SOV/30-56-60-5/10

AUTHOR: Laykhtman, D. L. and Orlenko, G. P.

TITLE: Intensity of Turbulent Exchange Over Water (Ob intensivnosti turbulentnogo obmena nad vodnoy poverkhnost'yu)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1956, Nr 60, pp 51-52 (USSR)

ABSTRACT: An important indicator of turbulence over water surface is the vertical coefficient of turbulence which is a factor in all formulas for computing thermal streams, humidity, etc. This coefficient was calculated from parameters characterizing the distribution of diffusive substances. The parameters were secured in 54 experiments. The article contains 1 diagram. There are no references.

Card 1/1

L 01147-66 EWT(m)/EWP(j) RM

ACCESSION NR: AP5021990 UR/0286/65/000/014/0075/0076
678.762.2-134.584.028.044.8

AUTHOR: Fenicheva, N. N.; Orlenko, G. P.; Subayev, F. S. 44 44 44 28 B 15

TITLE: A method for vulcanizing butadiene nitrile rubber. Class 39, No. 172981 44

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 75-76

TOPIC TAGS: vulcanization, butadiene, nitrile rubber, synthetic rubber

ABSTRACT: This Author's Certificate introduces a method for vulcanizing butadiene nitrile rubber by using organic peroxides in the presence of an accelerator. The dosage of vulcanizing agent is reduced and the thermal stability of the vulcanized product is improved by using a compound of metals with variable valence as the accelerator.

ASSOCIATION: none

SUBMITTED: 10Jun63 ENCL: 00 SUB CODE: MT

NO REF SOV: 000 OTHER: 000

Card 1/1 DP

ORLENKO, L.P.

Dependence of heat flow into the soil on ground surface temperature. Meteor. i gidrol. no.7:30-32 Jl '57. (MLRA 10:8)
(Soil temperature)

SOV/139-58-6-4/29

AUTHORS: Orlenko, L.P. and Stanyukovich, K.P.

TITLE: Shock Waves in Solids (Udarnyye volny v tverdykh telakh)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika. 1958, Nr 6, pp 14-24 (USSR)

ABSTRACT: A theory is presented of the propagation of shock waves in solids; a relation between instantaneous pressure and deformation is deduced and the corresponding wave and particle velocities computed The basic equation of propagation in one dimension is

$$\frac{\partial u}{\partial t} + \frac{\partial p}{\partial h} = 0, \qquad \frac{\partial u}{\partial h} = \frac{\partial v}{\partial t} . \qquad (1)$$

Here u denotes the particle velocity, v = specific volume ($v = 1/\rho$, where ρ = density) and h the Lagrangian co-ordinate; t and p denote time and pressure respectively. Writing σ for tension and ε for volume strain (i.e. change in volume per unit initial volume) the following relations are obtained:

$$\sigma = -p, \quad \varepsilon = \frac{v - v_0}{v_0} = \frac{\rho_0}{\rho} - 1, \qquad (2)$$

Card 1/4

Shock Waves in Solids

Here v_o signifies the initial value of v, while ρ and ρ_o signify the densities associated with v and v_o by $v = 1/\rho$ and $v_o = 1/\rho_o$ respectively. Substitution of Eq (2) into Eq (1) yields the following relations

$$\frac{\partial u}{\partial t} = \frac{\partial \sigma}{\partial h} = \frac{d\sigma}{d\varepsilon}\frac{\partial \varepsilon}{\partial h} \qquad \frac{\partial u}{\partial h} = v_o \frac{\partial \varepsilon}{\partial t} \qquad (3)$$

If the relation between σ and ε is known in functional form, these last equations enable the shock wave velocity to be deduced. A relation which gives good agreement with experiment is:

$$\sigma - \sigma_o = -A(\varepsilon - \varepsilon_o)^3 \qquad (4)$$

where σ_o, ε_o are initial values of σ, ε and A is related to the elastic properties of the medium. The shock-wave velocity c, associated with this relationship between σ and ε, is readily shown to be given by:

$$c = \sqrt{\frac{dp}{d\rho}} = (\varepsilon + 1)\sqrt{\frac{d\sigma}{\rho_o d\varepsilon}} = \frac{\sqrt{3A\rho_o}}{\rho\left[\frac{\rho_o}{\rho} - (1 + \varepsilon_o)\right]^2} \qquad (6)$$

Card 2/4

Shock Waves in Solids

and the corresponding particle velocity w is given by:

$$w = \sqrt{\frac{3A}{\rho_0}} \frac{1}{\left[\frac{\rho_0}{\rho} - (1 + \varepsilon_0)\right]^2} \qquad (7)$$

The theory is used to discuss the case in which the initial disturbance lies outside the medium, the example chosen being that of an explosive charge detonated at a height ℓ above a plane boundary of the medium. The pressure, p, at any time t after the explosion in this case follows a power law given by

$$\frac{p - p_0}{p_H - p_0} = \left(\frac{\tau}{t + \tau}\right)^{3n} \qquad (29)$$

Here p_H is the value of p at h = 0 and t = 0 respectively; p_0 and n are empirical constants and τ is a characteristic time ℓ/D where D is the detonation velocity [no numerical results are given in connection with this example but it would presumably be applicable

Card 3/4

Shock waves in Solids

to a "nuclear device" detonated above the [illegible] surface] The theory is then applied to a plate of thickness d and waves reflected from the rear surface of the plate are discussed There is 1 figure and 1 Soviet reference

ASSOCIATION: Moskovskoye Vyssheye Tekhnicheskoye Uchilishche imeni Baumana (Moscow Higher Technical [illegible] imeni Bauman)

SUBMITTED: 16th April 1958

Card 4/4

67512

SOV/155-59-1-15/30

16(1) 16 7300

AUTHOR: Orlenko, L.P.

