $C_1:|z|=1$, there exists a
           straight line L^ζ which combines ζ with a point z_r of $C_r:|z|=r$
           so that for $z \to \zeta$, $z \in L^\zeta$ it holds uniformly with respect to
           $\zeta \in C_1$: $f(z) \to 0$, i.e. $f(z) \to 0$ for $|z| \to 1$ and $z \in \bigcup_{\zeta \in C_1} L^\zeta$; 3)

           $\varphi(\zeta) = z_\zeta$ is continuous for $\zeta \in E - \left\{ \zeta = e^{i\theta} : \theta \neq \mp \frac{m}{2^n} \right. ;$

           $\left. m,n = 0,\pm1,\pm2,...\right\}$; 4) $f(z) \neq a$ for $z \in K_1$.

           Further six theorems are devoted to the extension of the theorem
           A of N.N.Luzin and I.I.Privalov $\boxed{\text{Ref 1,4}}$ to meromorphic
           functions and to the non-trivial limit theorems on the uniqueness

Card 1/2

Boundary Value Theorems on the Uniqueness and   SOV/20-129-1-5/F
Behavior of Analytic Functions Near the Boundary

        of functions being analytic (meromorphic) in a region bounded
        by a non-rectifiable curve. The theorems III, V, and VII of
        Collingwood /_Ref 2_7 are special cases of the obtained results.
        There are 6 references, 2 of which are Soviet, 1 Swedish, 1 French
        and 2 American.

PRESENTED   July 2, 1959, by A.N.Kolmogorov, Academician.
SUBMITTED   June 27, 1959

Card 2/2

16(1) 16.3000

67930

AUTHOR: Dolzhenko, Ye.P.

SOV/20-130-1-3/69

TITLE: Differentiation of Complex Functions

PERIODICAL: Doklady Akademii nauk SSSR, 1960,Vol 130,Nr 1,pp 17-20 (USSR)

ABSTRACT: Let E be a set of the complex plane, $\zeta \in$ E be an accumulation point of E, f(z) be a complex function given on E. Let $\mathfrak{M}_f(\zeta)$ be the set of all numbers of derivatives of the function f(z) in ζ with respect to the set E.

Theorem 1: For an arbitrary complex function f(z) given on the point set E of the complex plane, in almost all points $\zeta \in$ E there appears one of the four following cases:

1) $\mathfrak{M}_f(\zeta)$ is a circle $|z-a(\zeta)| = r(\zeta)$, $0 \le r(\zeta) < \infty$.

2) $\mathfrak{M}_f(\zeta)$ is identical with the extended complex plane.

3) $\mathfrak{M}_f(\zeta)$ consists of a circle $|z-a(\zeta)| = r(\zeta)$ and the point $z = \infty$.

4) $\mathfrak{M}_f(\zeta)$ consists only of $z = \infty$.

Theorem 2 generalizes results of A.A.Gonchar /Ref 5_7 and asserts that if the best approximation of f(z) is by rational

Card 1/2

67912

Differentiation of Complex Functions   SOV/20-130-1-3/69

functions of at most n-th order $\leqslant \dfrac{C}{n^{p+\varepsilon}}$, then the function

f(z) almost everywhere has p derivatives according to
De La Vallée Poussin.
Two further theorems contain similar assertions.
The author mentions Yu.Yu.Trokhimchuk, and A.G.Vitushkin.
There are 7 references, 5 of which are Soviet, and 2 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov).

PRESENTED: September 10, 1959, by A.N.Kolmogorov, Academician

SUBMITTED: July 9, 1959

Card 2/2

DOLZHENKO, Ye.P.

Some estimations concerning algebraic hypersurfaces and derivatives of rational functions. Dokl. AN SSSR 139 no.6:1287-1290 Ag '61.   (MIRA 14:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. Predstavleno akademikom A.N. Kolmogorovym.
    (Polynomials) (Aggregates) (Algebraic topology)

AUTHOR: Dolzhenko, Ye. P. (Moscow)

TITLE: Rate of approximation by rational fractions and properties
            of functions

TEXT: The author considers complex functions $f(x)$ which are continuous on a subset E of the real axis. There is a sequence of rational functions $R_n(x)$ of the order $\leq n$ for which

$$\sup_{x \in E} |f(x) - R_n(x)| \leq C \cdot R_n[f,E],$$

where

$$R_n[f,E] = \inf_R \left\{ \sup_{x \in E} |f(x) - R(x)| \right\}.$$

The infimum is taken over all the rational functions $R(x)$ of an order $\leq n$.

Card 1/2

S/039/62/056/004/001/002
B112/B108

The most important result of the paper is the following: The convergence of the monotonically non-increasing sequence of non-negative numbers a_n is necessary and sufficient for that the following three statements are valid:
a) If $R_n[f,E] \leq a_n$, then the function $f(x)$ will be absolutely continuous on E; b) Any function $f(x)$ with $R_n[f,E] \leq a_n$ is differentiable almost everywhere on E; c) Any function $f(x)$ with $R_n[f,E] \leq a_n$ is approximately differentiable on E. There are 11 references: 10 Soviet and 1 non-Soviet.

SUBMITTED: September 7, 1960

Card 2/2

DOLZHENKO, Ye.P.

Derivative numbers of complex functions. Izv. AN SSSR, Ser. mat. 26 no.3:347-360 My-Je '62.   (MIRA 15:6)

(Functions of complex variables)

DOLZHENKO, Ye. P.

Properties of functions of several variables which can be
adequately approximated by rational functions. Izv. AN SSSR.
Ser. mat. 26 no.5:641-652 S-O '62.   (MIRA 15:10)

(Functions of several variables)

DOLZHENKO, Ye.P.

"Erasure" of singularities of analytic functions. Usp. mat. nauk
18 no.4:135-142 Jl-Ag '63.   (MIRA 16:9)

DOLZHENKO, Ye.P.

Some metric properties of algebraic hypersurfaces. Izv. AN SSSR. Ser.
mat. 27 no.2:241-252 Mr-Ap '63.   (MIRA 16:4)
                        (Algebraic topology)

DOLZHENKO, Ye.P.

Determining the derivatives of rational functions. Izv.AN SSSR.
Ser.mat. 27 no.1:9-28 Ja-F '63.   (MIRA 16:2)
                              (Functions)

DOLZHENKO, Ye.P.

Behavior of a meromorphic functions near their singularities.
Vest. Mosk. un. Ser. 1: Mat., mekh. 19 no.6:3-6 N-D '64.
(MIRA 18:2)

1. Kafedra teorii funktsiy i funktsional'nogo analiza Moskovskogo
universiteta.

DOLZHENKO, Ye.F.

Representation of continuous harmonic functions as potentials.
Izv. AN SSSR. Ser. mat. 28 no.5:1113-1130 S-O '64.

(MIRA 17:11)

DOLZHENKO, Ye.P.

Singular points of continuous harmonic functions. Izv. AN SSSR.
Ser. mat. 28 no.6:1251-1270 N-D '64.   (MIRA 18:2)

DOLZHENKO, Ye.P.,

Smoothness of harmonic and analytic functions at the boundary points
of a region. Izv. AN SSSR. Ser. mat. 29 no.5:1069-1084 '65.

(MIRA 18:10)

DOLZHENKO, Ye.P.

Uniform approximations by rational (algebraic and trigonometric) functions, and global functional properties. Dokl. AN SSSR 166 no.3:526-529 Ja '66.   (MIRA 19:1)

1. Moskovskiy gosudarstvennyy universitet. Submitted May 18, 1965.

KIRIGINTSEV, A.N.; DOLZHENKO, L.V.

Point of equal concentrations in the exchange adsorption of ions.
Izv.Sib.otd.AN SSSR no.3:65-70 '60.   (MIRA 13:10)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR.
         (Adsorption)   (Ion exchange)

DOLZHENKOV, A., prepodavatel', kand.tekhn.nauk; TRET'YAKOV, B., prepodavatel',
kand.tekhn.nauk

Gas welding. Sel'.mekh. no.3:41-44 '62.   (MIRA 15:3)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya
imeni K.A.Timiryazeva.
                    (Gas welding and cutting)

DOLZHENKOV, A. A.