TITLE: The Propagation of a Plane Wave in a Plate of Finite Thickness

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1959, Nr 1, pp 117-125 (USSR)

ABSTRACT: At first the author considers the propogation of a wave in a hard half space on the free surface of which there acts an instantaneous pressure which then decreases with time. The shift of the particles is one-dimensional and takes place in the direction of the wave motion. Wood [Ref 4] has given a numerical solution for the propagation of such waves. The author gives the analytic solution of the problem and solves the motion equation in the region of the shock wave under corresponding boundary conditions

$$\frac{\partial^2 v}{\partial t^2} = a_1^2 \frac{\partial^2 v}{\partial x^2} + a_1^2 f_0'(x) \quad , \qquad (5)$$

where the x-axis is the direction into the interior of the semi-

Card 1/2

ORLENKO, L.P.

Motion of a piston in the soil. Nauch.dokl.vys.shkoly; fiz.-mat. nauki no.3:105-110 '59. (MIRA 13:6)

1. Moskovskoye vysshoye tekhnicheskoye uchilishche imeni N.E. Baumana.
(Soil mechanics) (Explosives)

S/154/60/000/02/10/018
B012/B123

AUTHOR: Orlenko, L. P.

TITLE: Recent Vertical Movements of the Coasts of the White and Barents Seas

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1960, No. 2, pp. 95-96

TEXT: In the investigation of the movements of the earth crust on the territory of the USSR, performed by the MIIGAiK (Moscow Institute of Geodetic, Aerial Survey, and Cartographic Engineers), and the Institut geografii AN SSSR (Geographical Institute of the AS USSR), and oceanographical organizations the determination of the speed of the movement played an important part. There are already publications on this problem in Soviet literature, i.e., concerning the Baltic-, Black-, and Caspian Seas, and the Sea of Azov, but not for the northern seas. For the observation points at Mud'yug, Severodvinsk, Kem'-port, Sosnovets, Barents-burg, and Teriberka levelings were carried out during at least ten years (cf. Table 1). The values and their errors were treated by the method

Card 1/2

of least squares. From the data gained one can see that for both seas there is a tendency to coastal depression which is stronger, however, for the Barents Sea (0.1-0.3 cm/year). For the White Sea the speed of depression of almost all points lies within the permissible limits. That means that the White Sea is practically stable. The values given should be considered to be approximate values, and additional material will be needed for a final report. There is 1 Soviet reference.

SUBMITTED: July 6, 1959

Card 2/2

BULGAKOVA, A.A., ORLENKO, L.P., FEDOTOV, I.D.

Loosening stuck drills without tearing off the pipe. Prikl. geofiz. no.26:253-266 '60. (MIRA 13:8)
(Oil well drilling)

ORLENKO, L. P., kand. tekhn. nauk

Modeling at dynamic loading. Izv. vys. ucheb. zav.; mashinostr. no.7:89-93 '62. (MIRA 16:1)

1. Moskovskoye vysshaye tekhnicheskoye uchilishche imeni Baumana.

(Engineering models)

L 16582-63 EWP(k)/EWP(q)/EWT(m)/BDS AFFTC/ASD Pf-4 JD/HW 64
S/145/62/000/012/010/011 63

AUTHOR: Anuchin, M. A., Candidate of Technical Sciences, Orlenko, L. P., Candidate of Technical Sciences, Antonenkov, O. D., Engineer, and Dubinin, V. V., Engineer

TITLE: Approximate method of evaluation of energy of forming thin walled parts 16

PERIODICAL: Izvestiya vysshikh uchebynkh zavedeniy. Mashinostroyeniya, no. 12, 1962, 158-167

TEXT: The author presents an approximate method for evaluation of energy for stamp forming with explosives of thin walled axially symmetrical parts. These calculations have been corroborated on a special installation for hydraulic stamping. The energy of stamp forming is a sum of deformation work of tension-compression, bending and friction. The major part of deformation energy is required for tension-compression (about 80% of the total sum of the effort). The author gives a mathematical analysis of deformations and their intensity. The energy required for obtaining parts of the required form is the determining factor serving for the estimation of the weight of the charge, the

Card 1/2

L 16582-63

S/145/62/000/012/010/011

Approximate method of evaluation...

basic technological parameter. The results of some tests and theoretical evaluations are shown in a table. In the case of dynamic charges dynamic diagrams must be known. This is required to make possible the evaluation of forming evergy when calculating the weight of the charge. Four Soviet references. There are 8 formulas, 8 figures, and 2 tables.

ASSOCIATION: MVTU im. N. E. Baumana (Moscow High Engineering School im. N. E. Bauman)

SUBMITTED: 00

Card 2/2

ACC NR: AM5011015 BOOK EXPLOITATION UR

Orlenko, L.P.

Behavior of materials under intensive dynamic loads (Povedeniye materialov pri intensivnykh dinamicheskikh nagruzkakh) Moscow, Izd-vo "Mashinostroyeniye," 1964. 0166 p. illus., biblio. Errata slip inserted. 2,500 copies printed.

TOPIC TAGS: explosive forming, dynamic stress, spark shock wave, compression shock wave, compressive stress, mechanical engineering, solid mechanical property, mechanical shock resistance, simulation, metal, metal physical property, high strength metal

PURPOSE AND COVERAGE: This book is concerned with the mechanical and physical properties of materials under dynamic loads and shock conditions. The text presents problems in shock-induced compressibility of solids and change of mechanical properties of materials under dynamic loads. It also contains problems of propagation of stress waves in dense media, of deformation of thin-walled shells under dynamic loads induced by electric sparks, explosives, or piston impacts, and of simulation under dynamic load conditions. The book is intended for specialists in dynamic technological processes, such as explosive or electric spark forming, as well as for specialists concerned with the dynamic strength of structures. The author thanks Kirill Petrovich Stanyukovich for his advice and aid in the work.

TABLE OF CONTENTS [abridged]:

Card 1/2 UDC: 539.4/5 : 620.178.7.001.57

ACC NR: AM5011015

SUB CODE: 20, 13/ SUBM DATE: 10Oct64/ ORIG REF: 100/ OTH REF: 059

Card 2/2

L 6746-65 EWT(m)/EPR/EWP(k)/EWP(q)/EWP(r)/EWP(b) Pf-4/Ps-4 AFETR/AEDC(a)/
ASD(f)/SSD/AFWL JW/JD/HW
ACCESSION NR: AP4043868 S/0139/64/000/004/0072/0075

62
61

AUTHOR: Orlenko, L. P.

TITLE: On shock waves in metals

SOURCE: IVUZ. Fizika, no. 4, 1964, 72-75

TOPIC TAGS: shock wave thermodynamics, shock wave propagation, compression wave, copper, aluminum

ABSTRACT: The attenuation of shock waves in metals is analyzed by regarding the shock wave as an isentropic compression wave with the dynamic pressure specified on the surface of the metal as a function of the time. The calculated shock wave parameters are compared with the experimental values for copper and aluminum, the agreement being better for copper than for aluminum. The reason for the discrepancy in the case of aluminum is the higher compressibility of aluminum, causing it to be more heated by the shock wave than copper

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L 6736-65
ACCESSION NR: AP4043868

and to be subject to larger irreversible losses (the losses were not taken into account in the calculations). It is therefore concluded that the isentropic approximation leads to an overestimate of the parameters of shock waves in metals. Orig. art. has: 1 figure and 14 formulas.

ASSOCIATION: Moskovskoye vy*sshoye tekhnicheskoye uchilishche imeni N. E. Baumana (Moscow Higher Technical College)

SUBMITTED: 05Mar63 ENCL: 00

SUB CODE: ME, MM NR REF SOV: 003 OTHER: 002

Card 2/2

L 9285-66 FSS-2/EWT(1)/EWP(m)/EWT(m)/EWA(d)/EWP(t)/T/ECS(k)/EWA(h)/EWA(c)
ACC NR: AP5027284 IJP(c)/RPL WW/AT/RM SOURCE CODE: UR/0207/65/000/005/0130/0131

AUTHORS: Orlenko, L. P. (Moscow); Parshev, L. P. (Moscow)

ORG: none

TITLE: Computation of the energy of a shock wave in water

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1965, 130-131

TOPIC TAGS: shock wave, shock wave front, shock wave propagation, shock mechanics, explosion, explosive, explosion effect, underwater explosion

ABSTRACT: The energy of an underwater shock wave stemming from an underwater explosion is solved through consideration of irreversible mechanical dissipation of energy. The dissipation of energy in an underwater shock wave is determined with the aid of the shock adiabatic, discharge isentropes, and the variation of frontal pressure with distance. The total value of irreversible energy loss E_1 in a shock wave from an underwater explosion with spherical throw-out of explosive material is given by

$$E_1 = \frac{4\pi}{v_0}\int_{r_0}^{r} e(p_2) r^2 dr$$

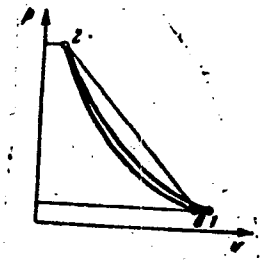
where the unit energy losses $e(p_2)$ are equal to

$$e(p_2) = \frac{p_2 + p_0}{2}(v_0 - v_2) - \int_{v_2}^{v_0} p\,dv,$$

Card 1/3

(see F. A. Baum, K. P. Stanyukovich, and B. I. Shekhter. Fizika Vzryva. Fizmatgiz, 1959). The quantities p_0 and v_0 are the initial pressure and unit volume of the water; $p_2(r)$ and $v_2(r)$ are the pressure and unit volume at the shock wave front; r is the coordinate of the shock wave front; and r_0 is the throw-out radius. The integral term in the second equation is computed along the expansion isentropes of the water (see Fig. 1)

Fig. 1.



to a volume v, corresponding to the condition of the water after expansion to the initial pressure p_0. Total energy Q is the sum of the energy of gas bubble pulsation ~~TT~~ plus. The value $E = E_1 + E_2$ where E_1 is as defined above and E_2 is the mechanical energy computed by empirical means. Plots of the ratio E_1/Q and E_2/Q (for pentolite) versus v_0 are given where E_2 is given by

$$E_2 = 108.3 \cdot 4\pi r^2 Q^{1/3} \left(\frac{Q^{1/3}}{r}\right)^{2.13}$$

L 9285-66

ACC NR: AP5027284

3

(C is the weight of explosive). Additional computations of E/Q and π/Q for two densities of TEN explosive (pentaerythrityl tetranitrate, PETN) are given and discussed. Orig. art. has: 4 figures and 4 equations. 44155

SUB CODE: 20/ SUBM DATE: 06Jan65/ ORIG REF: 003/ OTH REF: 002

BC

Card 3/3

ORLENKO, L. R.