PA 169T12

USSR/Chemistry -- Analysis, Equipment   Aug 50

"Polarographic Vessel With Ultramicroburet," M. B. Neyman, A. A. Dolzhenkov

"Zavod Lab" Vol XVI, No 8, pp 1007-1009.

Electrolyzer with special ultramicroburet permits, after elimination of oxygen, introducing into vessel accurate small quantities of substance under study. Permits more rapid and precise determinations.

PA 169T12.

L 12893-65   EWT(1)/EWT(m)/EEC-4/EEC(t)/EEC(b)-2/FCS(k)   P1-4/PJ-4/P1-4/
Fac-4/Pae-2   AED(d)/BSD/AFETR/FTC(b)/ASD(a)-5/RAEM(a)/ESD(c)/ESD(g)   JD/WH

ACCESSION NR: AT4046295   S/2535/64/000/159/0195/0206

AUTHOR: Zimin, D. B., Dolzhenkov, A. A., (Engineer)

TITLE: The theory of semiconductor switches for the UHF band   B

SOURCE: Moscow. Aviatsionnyy Institut. Trudy*, no. 159, 1964. Skaniruyushchiye
antenny* sverkhvj*sokikh chastot (Super-high frequency scanning antennas), 195-206

TOPIC TAGS: superhigh frequency, frequency scanning, switch theory, semiconductor
switch, antenna theory

ABSTRACT: The authors note that the fundamental element of commutation or "switch-
able" scanning antennas is the switchable radiating element which consists of the radiator
proper and an electrically controlled UHF disengagement switch, by means of which the
power driving the particular radiator can be switched on and off. Semiconductor diodes
are to be preferred for use as switches for a number of reasons. It is pointed out that,
of the possible versions of switchable radiating elements, it has been found convenient
to use mechanisms symmetrically coupled with the feeder waveguide, in which the switch
or commutator is located in a special segment of the beam-forming system. One of the
possible design variants of a switchable radiating element of this type is shown in Fig. 1
of the Enclosure. The present article contains an attempt at an approximate analysis of
Card   1/4

L 12893-65
ACCESSION NR: AT4046235   O

the maximum capabilities of such switchable radiating elements. This analysis is said to
be valid not only in the event that semiconductor or diodes are used, but with other point-
contact switches or commutators as well. Equivalent circuits of switchable radiating
elements are constructed and the basic parameters affecting such mechanisms are dis-
cussed. The authors reduce the problem of finding the optimal radiator modes to the fol-
lowing two tasks: 1) determination of the maximum radiation and switching factors for
given switch parameters; 2) determination of the minimum range of variation of switch
parameters which will ensure given external radiator parameters: radiation factor,
switching factor and efficiency. The equivalent circuits given in the article are con-
structed on the following two assumptions: 1. The switch dimensions are somewhat
smaller than the wavelength, and the current across the switch has only one spatial com-
ponent, whose direction is determined by the arrangement of the wire contacts; 2. Energy
transfer by waves of higher modes, region of the arising in the switch connection, is
absent. Expressions necessary for the determination of the maximum radiation and
switching factors are derived, and the commutation parameter is defined on the basis of
given radiation characteristics. Analysis of the operation of the switchable radiating
element shows that by the proper selection of circuit parameters an optimal operational
mode can be achieved, in which the maximum switching factor will correspond to a given

Card   2/4

L 12893-65
ACCESSION NR: AT046235

value of the radiation factor. The magnitude of this maximum switching or commutation factor is in turn determined by the switching or commutation parameter of the diode, with this parameter characterizing the range over which its resistance may vary. Moreover, the authors find that assigned characteristics for the switchable radiating element - switching factor, radiation factor and efficiency - can be provided in the event that the diode switching parameter exceeds a certain value which may be determined on the basis of a graph given in the article. Orig. art. has: 6 figures and 27 formulae.

ASSOCIATION: Moskovskiy aviatsionnyy institut (Moscow Aviation Institute)

SUBMITTED: 00   ENCL: 01   SUB CODE: EC

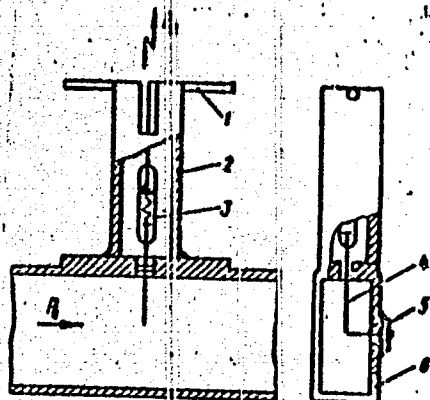NO REF SOV: 000   OTHER: 000

Card   3/4

Fig. 1 - Switchable dipole: 1 - dipole; 2 - coaxial line; 3 - diode switch;
4 - coupling loop; 5 - filter to prevent leakage of SHF power into
control circuits; 6 - feeder waveguide

Card 4/4

L 12822-65   EWT(1)/EWT(m)/EEC-4/EEC(t)/EEC(b)-2/FCS(k)   Pac-4/Pae-2/Pi-4/
Pj-4/Pl-4   ASD(d)/ASD(a)-5/RAEM(a)/ESD(c)/ESD(gs)/ESD(t)   JD/WR
ACCESSION NR: AT4046236   S/2535/64/000/159/0207/0216

AUTHOR: Zimin, D. B., Engineer; Dolzhenkov, A. A., Engineer

TITLE: Investigation of the switching properties of series-produced semiconductor diodes in the centimeter band

SOURCE: Moscow. Aviatsionny*y Institut. Trudy*, no. 159, 1964. Skaniruyushchiye antenny* sverkhvy*sokikh chastot (Super-high frequency scanning antennas), 207-216

TOPIC TAGS: antenna theory, frequency scanning, super high frequency, semiconductor diode, semiconductor switch, switch theory

ABSTRACT: The authors note that the limiting characteristics of an electrically controlled UHF disengagement switch which uses a point commutator can be characterized by the so-called commutation parameter:

$$V = \frac{|z_{n1} - z_{n1}|}{z_{n1}}$$ (1)

where

$$z_{n1} = r_{n1} + j x_{n1} \text{ и } z_{n2} = r_{n2} + j x_{n2} -$$ (2)

Card 1/4

L 12892-65
ACCESSION NR: AT4046236

the resistances of the commutator switched on and off, respectively. When employing a point-contact semiconductor diode as the commutator or switch, these resistances are the sum of the flow resistance and the resistance of the p-n junction. The commutation or "switching" parameter of the diode is not a listed characteristic of the device, so that it must either be experimentally determined or derived from other generally-accepted (and indicated) diode specifications. In this article, the authors consider a method for the experimental determination of this commutation or "switching" parameter. Two methods are proposed: 1. a preliminary measurement of the absolute values of z_{k1} and z_{k2}, with subsequent computation according to Eq. (1); 2. direct measurement of the relative value $\frac{z_{k2} - z_{k1}}{z_{k1}}$. The authors find it considerably simpler to determine the

relative value V directly. The technique involves a representation in the form of a lossless linear quadrupole network, of unknown structure, terminated in resistance z_{k1} or z_{k2}. The point is made that the commutation parameter can thus be measured without determining the quadrupole factors, provided a "practically convenient criterion of its (the quadrupole's) being tuned to the mode of an ideal transformer, has been found.

Card 2/4

I 12892-65
ACCESSION NR: AT4046236

In order to justify and establish this criterion, the authors prove that if, for the two active values of the load resistance, the input impedance of the reactive quadrupole network is also active and if a greater value of input impedance correspondends to a greater value of load resistance, then this quadrupole network is an ideal transformer. A block-diagram of a six-centimeter-band device, designed to measure the commutation parameter of diodes by the method described in the article, is presented and an explanation is given of the operational principle of this experimental apparatus. Two versions are discussed: for measurements at low and at high UHF power levels. The author also present the results of measurements of the commutation parameter of diodes of various types. The measurements were carried out in accordance with the methodology described in the paper and at a low UHF level (less than 10 milliwatts). The relation of the switching parameter to the differential resistance of the diode and the dependence of the parameter on the UHF power level are discussed in some detail. The experiments showed that the switching parameter of diodes has a marked spread, even in the case of diodes of the same type, and that this parameter tends to fall as the UHF power is increased. Simultaneously with this, there occurs a reduction in the active impedance of the diode for each value of the control voltage. Orig. art. has: 1 table, 6 figures and 8 formulae.

Card 3/4

L 12892-65
ACCESSION NR: AT4046236

ASSOCIATION: Moskovskiy aviatsionnyy institut (Moscow Aviation Institute)

SUBMITTED: 00   ENCL: 00   SUB CODE: EC

NO REF SOV: 002   OTHER: 000

Card 4/4

L 12894-65   EWT(1)/EWT(l)/EEC-4/EEC(t)/EEC(b)-2/FCS(k)   P1-4/Fj-4/P1-4/
Pac-4/Pae-2   AFTC(b)/ASD(d)/BSD/AFETR/ASD(a)-5/RAEM(a)/ESD(c)/ESD(gs)/ESD(t)   JD/WR
ACCESSION NR: AT4046237   S/2535/64/000/159/0217/0238

AUTHOR: Zimin, D.B., (Engineer); Dolzhenkov, A.A., (Engineer)

TITLE: Switch-type phase inverters   B

SOURCE: Moscow. Aviatsionny*y Institut. Trudy*, no. 159, 1964. Skaniruyushchiye
antenny* sverkhvy*sokikh chastot (Super-high frequency scanning antennas), 217-238

TOPIC TAGS: antenna theory, frequency, scanning, superhigh frequency, beam formation,
phase inverter, semiconductor switch, waveguide

ABSTRACT: The use of phase inverters in the beam-forming systems of UHF antennas
is discussed, and attention is called to the fact that the errors caused by fluctuations of
the control voltage and ambient temperature are not reduced when using conventional
ferrite, discretely-controlled phase inverters in antennas with discrete control, since
the change in the output phase is still affected by a change (in this case, a sporadic
change) in the control voltage. The authors note that the shortcomings of discrete phase
inverters can be substantially obviated by means of switchable phase inverters, generally
consisting of M switches. Such inverters make it possible to change the phase in fixed
definite phase jumps $\Delta\psi = 360^{\circ}/M$, with the phase shift created by them depending,

Card 1/4

L 12854-65
ACCESSION NR: AT4046237   O

basically, on the number of the connected switch and only to a slight degree of other
factors, including the magnitude of the control voltage. It is pointed out that this
circumstance constitutes one of the differences between conventional discrete and
switchable phase inverters. In the present article, various phase inverter - radiator
schemes are discussed, and an attempt is made to determine their limiting characteristics.
In the analysis of critical characteristics, principal attention is directed at balanced
switch-radiators (M = 2) and at four-position radiating elements (M = 4), since it is the
authors' view that these types of radiating elements, especially the balanced variety, are
of the greatest practical interest in terms of switchable scanning. The investigation
reported in the article was based on the use of point-contact semiconductor diodes as
the switches or "commutating elements". Various types of balanced switches are
considered and, using as a criterion the method of achieving the antiphase voltages,
two basic groups are discriminated: 1. Switches in which an uncontrolled 180° phase
shift is used in one of the lines driving the radiating element: 2. Switches in which the
ends of one line driving the radiating element are crossed over. Diagrams of both types
are given in the article and their operational principle is explained. It is pointed out
that a significant deficiency of the first category of switch is its narrowbandedness and

Card 2/4

L 12894-65
ACCESSION NR: AT404627

that, from this point of view, the second group is to be preferred, since in these switches
the anti-phase condition of the voltage driving the radiator is maintained over a broad
frequency range which is determined only by the transmittance band of the beam-position-
ing systems used. The analysis of the operation of balanced switches with semiconductor
commutation elements is accomplished in this paper by means of an approximate method
involving the construction and investigation of their equivalent circuits. The following
types of switchable phase inverter — radiators are also considered: 1. those which
make use of waveguide branches of M channels to give rise to a set of fixed phase shifts;
2. those which use the natural phase shifts between the various field components in the
waveguide cross-section. Here also, as in the preceding section, equivalent circuits
are constructed and analyzed for different versions of switchable phase inverters. The
authors demonstrate that, by tuning the circuit of the switchable phase inverter, it is
possible to achieve an optimal mode of operation at which efficiency will be maximum,
will depend only slightly on the radiation factor and will be determined approximately
only by the switching parameter of the diodes. The maximum efficiency values and the
radiation factors, corresponding to them, of a four-position switchable phase inverter
and a balanced switch differ very little from one another. For example, at a switching
parameter of $V = 100$, the maximum efficiency of a two-position switch is 0.67, while
for a four-position phase inverter it is 0.56. At the same time, the radiation factor
of the two-position switch may lie within limits of $0 - 0.32$ and that of the four-position
Card 3/4

L 12894-65
ACCESSION NR: AT4046237

phase inverter from 0 - 0.1. Orig. art. has: 20 figures and 42 formulae.

ASSOCIATION: Moskovskiy aviatsionny*y institut (Moscow Aviation Institute)

SUBMITTED: 00   ENCL: 00   SUB CODE: EC

NO REF SOV: 002   OTHER: 000

Card 4/4

L 36339-55   EWT(1)/BEM-4/EEC(t)/EEC(b)-2/FCS(k)   Pac-4/Pae-2/P1-4/Pj-4/P1-4

ACCESSION NR: AP5005980 WR   S/0108/65/020/002/0019/0025

AUTHOR: Dolzhenkov, A. I.; Zimin, D. B.

TITLE: Device for computing radiation patterns of antenna arrays

SOURCE: Radiotekhnika, v. 20, no. 2, 1965, 19-25

TOPIC TAGS: analog device, antenna radiation pattern, antenna array

ABSTRACT: An analog system to simulate radiation patterns of equidistant linear antenna arrays with arbitrary phase-amplitude distribution is described. The patterns are simulated by time-varying voltage. Phase inversion is effected with differential selsyns. The parallel-connected stator windings of all the selsyns are connected to a three-phase line. Amplitudes of the radiators are set by means of potentiometers which are fed with line voltages transmitted from the selsyn rotors. Phase distribution is introduced to the system by turning stators through the radiator phase angle. To obtain linear phase buildup of selsyn output voltages, the selsyn rotors are coupled with a reducer, with the number of shafts of the reducer equal to the number of radiators. Antenna arrays for the centimeter band designed with the use of this system were sufficiently accurate, with errors affecting only the region of the side lobes at a level below -40 db.   Orig. art. has: 1 figure and 11 formulas.   [DW]

Card 1/2

L 36339-65

ACCESSION NR: AP5005980

ASSOCIATION: none

SUBMITTED: 12Mar63

NO REF SOV: 002

ENCL: 00

OTHER: 001

SUB CODE: EC

ATD PRESS: 3219

Card 2/2

L 53650-65   EWT(1)/EEC-4/EEC(t)/EEC(b)-2/EED-2/FCS(k)   Pm-4/Pac-4/Pi-4/Pl-4/

ACCESSION NR: AP5014052   Pl-4   WB

UR/0106/65/020/005/0025/0034

AUTHOR: Zimin, D. B. (Active member); Filatov, A. P. (Active member);
Dolzhenkov, I. A. (Active member)

TITLE: Planar switched antennas

SOURCE: Radiotekhnika, v. 20, no. 5, 1965, 25-34

TOPIC TAGS: planar antenna, switched antenna, scanning antenna

ABSTRACT: A further investigation of the switching method of array lobe scanning
suggested by L. N. Deryugin in 1960 is presented. Schemes and directional patterns
of two-dimensional switched antennas are considered. The switched scanning can be
achieved either by simple switches that control each radiator of the array or by
"switching phase shifters" (SPS). Only the latter are considered in the article.
The SPS step-by-step controls the radiator-field phase and only slightly depends on
the control-voltage amplitude, temperature, and other factors. The distribution of
phase in the planar switched antenna with parallel and series parallel radiator con-
nections is examined. Formulas for directional patterns for the above two schemes

Card 1/2

l. 53650-65
ACCESSION NR: AP5014052

and also for an ideal array (with strictly periodic phase distribution and contin-
uous deployment of radiators) are derived. The case is considered in which the
requirements of switching and excitation delay for the planar array are identical
with those of a linear array. Orig. art. has: 5 figures and 34 formulas. [03]

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi
(Scientific and Technical Society of Radio Engineering and Electrocommunication)

SUBMITTED: 22Mar63   INCL: 00   SUB CODE: EC

NO REF SOV: 003   OTHER: 001   ATD PRESS: 4013

Card 2/2

DOLZHENKOV, Andrey Timofeyevich

N/5
743.281
.D61

Sovremennyye metody remonta traktorov (Modern methods of tractor
maintenance) Moskva, Trudreservizdat, 1955.
85 p. Diagrs., tables.
At head of title: Novaya tekhnika I peredovyye metody truda.
"Literatura": p. 85.