ORLENKO, L. R.--"Analysis of the Basic Factors Determining the Daily Oscillations in Temperature of the Ground Layer of the Atmosphere." Main Administration of the Hydrometeorological Service, Council of Ministers USSR. Main Geophysical Observatory imeni A. I. Voyeykov. Leningrad, 1955. (Dissertation for the Degree of Candidate of Physicomathematical Sciences).

SO: Knizhnaya Letopis' No. 27, 2 July 1955

ORLENKO, L.R.

Change of the thermodynamic state of the atmosphere. Trudy GGO no.53:95-99 '55. (MLRA 9:8)
(Atmospheric temperature)

SOV/36-56-60-7/10

AUTHOR: Orlenko, L. R.

TITLE: Computing the Diurnal Rate of Shortwave Radiation on Clear Days (K raschetu sutochnogo khoda korotkovolnovy radiatsii v yasnyye dni)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1956, Nr 60, pp 60-66 (USSR)

ABSTRACT: In studying the diurnal variations in temperature an accurate elevation of the diurnal rate of shortwave radiation is of primary importance and all losses in radiation should be accounted for. Solar radiation in the atmosphere is weakened through absorption by oxygen, ozone, water vapor and other components of dry air. Dispersion by dry air and vapor together with scattering and diffusive reflection of substances suspended in the atmosphere(dust)are also contributing factors. Theoretical computations and observations form the basis for a new, well founded nomogram. The article contains a supplement. There are 2 tables, 2 diagrams, and 7 references of which 5 are Soviet and 2 German.

Card 1/1

36-57 -69-1/16

AUTHOR: Orlenko, L. R.

TITLE: Evaluation of the Influence of Daily Evaporation Rate on the Temperature of Surface Soil and Near-surface Air (Otsenka vliyaniya sutochnogo khoda ispareniya na temperaturu poverkhnosti pochvy i vozdukha)

PERIODICAL: Trudy Glavnoy geofizicheskoy observatorii, 1957, Nr 69, pp 3-10 (USSR)

ABSTRACT: The author points out that in computing the daily temperature rate for the heat balance of surface soil, earlier researchers (such as A. A. Dorodnitsyn, I. G. Lyutershteyn, and A. F. Chudnovskiy) failed to account for the heat spent on evaporation. The present article suggests a method for determining such heat losses, and in this way obtain a more accurate picture of the influence of evaporation temperature. The author recalls a similar attempt by M. Ye. Shvets who based his calculation on the coefficient of maximum specific humidity at the surface of water or moist soil. On the other hand the author of the present article treats the phenomenon of evaporation as a function related directly to surface soil temperature. The necessary data for such a relationship were deduced from the results of observations at the Koltushi Station (near Leningrad), conducted in the

Card 1/2

Evaluation of the Influence of Daily Evaporation (Cont.)

summer of 1950. The initial formula in determining the dependence of evaporation on temperature is $LE=LE_o + bt$, where b is the coefficient of change in the evaporation rate resulting from a temperature change (the coefficient being expressed in calories per square centimeter per minute); t is the deviation of temperature from the mean daily temperature; and LE_o is the mean daily evaporation rate. Based on the knowledge of the parameter LE, the author develops a mathematical method to determine the loss of heat required for evaporation. Among other data (such as the temperature of the soil) the method also accounts for turbulent heat conductivity. In Section 3 of the article the author verifies the results obtained, plotting two curves, one of which reflects the heat lost during evaporation. The difference amounts to 4-6° Centigrade daytime and to -3 to -5° at night, when $b = 0$. Verification was also conducted at the above-mentioned station at Koltushi. There are 4 figures and 5 Soviet references.

AVAILABLE: Library of Congress

Card 2/2

CELNAKI, L. N.

PHASE I BOOK EXPLOITATION SOV/4641

Leningrad. Glavnaya geofizicheskaya observatoriya

Voprosy fiziki prizemnogo sloya vozdukha (Problems in the Physics of the Near-Surface Air Layer) Leningrad, Gidrometeoizdat, 1960. 161 p. (Series: Its: Trudy, vyp. 94) Errata slip inserted. 850 copies printed.

Sponsoring Agencies: Glavnaya geofizicheskaya observatoriya imeni A.I. Voyeykova; Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR.

Ed. (Title page): D.L. Laykhtman, Doctor of Physics and Mathematics; Ed. (Inside book): Yu.V. Vlasova; Tech. Ed.: N.V. Volkov.

PURPOSE: This publication is intended for meteorologists specializing in the lower layers of the atmosphere. It may also be of interest to agronomists, construction engineers, and other specialists whose activities are influenced by atmospheric conditions.

COVERAGE: This issue of the Transactions of the Main Geophysical Observatory contains 18 articles dealing mainly with problems of the physics of the near-surface air layer. Correlations between the surface wind and geostrophic wind are examined and the results of both theoretical calculations and

Card 1/4

experimental investigations given. Individual articles analyze the temperature regime of the active surface of soil and the factors determining the thermal conditions of the boundary layer. Results of fog investigation are presented in two articles. In addition, some problems of methods in the experimental investigation of the near-surface layer are elucidated. No personalities are mentioned. References follow each article.

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Problems in the Physics (Cont.)

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JA/dwm/sfm
2/1/61

ORLENKO, L.R.

Relationship between winds near the ground and the geostrophic wind.
Trudy GGO no.107:55-59 '61. (MIRA 14:10)
(Winds)

ORLENKO, L.R.; UTINA, Z.M.

Calculation of the accretion and thawing of old ice. Trudy GGO no.127: 112-115 '62. (MIRA 15:7)
(Arctic regions—Sea ice)

ACCESSION NR: AT4004709 S/2922/63/007/000/0045/0051

AUTHOR: Orlenko, L. R.

TITLE: Determination of the vertical currents in the boundary layer from external parameters

SOURCES: Vses. nauchn. meteorologich. soveshch. Trudy*, v. 7, Fizika prizemnogo sloya. Leningrad, 1963, 45-51

TOPIC TAGS: meteorology, vertical air current, updraft, atmospheric boundary layer, vertical current determination, atmospheric friction, wind, wind velocity, turbulence, synoptic process, barometric pressure, Coriolis parameter, boundary layer structure, temperature, temperature gradient, atmospheric turbulence

ABSTRACT: A method is described for determining vertical currents in the boundary layer of the atmosphere. It is shown that the determination of the vertical component of wind velocity in this layer requires data on the distribution of its horizontal components. Two approaches are given for determination of the vertical component, depending on how the horizontal components are determined. Since one method requires a dense network of stations, emphasis is on the second approach, based on certain formulas for the distribution of wind velocity and direction in the boundary layer. Two equations are given making it possible to determine the wind velocity profile if the turbulence coefficient in the boundary

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ACCESSION NR: AT4004709

layer is known. The difficulty of determining this coefficient is overcome, and the problem is solved for a specific stratification of the atmosphere. Wind velocity in the boundary layer is determined from the known pressure field and the roughness of the underlying surface, so-called external parameters. A simple expression is derived for the vertical component at the upper limit of the boundary layer. A qualitative analysis has been made of the dependence of vertical currents on the speed of the geostrophic wind and air stratification of the boundary layer for a symmetric pressure formation assuming a constant turbulence coefficient in the entire boundary layer. Such an analysis makes it possible to make quantitative estimates of vertical currents in the boundary layer. Final formulas give the relationship between the vertical component and the speed of the geostrophic wind and air stratification in the boundary layer. The method was checked using data on the geostrophic wind and the temperature gradient from synoptic charts. Solution of the formulated problem makes it possible to predict, as well as determine, vertical currents, provided there is a forecast of the pressure field. Orig. art. has: 24 formulas.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory)

SUBMITTED: 00	DATE ACQ: 27Dec63	ENCL: 00
SUB CODE: AS	NO REF SOV: 003	OTHER: 000

Card 2/2

LAYKHTMAN, D.L.; ORLENKO, L.R.

Program and methods for observations made during the expedition. Trudy GGO no.144:3-8 '63. (MIRA 17:6)

S/2531/63/000/144/0011/0021

ACCESSION NR: AT4028737

AUTHOR: Orlenko, L. R.; Tkachenko, A. V.

TITLE: Some results of the processing and analysis of gradient observations in the surface layer of the atmosphere

SOURCE: Leningrad. Gl. geofiz. observ. i Ukr. n.-i. gidrometeorol. inst. Trudy*, no. 144/40, 1963. Fizika pogranichnogo sloya atmosfery* (physics of the atmospheric boundary layer); Dneprovskaya expeditsiya GGO i UkrNIGMI, 11-21

TOPIC TAGS: gradient observation, atmospheric surface layer, turbulence, wind profile, heat flow, moisture flow, energy balance

ABSTRACT: The authors examined the results of processing and analysis of gradient observations in the surface layer: wind profile parameters, components of the energy balance of turbulence, and the turbulent flows of heat and humidity. Gradient observations, conducted during the Dnieper expedition, on wind velocity, air temperature and humidity, enabled them to produce vertical profiles of these meteorological elements and, after appropriate processing of the data, to obtain important characteristics of the surface layer as the coefficient of turbulence, the components of the energy balance of turbulence, and the turbulent flow of heat and humidity.

Card 1/2

LAYKHTMAN, D.L.; ORLENKO, L.R.; TKACHENKO, A.V.

Dispersion of the turbulence energy in the lowest layer of the atmosphere. Trudy GGO no.144:28-33 '63. (MIRA 17:6)

S/2531/63/000/144/0034/0047

ACCESSION NR: AT4028740

AUTHOR: Orlenko, L. R.

TITLE: On the ratio of the components of the energy balance of turbulence according to experimental data

SOURCE: Leningrad. Gl. geofiz. observ. i Ukr. n.-i. gidrometeorol. inst. Trudy*, no. 144/40, 1963. Fizika pogranichnogo sloya atmosfery* (physics of the atmospheric boundary layer); Dneprovskaya expeditsiya GGO i UkrNIGMI, 34-47

TOPIC TAGS: energy balance, turbulence, gradient observation, aerostatic observation, pilot balloon observation, Makhtalinsk expedition, energy dissipation, boundary layer, exponential law

ABSTRACT: In this paper the author examines the ratio between the components of the energy balance of turbulence at various altitudes. Distribution of wind and temperature in the boundary layer is used for analysis according to materials of gradient, aerostatic and pilot-balloon observation in the Makhtalinsk expedition. Estimates of the parameters δ are given by considering the energy dissipation of turbulence into heat within the boundary layer. Through a series of mathematical arguments, the author derives formulas for the various parameters which are presented in tables