DOLZHENKOV, Andrey Timofeyevich, kandidat tekhnicheskikh nauk; ZOLOTAREV,
G.A., kandidat tekhnicheskikh nauk; LEVITSKIY, I.S., kandidat
tekhnicheskikh nauk; SAB'KOV, V.M., kandidat tekhnicheskikh nauk;
PESTRYAKOVA, S.V., redaktor; FEDOTOVA, A.F., tekhnicheskiy redaktor

[Repair work] Remontnoe delo. Moskva, Gos. izd-vo selkhoz. lit-ry,
1956. 559 p.   (MLRA 9:9)
        (Machinery--Maintenance and repairs)

DOLZHENKOV, Andrey Timofeyevich, dots., kand.tekhn.nauk; ZOLOTAREV, G.A.,
dots., kand.tekhn.nauk; LEVIKOV, A.A., dots.kand.tekhn.nauk;
LEVITSKIY, I.S., dots., kand.tekhn.nauk; SAN'KOV, V.M., dots.,
kand.tekhn.nauk; ROZIN, M.A., red.; SMIRNOV, A.G., red.; SOKOLOVA,
N.N., tekhn.red.

[Metal technology and repair work] Tekhnologiia metallov i remontnoe
delo.   Moskva, Gos. izd-vo sel'khoz. lit-ry, 1957. 542 p.
    (Metals)   (MIRA 11:4)
    (Agricultural machinery--Maintenance and repair)

DOL'ZHENKOV, Andrey Timofeyevich, dotsent,' kand.tekhn.nauk; ANDREYEV,
Nikolay Nikolayevich, dotsent; DOKUCHAYEVA, Avgusta Paramonovna,
dotsent; KOZLOV, Ivan Pavlovich, starshiy prepoda·atel'; KISELEV,
Ivan Ivanovich, dotsent; PARAMZIN, Ivan Ivanovich, dotsent;
TROFIMOV, Vladimir Ivanovich, dotsent; BEREZOVSKAYA, A.L., red.;
KRYUKOV, V.L., red.; RAKOV, S.I., tekhn.red.

[Reference manual for young agricultural machinery operators]
Spravochnik molodogo mekhanizatora sel'skogo khoziaistva. Moskva,
Vses. uchebno-pedagog.izd-vo Trudrezervizdat, 1959. 694 p.
(MIRA 12:12)

1. Prepodavateli Moskovskogo instituta mekhanizatsii i elektri-
fikatsii sel'skogo khozyaystva (for Dolzhenkov, Andreyev, Dokuchayeva,
Kozlov, Kiselev, Paramzin, Trofimov).
    (Agricultural machinery—Maintenance and repair)

DOLZHENKOV, A.T., kand.tekhn.nauk, red.; SHKOL'NIKOV, A.B., red.;
GOR'KOVA, Z.D., tekhn.red.

[Training in repairing tractors, motor vehicles, and
agricultural machinery] Praktikum po remontu traktorov,
avtomobilei i sel'skokhoziaistvennykh mashin. Moskva, Gos.
izd-vo sel'khoz.lit-ry, 1960. 431 p.

(MIRA 14:2)

(Tractors--Maintenance and repair)
(Motor vehicles--Maintenance and repair)
(Agricultural machinery--Maintenance and repair)

DOLZHENKOV, A.T., kand.tekhn.nauk; LEVITSKIY, I.S., kand.tekhn.nauk;
SAN'KOV, V.M., kand.tekhn.nauk; ROZIN, M.A., red.; DEYEVA, V.M.,
tekhn.red.

[Repair work] Remontnoe delo. Izd.2., dop. i perer. Moskva,
Gos.izd-vo sel'khoz.lit-ry, 1960. 535 p.

(MIRA 14:3)

(Agricultural machinery--Maintenance and repair)

ANDREYEV, N.N., dots.; ACHKASOV, K.A., st. prepodavatel'; DOLZHENKOV, A.T., dots.; DOKUCHAYEVA, A.P., dots.; KISELEV, I.I., dots.; KOZLOV, I.P., st. prepodavatel'; TROFIMOV, V.I., dots.; PESTRYAKOV, A.I., nauchnyy red.; SHALYT, N.A., red.; TOKER, A.M., tekhn. red.

[Manual for the young agricultural machinery operator] Spravochnik molodogo mekhanizatora sel'skogo khoziaistva. Pod red. A.T.Dolzhenkova. Izd.2., ispr. i dop. Moskva, Proftekhizdat, 1963. 653 p. (MIRA 16:6)

1. Fakul'tet mekhanizatsii Moskovskoy akademii im. K.A. Timiryazeva (for all except Pestryakov, Shalyt, Toker).
(Agricultural machinery)

L 00355-66   EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(n)/EWP(b)   MJW/JD
ACCESSION NR: AR5018949
                        UR/0276/65/000/007/B046/B046
                        621.785.539.001.5

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya. Svodnyy tom, Abs. 7B321

AUTHOR: Dolzhenkov, A. T.; Valuyev, A. P.

TITLE: Properties of surfaces treated by box sulfocyaniding

CITED SOURCE: Dokl. Mosk. in-ta inzh. s.-kh. proiz-va, v. 1, no. 4, 1964, 81-88

TOPIC TAGS: box sulfocyaniding, treated surface property, hardness test, fatigue
strength test, cast iron/ steel No. 45

TRANSLATION: The authors studied the hardness and fatigue strength of surfaces treated
by box sulfocyaniding and evolved a methodology for treating a workpiece. Box sulfo-
cyaniding improves microhardness of steel and cast iron surfaces. Maximum hardness
in samples of steel No. 45 was measured at 0.02 to 0.07 mm below the surface. Its level
dropped sharply deeper into the metal, the rate of decrease moderating at 0.1 mm depth
and original levels recurring at 0.6 mm. The hardness of the external layer of a sulfo-
cyanide treated surface is lower because of the sulfide layer present in it. Maximum rate
of increase in hardness and in the content of sulfur or nitrogen was noted during the initial

Card 1/2

L 00345-66

ACCESSION NR: AR5018949

six hour period. The authors suggest that box sulfocyaniding for 6 hours at 560-570C provides the most economically and technologically suitable process. Fatigue strength of treated samples was 10 to 12% higher than in untreated samples. Three illustrations.

SUB CODE: MM

ENCL: 00

Card 2/2

DOLZHENKOV, A.Ye.; DUNKE, V.G.

    Recovery following massive hemorrhage. Zdrav. Bol. 6 no.12:56-57
D '60.   (MIRA 14:1)

  1. Iz Sirotinskoy rayonnoy bol'nitsy (zaveduyushchiy khirurgiche-
skim otdeleniyem A.Ye.Dolzhenkov). 2. Glavnyy vrach Sirotinskogo
rayona (for Dunke).
                   (HEMORRHAGE)

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 127 (USSR)

AUTHORS: Aleksandrov, P.A., Dolzhenkov, F.Ye.

TITLE: Some Laws Governing the Plastic Deformation of Metals Under Compression (Upsetting) [Nekotoryye zakonomernosti plasti- cheskoy deformatsii metallov pri szhatii (osadke)]

PERIODICAL: Byul. nauchno-tekhn. inform. Ukr. n.-i. in-t metallov, 1957, Nr 2, pp 49-62

ABSTRACT: An experimental investigation was made of the process of up- setting cylindrical specimens of plasticine, Pb, Cu, brass, and steel. The effect of the ratio of specimen height to diameter, H/d_0, upon the nature of the deformation, the ratio of uneven- ness of deformation to the degree of reduction, the dependence of the upsetting pressure upon H/d_0, the nature of the distribu- tion of unit pressures upon the contact surfaces, and the in- fluence of friction upon the pressure in upsetting are studied.

M.Ts.

1. Metals--Deformation   2. Pressure--Applications

Card 1/1

DOLZHENKOV F. Ye.

DOLZHENKOV, F.Yo., Cand Tech Sci—(diss) "Study of certain basic laws of the lamination process upon a large ratio of the height of the roll (to the diameter of the cylinders." Dnepropetrovsk, 1958. 17 pp (Acad Sci USSR. Inst of Ferrous Metallurgy), 130 copies. (KL,26-58,109)

- 61 -

Dolzhenkov, F. Ye.

25(1)   SOV/2132
PHASE I BOOK EXPLOITATION

Kiyev. Ukrainskiy Nauchno-issledovatel'skiy institut metallov

Tekhnologiya proizvodstva i svoystva chernykh metallov; sbornik (The Manufacture and Characteristics of Ferrous Metals; a collection of articles) Khar'kov, Khar'kovskiy gos.univ. im. A.M. Gor'kogo. 1958. 271 p. (Series: Its: Trudy, vyp. 4) Errata slip inserted. 1,000 copies printed.

Editorial Staff of this book: P.A. Aleksandrov, D.S. Kazarnovskiy, M.I. Kurmanov, N.P. Lere, V.F. Onopriyenko, V.A. Tikhovskiy, and Ya. A. Shneyerov; Ed.: S.S. Libermal; Tech. Ed.: K.O. Gurin

PURPOSE: The book is intended for the scientific personnel of institutes and for engineers and technicians of metallurgical enterprises and other branches of the industry.

COVERAGE: The collection of articles reviews the work carried on at the Institute of Metals on the technology of blast furnaces, open-hearth furnaces, and rolled stock production. It also deals with problems in metallography, heat treatment of ferrous metals and methods for their study. Particular attention is devoted to the preparation of charges and blast furnace practice with increased gas pressure, open-hearth production with oxygen blast and rolling of light profiles. No personalities are mentioned. References accompany each article.

TABLE OF CONTENTS:

Card 4/6

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 3, p 258 (JSSR)

AUTHORS: Dolzhenkov, F. Ye., Aleksandrov, P. A.

TITLE.   The Resistance to Deformation of Metal During Rolling at Large
             Ratios of the Height of the Rolled Billet to the Diameter of the Rolls
             (Soprotivleniye metalla deformatsii pri prokatke s bol shimi otnoshe-
             niyami vysoty raskata k diametru valkov)

PERIODICAL. Byul. nauchno-tekhn. inform. Ukr. n-i in-t metallov, 1958, Nr
             5, pp 42-49

ABSTRACT: A presentation of the results of an investigation dealing with the
             resistance to deformation of metal (RDM) during rolling at large
             ratios of the height of the rolled billet to the diameter of the rolls.
             Experiments were carried out in a 150-mm laboratory rolling mill
             on specimens of commercially pure Pb and steel containing 0.4% C
             Rolls with polished, machined, and knurled surfaces were employed
             At constant roll diameters, the basic factor determining the change
             in specific pressure (SP) is the thickness of the strip. The SP is at
             a minimum when the ratio H/ℓ_d approaches the value of 2.0, i.e.,
Card 1/2   the value corresponding to an approximately uniform distribution of

SOV/137-59-3-6745

The Resistance to Deformation of Metal During Rolling at Large Ratios (cont.)

compressive deformation throughout the cross-sectional height. Reducing or increasing the value of the ratio H/l_d results in an increased SP. An increase in the relative reduction during rolling of thick strips tends to reduce the SP. Central layers of a thick strip subjected to small reductions are severely strained longitudinally, which, obviously, requires the application of additional forces and increases the values of the mean SP. When $H/l_d \approx 2.0$, the inactive central layer of metal is absent and no additional force is necessary. The RDM is at a minimum in this instance. In the case of rolling of blanks with a barrel-shaped cross section, when $H/l_d < 2$, increasing the degree of reduction will aggravate the effect of the three-dimensional stressed state and will increase the RDM. Under severe reductions it may occur that the angle of bite will exceed the friction angle and, as a result, longitudinal tensile stresses tending to reduce the longitudinal compressive stresses and the RDM will appear on a section of the contact arc extending from α to β. The SP is almost independent of the coefficient of friction during rolling of thick strips; in certain instances, a slight reduction in the SP was obtained when coarser rolls were used. When $H/l_d < 2.0$, the SP increases as the coefficient of friction is increased. Knurling of the first two or three roll passes will increase the degree of reduction, enhance the working of the ingot throughout its height, and improve the conditions of bite, etc.

Card 2/2

P.G.

AUTHOR: Dolzhenkov, F. Ye.

TITLE: The Performance of Rolls With Notched Working Surfaces (Opyt
            nakatki rabochey poverkhnosti valkov)

ABSTRACT: Various types of notches are employed for purposes of improving
            the gripping ability of the rolls (R). As the depth of notching is
            increased, the gripping action is improved, but the surface quality
            of the metal is impaired. By means of increasing th number of the
            grooves and reducing their depth, the gripping action of the R's may
            be improved without harming the surface finish of the metal. Inves-
            tigations carried out on a 150-mm laboratory-type mill equipped
            with notched R's, the values of the ratio of thickness of metal to the
            diameter of R's being quite high, demonstrated that the traces left
            by the notched surfaces of the R's are removed with the scale and
            that the process of rolling proceeds without slipping. During rolling
            of Pb strips, 48x48 mm in cross section, the critical angle of

Card 1/2

The Performance of Rolls With Notched Working Surfaces   SOV/137-59-1-1586

bite $\alpha = 47°30'$. Notching of surfaces of the R's does not affect the spread or the resistance to deformation of heavy strips of metal. Notching of surfaces of the R's at a blooming mill of the type 1150 at the im Kirov plant in Makeyevka eliminated the occurrence of slippage and significantly increased the productivity of the mill.

P. G.

Card 2/2

S/137/60/000/011/010/043
A006/A001

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 11, p. 115,
26117

AUTHOR: Dolzhenkov, F.Ye.

TITLE: Some Regularities of the Rolling Process at High Ratios of Rolled
             Metal Thickness to the Roll Diameter

PERIODICAL: Tr. Mezhvuz. nauchno-tekhn. konferentsii na temu: "Sovrem.dostizh.
             prokatn. proiz-va", Vol. 2, Leningrad, 1959, pp. 116 - 130

TEXT: The author investigated rolling of thick steel and Pb strips on an
experimental 150 stand at a ratio of the strip height to the roll diameter H/D =
= 0.03 - 1.0. Measurements were made of widening, and total rolling pressure;
diagrams were plotted of true specific pressures p. Control tests were made on
a 1150 blooming mill. The basic factor determining the distribution of widening
along the height of the strip and the nature of p changes, is the H/l_d ratio where
l_d is the length of the grip arc. Uniform widening corresponds to $H/l_d = 2$, where-
by the exponent of $\Delta b / \Delta h$ is a minimum one. At $H/l_d < 2$, $\Delta b / \Delta h$ increases

Card 1/2

Some Regularities of the Rolling Process at High Ratios of Rolled Metal Thickness to the Roll Diameter

intensively; at $H/l_d > 2$ it increases less intensively. At an increase of the relative reduction during rolling of thick strip, $\Delta b/\Delta h$ diminishes. Decrease or increase of H/l_d above 2 causes higher specific pressure. This is connected with increasingly non-uniform deformation. It is shown that when rolling thick strips the condition of the roll surface does almost not affect widening and true specific pressure. The nature of the p graph is determined by the factor H/l_d; at low H/l_d the maximum is located closer to the strip outlet from the rolls; at high H/l_d it is located directly at the inlet. The arm of the pressure resultant is $0.4 - 0.65 \, l_d$; higher values are present at a greater thickness of the strip and low relative reduction.

L.M.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

ALEKSANDROV, P.A.; DOLZHENKOV, F.Ye.; VORONTSOV, N.M.; BAT', Yu. I;
   TSUKANOV, G.E.; SAZONENKO, V.P.; CHEPELEV, P.M.; KRUGLYAK, P.F.