Card 1/2

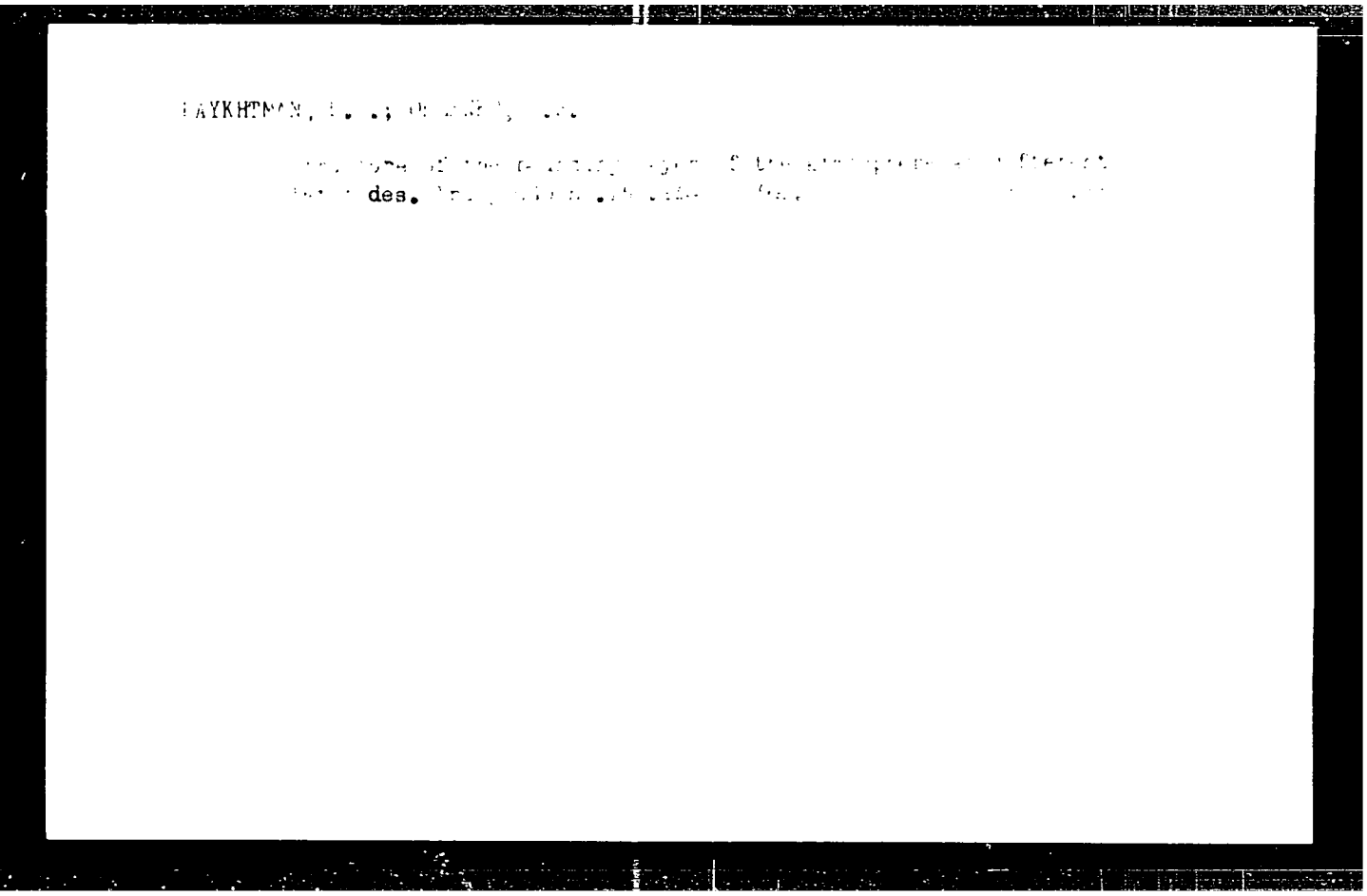
ACCESSION NR: AT4028740

for various altitudes and times. He also studies the effect of atmospheric stratification on the vertical profile of energy balance of turbulence. This profile is plotted in graphs for day and night times. Observations of the distribution of temperature and wind for 13 hours were used for evaluating δ during the day time. δ was defined according to averaged data for h = 20 m and h = 50 m, $\gamma_a = 0.98^{\circ}/100$ m and $\gamma_p = 0.6^{\circ}/100$ m. Calculations have shown that for a reliable determination of δ during the day, the distribution of the wind and temperature must be known in the entire boundary layer. On the basis of the presented analysis, however, it can be assumed that the energy expenditure of turbulence on the operation of interspersion for the boundary layer as a whole is small and therefore δ must be assumed to be somewhat less than unity (0.9-0.8). The value of δ for day conditions must be made more precise. For night conditions the presented value of δ is confirmed by the data of the Dnieper expedition. Orig. art. has: 8 formulas, 3 figures, and 2 tables.

ASSOCIATION: Leningradskaya glavna geofizicheskaya observatoriya (Principle Geophysical Observatory of Leningrad)

SUBMITTED: 00	DATE ACQ: 16Apr64	ENCL: 00
SUB CODE: AS, MM	NO REF SOV: 004	OTHER: 000

Card 2/2



des.

L 11179-66 EWT(1)/FCC GW

ACC NR: AT6004152 SOURCE CODE: UR/2531/65/000/167/0073/0079

54
B+1

AUTHOR: Orlenko, L. R.

ORG: Main Geophysical Observatory, Leningrad (Glavnaya geofizicheskaya observatoriya)

TITLE: Using experimental data to calculate the components of turbulent energy balance 12,44,55

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 1, 1965. Fizika pogranichnogo sloya atmosfery (Physics of the boundary layer of the atmosphere), 73-79

TOPIC TAGS: meteorology, boundary layer heat transfer, atmospheric turbulence, turbulent boundary layer

ABSTRACT: The author considers methods for determining the components of turbulent energy balance and the dissipation parameter which gives the ratio of turbulent energy dissipated in heat to that generated by the energy of average motion. An equation is derived for turbulent energy balance under stationary conditions disregarding

Card 1/2

L 14179-66

ACC NR: AT6004152

diffusion at the upper limit of the boundary layer. Various methods are given for calculating the dissipation parameter which appears in this formula. Figures are given showing the approximate relationship between this parameter and turbulent heat flux. It is pointed out that the approximate values for the dissipation parameter should be refined by experimental data and on the basis of a more general solution for the problem of structure of the boundary layer under various macrometeorologic conditions. Orig. art. has: 1 figure, 18 formulas.

SUB CODE: 08/ SUBM DATE: 00/ ORIG REF: 006/ OTH REF: 000

Card 2/2

ACC NR: AT6021505 (N) SOURCE CODE: UR/2531/66/000/0187/0013/0043

AUTHOR: Bortkovskiy, R. S.; Orlenko, L. R.; Tseytin, G. Kh.

ORG: none

TITLE: Calculation of wind and tangential stress above a water surface

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 187, 1966. Fizika pogranichnogo sloya atmosfery (Physics of the atmospheric boundary layer), 13-43

TOPIC TAGS: micrometeorology, atmospheric turbulence, wind speed, tangential stress, atmospheric boundary layer, near water boundary layer, wind velocity, ocean dynamics, ocean current, surface tension

ABSTRACT:
A procedure is presented for calculating wind and tangential stress over the open sea using a given baric field and known temperature stratification. The procedure is based on theoretical investigations made at the Department of the Physics of the Boundary Layer, Main Geophysical Laboratory. Since the roughness of the water surface is regarded as known, the problem is reduced to solving the usual equations of motion for air with a given horizontal baric gradient over a moving surface

Card 1/3

ACC NR: AT6021505

(except that the underlying surface is not motionless). Horizontally homogeneous conditions are assumed. In selecting boundary conditions, the presence of surface water currents and the temperature stratification in the boundary layer are characterized by the difference between the water-surface temperature and the air temperature at the upper limit of the boundary layer. The influx of radiant heat is assumed to be a linear function of height, a model in which there is a jump at height h is accepted in determining the turbulence coefficient k, and the Laykhtman model is accepted in determining wind velocity.

General solutions are obtained for the layers $z_0 \leq z \leq h$ and $z \geq h$. The solution for the first case is simplified so that the wind-velocity components are computed rapidly with auxiliary tables and nomograms. A scheme is given for finding wind velocity, tangential stress, the modulus of the wind velocity, and the angle of "friction" at a height of about 10 m above the sea. A simplified procedure is presented for calculating wind velocity and tangential stress under equilibrium conditions. The procedure was tested with limited experimental data. The applicability of the procedure is discussed, and the errors are estimated. For instance, with a time interval of 2 hr, the error in the component of the tangential stress

Card 2/3

ACC NR: AT6021505

τ_{0x} = 8% for V_g = 15 m/sec and ΔV_g = 5 m/sec (the velocity of the geostrophic wind and the jump in the geostrophic wind); τ_{0x} = 12% when ΔV_g = 10 m/sec; errors of 12% and 20% were noted in τ_{0y} under like conditions. The error in the wind velocity due to advection should not exceed 15%. [WA-50; CBE No. 11]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 018/ OTH REF: 012/

Card 3/3

ARANOVSKIY, M.G.; ORLENKO, N.I.; SHTUKIN, L.S.; IYERUSALIMSKIY, A.M., dotsent, redaktor.

[Drafting in machine construction] Cherteshnoe khoziaistvo v mashinostroenii. Leningrad, Nauchno-tekhn. izd-vo mashinostroit. lit-ry [Leningradskoe otd-nie] 1953. 103 p. (MLRA 6:10)
(Machinery--Drawing) (Drawing-room practice)

L 06456-67 EWT(m)/EWP(j) IJP(c) GG/RM

ACC NR: AP6024546 (A) SOURCE CODE: UR/0089/66/021/001/0064/0066

AUTHOR: Berlyant, S. M.; Drozdov, V. Ye.; Finkel', E. E.; Orlenko, P. A.; Suroyegin, L. M.; Breger, A. Kh.; Karpov, V. L.; Zorin, V. A.

ORG: none

TITLE: Large-scale radiation cross linking of polyethylene insulation of cable products

SOURCE: Atomnaya energiya, v. 21, no. 1, 1966, 64-66

TOPIC TAGS: radiation chemistry, polyethylene, polymer cross linking, insulated wire, electric cable/ KP gamma ray apparatus

ABSTRACT: In view of the many advantages resulting from the use of irradiated thermally stabilized polyethylene as insulation in cables, the authors describe apparatus developed for the irradiation of such insulation, for use in geophysical cables for very deep well drilling (o.d. 6.5 mm, length ~9 km, weight ~380 kg, volume ~ 400 l), capable of withstanding temperatures up to 200C and pressures higher than 300 atm. The entire cable was wound on a drum and exposed to γ radiation from Co^{60} (total activity 180,000 g-equivalent of radium) from the KP-200 apparatus. Measures taken to ensure uniformity of the gamma radiation, which is an essential factor in the success of the operation, are described. The required dose was 140 Mrad (±10%). At a dose intensity of 63 r/sec and an irradiation time of 610 hr, the productivity of the apparatus was 0.7 kg/hr and the efficiency ~13%. The authors thank G. N. Lisov

UDC: 621.039.55: 541.15

Card 1/2

L 06456-67

ACC NR: AP6024546

for participating in the development of the apparatus, and M. Ye. Yeroshov, M. D. Larionov, L. K. Topil'skiy, Yu. D. Kozlov, and the late N. A. Kuznetsov for help with the experiments. Orig. art. has: 3 figures.