Working out the grooving of rolls and auxillary equipment for
the rolling of Z-shaped pile planks. Trudy Ukr. nauch.-issl.
inst. met. no.6:133-156 '60.
                                           (MIRA 14:3)
             (Rolls(Iron mills))(Rolling(Metalwork))

DOLZHENKOV, F.Ye.; KRIVONOSOV, Yu.I.; PIRYAZEV, D.I.; VOLCHEK, F.R.;
        BATT, Yu.I.

    Production of bimetals by the vacuum rolling method. Met.
    i gornorud. prom. no.3:34-35 My-Je '64.   (MIRA 17:10)

ANDREYUK, L.V.; RANHEV, G.G.; KOROTKEVICH, B.M.; NOVIKOV, M.N.;
     DOLZHENKOV, F.Ye.

      New developments in research. Stal' 24 no.8:730 Ag '64.
                                                    (MIRA 17:9)

DOLZHENKOV, F.Ye.

New developments in research. Stal' 24 no.8:759 Ag '64.

(MIRA 17:9)

L 61026-65   EWT(m)/EWP(w)/EWP(t)/EPF(n)-2/EWG(m)/EWA(d)/T/EWP(t)/EWP(b)   Ps-4/Pu-4
IJP(c)   JD/JG
ACCESSION NR: AR5017425   UR/0137/65/000/006/D006/D006

SOURCE: Ref. zh. Metallurgiya, Abs. 6D39

AUTHOR: Mil'tsev, M. V.; Dolzhenkov, F. Ye.; Sigalov, Yu. M.; Volchok,
F. R.; Bat', Yu. L.
TITLE: Investigation of a process for rolling columbium in a vacuum

CITED SOURCE: Sb. tr. Ukr. n.-i. in-t metallov, vyp. 10, 1964, 181-188

TOPIC TAGS: columbium, metal rolling, hot rolling, temperature dependence,
vacuum

TRANSLATION: A study was made of the basic parameters of a process for roll-
ing columbium in a vacuum and in air (spread, forward flow, friction coefficient,
specific pressure, etc.) over a wide range of temperatures from 300 to 1300C.
It was established that the spread, friction coefficient, and specific pressure
during rolling of columbium in a vacuum are slightly higher than during rolling
in an air medium. The spread basically occurs as a result of barrel formation
and of transition of the metal from the lateral faces to the contact faces. Specific

Card 1/2

L 61026-65
ACCESSION NR: AR5017416

pressure is only slightly dependent on temperature in the interval investigated.
A. Leont'yev

SUB CODE: MM   ENCl.: 00

Rolling in vacuum

Card 2/2

ACC NR: AR6009956   SOURCE CODE: UR/0137/65/000/012/D009/D010

AUTHOR: Dolzhankov, F. Yu.; Krivonosov, Yu. I.; Piryazev, D. I.; Bat', Yu. I.; Volchek, F. R.

TITLE: Production of bimetal compounds by vacuum rolling

SOURCE: Ref. zh. Metallurgiya, Abs. 12D75

REF SOURCE: Sb. tr. Ukr. n.-i. in-t metallov, vyp. 11, 1965, 183-196

TOPIC TAGS: bimetal, metal rolling, titanium, low carbon steel

ABSTRACT: The optimal temperature for commencing the vacuum rolling (R) of Ti-steel bimetal is 1000°C. At higher temperatures liquid phase may form. It is desirable to terminate R at 800°C, since a decrease in temperature leads to a sharp rise in specific pressures as well as to the occurrence of considerable internal stresses in the bimetal layers. A high C content of steel adversely affects the cohesion to Ti, and hence it is desirable to use a steel with a lower C content as the base-layer Me. Reduction in R temperature and increase in reduction of area contribute to the decrease of the transition zone of the steel-Ti bimetal. During R of two-layer and sandwich packs with the P-plates positioned outermost, the difference in

Card 1/2   UDC: 621.771.001

L 42044-66

ACC NR: AR6009956

the deformation of layers increases with increase in reduction of area. As the thickness of
the Ti layer decreases, its deformation resistance changes, and this leads to a change in the
nonuniformity factor of the plastic deformation of the pack. The broadening of the contact sur-
face of the pack is insignificant, reaching its maximum at the interface. The relation of speci-
fic pressure and torque to reduction in area, temperature, thickness ratio and other factors
is investigated. 9 illustrations, 1 table. Bibliography of 6 titles. L. Kochenova. [Translation
of abstract]

SUB CODE: 13, 11

Card   2/2   af

GOL'DIN, M.L.; KRIVONOSOV, Yu.I.; DOIZHENKOV, F.Ye.; TOBOL'SKIY, M.B.;
        KOVALEV, G.N.

    Use of autoradiography in studying the boundary zone in bimetals.
    Zav. lab. 31 no.2:202-203 '65.   (MIRA 18L7)

    1. Ukrainskiy nauchno-issledovatel'skiy institut metallov.

ACC NR: AP6035924   SOURCE CODE: UR/0413/66/000/020/0184/0185

INVENTOR: Krivonosov, Yu. I.; Zakharov, L. A.; Dolzhenkov, F. Ye.; Bat', Yu. I.; Volchek, F. R.

ORG: none

TITLE: Method of manufacture composite metal articles. Class 49, No. 187496

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 184-185

TOPIC TAGS: composite metal, clad metal composite metal production, METAL ROLLING, COMPOSITE MATERIAL

ABSTRACT: This Author Certificate introduces a method for manufacturing two-layer or multilayer metal articles according to Author Certificate No. 111925. To simplify the manufacture of large articles, vacuum rolling of the pack is done only to obtain a sufficient bonding with a reduction of 5—15%. The rest of the rolling is done in air.

SUB CODE: 13/ SUBM DATE: 18Jul63/

Card   1/1   UDC: 621.771.8-419.5

ACC NR: AP7002847   SOURCE CODE: UR/0136/66/000/012/0088/0089

AUTHOR: Krivonosov, Yu. I.; Dolzhenkov, F. Ye.; Myakshin, O.A.;
Zakharov, L.A.

ORG: none

TITLE: Cladding of steel with niobium by vacuum rolling

SOURCE: Tsvetnyye metally, no. 12, 1966, 88-89

TOPIC TAGS: metal cladding, niobium clad steel, clad steel production

ABSTRACT:
     Niobium-clad steel sheets were produced by rolling packs consisting of a
St. 3 steel plate (9—12 mm thick) and a VH-2 niobium sheet (2 mm thick)
in a vacuum ($4 \cdot 10^{-5}$ mm Hg) mill equipped with steel rolls, 166 mm in
diameter, at 900—1200C with   per pass reductions of 10—40%. The width of
packs was 50 mm and the length was 140 mm. It was found that the strength of
the bond between the clad and base metals increased with increasing rolling
temperature. The shear strength was 100 Mn/m^2 (10 kg/mm^2) after 30% reduc-
tion at 900—1000C, and after the same reduction at 1100—1200 it was
210—230 Mn/m^2 (21—23 kg/mm^2). The bond strength also increased with

UDC: 669.293,14-419

1/2

ACC NR: AP7002847

increasing per pass reduction. After 10% reduction at 1100C it did not exceed 100 Mn/m^2 (10 kg/mm^2), and after 30—40% reduction it reached 250 Mn/m^2 (25 kg/mm^2). However, high per pass reduction leads to a non-uniform deformation of the layers. Therefore, to ensure a reliable bond and more uniform deformation, it is advisable to roll at 1100—1200C, with 10—15% reduction per pass and 30—40% total reduction.   [TD]

SUB CODE: 13, 11/ SUBM DATE: none / ATD PRESS: 5113

S/064/61/000/011/006/007
B110/B101

AUTHORS: Reznikov, I. L., Solov'yev, Yu. V., Dolzhenkov, G. S.

TITLE: New method of purifying gases from chlorine in magnesium production

PERIODICAL: Khimicheskaya promyshlennost', no. 11, 1961, 74 - 76

TEXT: The authors study chlorine binding in rotary furnaces with synthetic carnallite (31.5% $MgCl_2$), and the effect of gases containing chlorine on the hydrolysis of $MgCl_2$. The content of gases introduced in heating and mixing chambers was $Cl = 1.5 - 16$ mg/liter, $HCl = 0.5 - 3.0$ mg/liter, $H_2O \sim 5.0$ mg/liter. The mixing chamber was heated to $680 - 750^\circ C$. When adding Cl at the rate of 60 and 100 kg/hr, 99 and 60% Cl (~ 60 kg/hr) was bound, independent of the amount of chlorine added. The bulk of chlorine is bound in the heating and mixing chambers before entering the furnace drum. The reaction largely depends on the gas temperature in the mixing chamber whereas the amount of chlorine has no effect. Chlorine was bound at a rate of 60 kg/hr at $700^\circ C$, and 130 kg/hr at $800^\circ C$. Maximum

New method of purifying gases...   S/064/61/000/011/006/007
                                     B110/B101

binding is reached when the gases are fed into the heating chamber and
cooled by secondary air before entering the drum. The reaction
$2H_2O + 2Cl_2 \rightleftharpoons 4HCl + O_2$ probably takes place at $> 577°C$. The equilibrium
concentrations of chlorine reacting with fuel gases at varying air excess
were thermodynamically calculated. The Cl amount was 100 kg/hr, mazout
consumption was 300 kg/hr, and the amount of air for combustion was
3,120 nm^3/hr. To estimate the effect of HCl, the equilibrium
concentrations of chlorine were calculated for a supply of 100 kg of
chlorine and 25 kg of HCl with the gases at an air excess $\alpha = 6.4$. Between
300 and 600°C, the equilibrium of water-vapor chlorination largely depends
on temperature. Equilibrium concentrations of the components are nearly
reached at flame temperature (1400°C). Therefore, it is advisable to
supply chlorine with the air for combustion directly into the heating
chamber. The amount of Cl converted into HCl depends on the water-vapor
concentration in the mazout combustion products. Thus, excessive anodic
chlorine can be used, and chlorine consumption in shaft furnaces and
chlorinators can be automatically controlled. In every furnace,
$\lessgtr$ 6000 - 10,000 nm^3/hr can be supplied from chlorinators. HCl formed

Card 2/3

New method of purifying gases...

S/064/61/000/011/006/007
B110/B101

during the reaction promotes the dehydration of carnallite and reduces $MgCl_2$ losses during hydrolysis by 1.1% V. N. Perevozov, P. B. Fadin, N. D. Khelemendik, G. S. Knyazev, A. N. Tatakin, K. D. Amrenov, L. N. Sysoyev, V. G. Ovcharenko, and Yu. D. Perevoshchikov assisted with experiments. There are 2 figures, 1 table, and 6 references: 5 Soviet and 1 non-Soviet. The two references to English-language publications read as follows: US Patent 2665193, 1954; Supplement to Mellor's Comprehensive Treatise on Inorganic and Theoretical Chemistry, Supplement II, Part 1, 1956.

Card 3/3

REZNIKOV, I.L.; SOLOV'YEV, Yu.V.; DOLZHENKOV, G.S.

New method of removing chlorine from gases in the production of
magnesium. Khim.prom. no.11:816-818 N '61.   (MIRA 15:1)
        (Magnesium)   (Chlorine)

MCHEDLOV-PETROSYAN, O.P.; USHEROV-MARSHAK, A.V.; FILATOV, L.G.; DOLZHENKOV, I.P.; SALENKOV, Yu.S.

Quick-hardening expanding compositions on a portland cement base for large-panel house building. Stroi.mat. 9 no.11: 34-36 N '63.

(MIRA 17:4)

SAVENKOV, V.Ya., kand.tekhn.nauk; DOLZHENKOV, I.Ye., kand.tekhn.nauk;
    GRINER, R.I., inzh.

    Electric tempering in the heat treatment of cultivator
    blades. Trudy Inst.chern.met.AN URSR no.14:95-99 '61.
                                                            (MIRA 14:10)
         (Steel—Heat treatment) (Induction heating)

DOLZHENKOV, I.Ye. [Dolzhenkov, I. IE.]

Decrease of plasticity in carbon steel on testing it in the temperature range of 20 to 700°C. Dop. AN URSR no.6:782-786 '63   (MIRA 17:7)

1. Dnepropetrovskiy metallurgicheskiy institut. Predstavleno akademikom AN UkrSSR K.F. Starodubovym.

VISHNYAKOV, Dmitriy Yakovlevich, prof., doktor tekhn. nauk;
      ROSTOVTSEV Gennadiy Nikolayevich; NEUSTRUYEV, Aleksandr
      Aleksandrovich; STARODUBOV, K.F., doktor tekhn. nauk,
      prof., akademik, retsenzent; SOKOLOV, K.N., doktor tekhn.
      nauk, prof., retsenzent; DOLZHENKOV, I.Ye., kand. tekhn.
      nauk, dots., retsenzent; SHTEPENKO, V.Z., kand. tekhn.nauk,
      dots. retsenzent; KRAVTSOV, A.F., kand. tekhn. nauk, dots.,
      retsenzent; FIL'TSER, G.A., dots., retsenzent; SILICH, A.N.,
      st. prepodav., retsenzent; SIUKHIN, A.F., assistent,
      retsenzent; SAVEL'YEV, L.P., assistent, retsenzent

[Equipment, mechanization and automation of heat-treating
plants] Oborudovanie, mekhanizatsiia i avtomatizatsiia v
termicheskikh tsekhakh. Moskva, Metallurgiia, 1964. 467 p.
                                        (MIRA 17:10)

1. Akademiya nauk Ukr. SSR (for Starodubov).

DOLZHENKOV, I.Ye. (Dnepropetrovsk)

Effect of heat treatment on the properties of low-carbon
steel at room and high temperatures. Izv. AN SSSR. Met.
i gor. delo no.4:153-158 Jl-Ag '64.   (MIRA 17:9)

ACC NR: AP6027742 JD/HW   E·T(d)/EWT(m)/EWP(w)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(t)/EWP(l)   IJP(c)
SOURCE CODE: UR/0370/66/000/004/0068/0074

AUTHOR: Dolzhenkov, I. Ye. (Dnepropetrovsk)

ORG: None

TITLE: Effect of deformation in the 20-700°C temperature range on the properties of carbon steels at room temperature

SOURCE: AN SSSR, Izvestiya. Metally, no. 4, 1966, 68-74

TOPIC TAGS: metal deformation, carbon steel, tensile strength, impact strength

ABSTRACT: Specimens of low-carbon 10, 40 and U8 steel hot-rolled at various temperatures from 20 to 700°C were tested for tensile and impact strength at room temperature. An IM-4R machine was used for the tensile test and an MK-30 drop hammer was used for testing impact strength. Specimens of 10 steel show an anomalous change in properties at 350-400 and at 500°C with a sharp reduction in ductility and an increase in strength. An increase in the degree of deformation results in a more noticeable change in properties throughout the entire rolling temperature interval and a more pronounced anomaly. The variation in strength characteristics for all three types of steel is very nearly a mirror image of the change in ductility. The mechanism responsible for the effect of deformation temperature on the mechanical properties of the various types of steel studied is considered from 3 points of view: 1. the effect on the

Card 1/2

UDC: 669.141 2h

ACC NR: AP6027742

L 07388-67

2

atomic structure of the metal; 2. the effect on deformation hardening due to accumu-
lation of <u>dislocations</u> during plastic deformation and softening due to an increase in
the mobility of the atoms and the tendency of the system toward a more stable state;
3. the <u>effect of temperature</u> on hardening due to elastic interaction between impurity
atoms, <u>segregation particles</u>, etc. on the one hand and dislocations and vacancy de-
fects introduced by atoms on the other hand. There are apparently processes in effect
at the given deformation temperatures which reduce the possibility for slipping along
shear planes which would result in higher transverse constriction and relative elonga-
tion. Further research is required to explain the nature of these processes. Orig.
art. has: 4 figures.

SUB CODE: 11,20/ SUBM DATE: 21Dec64/ ORIG REF: 010/ OTH REF: 001

Card 2/2 LS

L 04725-67   EWT(m)/EWP(t)/ETI/EWP(k)   IJP(c) JD/HM

ACC NR: AT6026438   (N)   SOURCE CODE: UR/3210/66/000/004/0249/0255

AUTHOR: Starodubov, K. F. (Academician AN UkrSSR); Rafalovich, Ts. N. (Candidate of technical sciences); Dolzhenkov, I. Ye. (Candidate of technical sciences)   3/

ORG: none   26

                                                                                      B+1

TITLE: Use of induction heating in tube drawing

SOURCE: Ukraine. Ministerstvo vysshego i srednego spetsial'nogo abrazovaniya. Metallurgiya i koksokhimiya, no. 4, 1966. Obrabotka metallov davleniyem (Metalworking by pressure), 249-255

TOPIC TAGS: METAL DRAWING, motor generator set, induction motor, metal tube, hot rolling

ABSTRACT: The article describes the principles of a new method of the mandrel-free drawing of tubes, suggested by K. F. Starodubov in 1939 and perfected by the authors in collaboration with the personnel of a tube plant. These principles are 1) heating is combined with deformation, thus eliminating the increase in the metal's hardness and decrease in its plasti-

Card   1/3

L 04725-67

ACC NR: AT6026438

city -- the disadvantages of cold drawing; 2) the heating is oxygen-free, thus preventing the formation of scale on tubes which might otherwise be incurred by merely drawing the tubes at high temperatures instead of resorting to induction heating; 3) the extent of deformation during a single rolling pass is increased to as much as 40% and the hardening of the tube occurs after passage through the drawing ring. These conclusions were verified by operating tests of an eight-ton drawing mill which was adapted for operation with an induction heating device. Tubes of 50-52 mm diameter and 2.5 mm wall thickness were heated to 750°C in an inductor through which they passed at the rate of 16-18 m/min. This, together with a drawing speed of 30 m/min, assured continuity of the hot drawing process. The inductor, located at a distance of about 6 m from the drawing ring, is represented by a spiral copper tube (65-70 turns) to which high-frequency current is supplied by a single phase machine motor generator set of the VGO-500-2500 type (500 kw, current frequency 2500 cps, 3,000 r.p.m.) connected to an ATM- -700 type induction motor (2500 cps, 600 v, 700 kw). This equipment was used to draw tubes of various dimensions and steel makes (EI-459, 30KhGS, 15KhM and other steels) with satisfac- tory results (savings of time due to the elimination of intermediate operations such as anneal- ing, pickling, copper plating and reduction in the volume of intra-shop manipulations of tubes). The surface of the hot-drawn tubes thus obtained, given the use of graphite lubricant, meets the requirements and standards for cold-drawn tubes. It was further established that the degree

Card 2/3

L 04725-67

ACC NR: AT6026438

of deformation during a single drawing pass and the drawing speed of tubes in such cases may be further increased without impairing their quality. Orig. art. has: none

SUB CODE: 13, 11/ SUBM DATE: none

Card 3/3

DOLZHENKOV, N.B., inzhener.

Winning high-moisture milled peat and its subsequent artificial
drying. Torf.prom. 33 no.1:32-34 '56.   (MLRA 9:5)

1. Gosplan SSSR.
                         (Peat industry)

DOLZHENKOV, N.V.,

DOLZHENKOV, N.V., inzh.

Rail freight tariffs on the hauling of peat. Torf.prom. 34 no.6:31-32 '57.   (MIRA 10:12)

1. Gosplan RSFSR.
                  (Peat--Transportation)   (Railroads--Rates)

DOLZHENKOV, S. F.

    "Basic Agrotechnological Processes for Cultivating Corn Under Conditions in the Belorussian SSR."   Cand Agr Sci, Inst of Socialized Agriculture, Acad Sci Belorussian SSR, Minsk, 1953. (RZhBiol, No 8, Dec 54)

    Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum.   No. 556, 24 Jun 55

DOLZHENKOV, V.uchastukov zubolekar, s. Most, Kurdzhalisko.

Novocaine block in certain oral diseases in rural dental centers.
Stomatologiia, Sofia no.6:350-353 1953.
            (PROCAINE, therapeutic use,
                mouth dis., nerve block)
            (MOUTH, diseases,
                ther., procaine nerve block)
            (ANESTHESIA, REGIONAL, in various diseases,
                procaine block in mouth dis.)

BAUMAN, A.V.; KOMAROVA, P.A.; DOLZHENKOV, Yu.N.; KUSHCHANOV, G.K.;
    BRENNER, V.A.; IM, A.I.; KAZAKOV, V.M.; KOZHAKHANOV, S.;
    MURATOV, B.A.

    Self-propelled drilling rig. Gor. zhur. no.7:75 Jl '63.
                                                (MIRA 16:8)

AGAFONOV, P.; DOLZHENKOVA, A.; SARKIS'YAN, K.; NIKITIN, V., red.;
MOLCHANOVA, T., tekhn.red.

[Excursions in Odessa; a handbook] Ekskursii po Odesse;
spravochnik. Odessa, Odesskoe knizhnoe izd-vo, 1960. 77 p.
(MIRA 14:4)

(Odessa--Guidebooks)

TELYATNIKOVA, G.N.; IVANOVA, M.A.; DOLZHENKOVA, A.M.

Testing growth regulating substances for reducing the
preharves falling off of the Antonovka variety of apples.
Kons.i ov.prom. 15 no.4:35-38 Ap '60.   (MIRA 13:6)

1. TSentral'nyy-nauchno-issledovatel'skiy institut
konservnoy i ovoshchesushil'noy promyshlennosti (for
Telyatnikova, Ivanova). 2. Sovkhoz imeni XV-letiya
Oktyabrya Lipetskogo sovnarkhoza (for Dolzhenkova).
                    (Apple)

Influence of anions of compounds used to prepare membranes on structural and electrokinetic properties of copper ferrocyan de membranes. I. F. Karpova, Vestnik Lenin rad [Univ] 12.

BELASH, F.N.; GONTARENKO, P.A.; LOZOVAYA, L.V.; STREL'TSYN, G.S.; DOLZHENKOVA, A.N.

V.I.Klassen's and Mao Chi-fan's article "Mechanism of the effect of water glass in the flotation of nonsulfide minerals." F.N.Belash and others. TSvet.met. 33 no.5:74-75 My '60.
(MIRA 13:7)

(Flotation) (Klassen, V.I.)
(Mao Chi-fan') (Belash, F.N.)

DOLZHENKOVA, A. N.; STREL'TSYN, G. S.

Using the electrokinetic method in studying the regularities of the flotation process. Trudy Mekhanobr no. 131:7-23 '62.

Changes in the ζ-potential of quartz in the presence of modifying agents and a cation collector. Ibid.:24-42.   (MIRA 17:5)

DOLZHICH, K.D.

The AOO6-type automatic press for manufacturing glazed condensers.
Biul.tekh.-ekon.inform. no.1:17-18 '59.   (MIRA 12:2)
              (Molding (Chemical technology))

L 49418-65   EWT(1)/EEC-4/EWA(h)   P1-4/Pj-4/Pm-4/Psc-4/Peb

ACCESSION NR: AP5011950   UR/0142/65/008/001/0048/0054

AUTHOR: Tereshchenko, A. I.; Dolzhikov, V. V.

TITLE: Selecting the optimal shape of a multimode rectangular
waveguide matching section
SOURCE: IVUZ. Radiotekhnika, v. 8, no. 1, 1965, 48-54

TOPIC TAGS: waveguide, multimode waveguide, waveguide matching

ABSTRACT: The shape and length of a matching section between two similar
rectangular waveguides which is tapered or expanded in the H- or E-planes are
theoretically investigated. The optimal matching section ensures minimum loss
of transformation of the principal mode into the nearest parasitic modes and also
minimum reflection factor of the principal mode. It is claimed that: 1) The
optimal symmetrically tapered matching section is 1.5—2.5 times shorter than a
straight-line section with the same transformation loss; or for the same
length, the transformation and reflection losses in the tapered section are lower

Card 1/2

I 49428-65

ACCESSION NR: AP5011950

by 12—25% and 10—25%, respectively; 2) The matching sections with one or two adjacent walls widening (narrowing) have a higher loss for the same length or are 2—3 times longer than the symmetrical tapered sections. Orig. art. has: 4 figures and 23 formulas. [03]

ASSOCIATION: none

SUBMITTED: 02Mar64   ENCL: 00   SUB CODE: EC

NO REF SOV: 003   OTHER: 008   ATD PRESS: 4003

Card 2/2