SUB CODE: 07, 20/ SUBM DATE: 16Oct65/ ORIG REF: 007

Card 2/2

ORLENKO, V. F.

Work of the polyclinic in the organization of medical service for workers. Zdrav. Belor. 5 no.1:39-41 Ja '59. (MIRA 12:7)

1. Glavnyy vrach tsentral'noy poliklinik, Gomel'.
(GOMEL--INDUSTRIAL MEDICINE)

BONDAR', Nikolay Gerasimovich, doktor tekhn. nauk, prof.; KAZEY, Igor' Ivanovich, kand. tekhn. nauk; [redacted], Bernard Falkovich, kand. tekhn. nauk; KOZ'MIN, Yuriy Georgiyevich, kand. tekhn. nauk, dots.; Prinimali uchastiye: TARASENKO, V.P., kand. tekhn. nauk; YAKOVLEV, G.N., kand. tekhn. nauk dots.; DOROSHENKO, Ye.V., kand. tekhn. nauk; NEVZOROV, I.N., inzh.; KONASHENKO, S.I., kand. tekhn. nauk, dots.; ORLENKO, V.P., inzh.; KHOKHLOV, A.A., kand. tekhn. nauk, dots.; ZELEVICH, P.M., kand. tekhn. nauk, red.

[Dynamics of railroad bridges] Dinamika zheleznc-dorozhnykh mostov. [By] N.G.Bondar' i dr. Moskva, Transport, 1965. 411 p. (MIRA 18:12)

SLYUSAREV, T.V.; ORLENKO, V.Ye.

Crops for a winter green fodder plan. Zhivotnovodstvo 23 no.7:55 Jl '61. (MIRA 16:2)

1. Direktor Dinskogo ptitsesovkhoza, Krasnodarskogo kraya (for Slyusarev). 2. Glavnyy agronom Dinskogo ptitsesovkhoza, Krasnodarskogo kraya (for Orlenko).
(Poultry--Feeding and feeds)

ORLENKO, Ye.G.

USSR/ Biology - Plant ecology

Card 1/1 Pub. 22 - 50/53

Authors : Orlenko, Ye. G.

Title : The characteristics of oak trees among thick bushes

Periodical : Dok. AN SSSR 102/4, 841-844, Jun 1, 1955

Abstract : Ecological data are presented regarding the behavior of oak trees growing among thick cultures of other tree types. Three USSR references (1949 and 1952). Tables.

Institution : Belorussian Sc. Res. Inst. of Forestry, Gomel'

Presented by : Academician V. N. Sukachev, February 3, 1955

ORLENKO, Ye.G.

Anatomical structure and physiological activity of the leaf apparatus in Quercus pedunculata as affected by illumination. Dokl.AN SSSR 106 no.3:555-557 Ja '56. (MLRA 9:6)

1.Belorusskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva,Gomel'. Predstavleno akademikom V.N.Sukachevym.
(Oak) (Leaves)

ORLENKO, Ye.G.

Cytological investigation of the green-barked and gray-barked aspen forms in the forests of White Russia. Sbor. nauch. rab. Bel. otd. VBO no.3:111-115 '61. (MIRA 14:12)
(White Russia--Aspen)

ORLENKO, Ye.G.

Valuable form of spruce (Picea excelsa var. acuminata Beck.) growing at the southern boundary of its range in the White Russian S.S.R. Dokl.AN BSSR 6 no.2:125-126 F '62. (MIRA 15:2)

1. Belorusskiy nauchno-issledovatel'skiy institut lesnogo khozyaystva, Gomel'. Predstavleno akademikom AN BSSR I.D. Yurkevichem.

(Brest Province—Spruce)

CHLENKO, Ye.G.

Selection of Norway spruce for breeding purposes depending on the branching type of the crown. Bot.; Izv.Bel.otd.VBO no.7:138-142 '65. (MIRA 19:1)

VORONOV, P.S.; KLIMOV, L.V.; ORLENKO, Ye.M.

Geological structure of Mount Brown. Trudy NIIGA 113:98-122 '60.
(MIRA 14:5)
(Brown, Mount, Antarctica—Petrology)

SLOBOLSKOY, A.L., professor; GLANTS, R.M., starchiy nauchnyy sotrudnik; BRUSNITSYNA, M.P.; VERBITSKIY, V.P.; ORLENKO, Yu.M., direktor; OVSIYENKO, I.I., dotsent, direktor.

Certain data on the role of the cerebral cortex in the pathogenesis of reactions which occur following transfusion of different-type blood. Vest. khir. 73 no.4:9-13 Jl-Ag '53. (MLdA 6:8)

1. Ukrainskiy nauchno-issledovatel'skiy institut perelivaniya krovi (for Orlenko). 2. Ukrainskiy institut usovershenstvovaniya vrachey (for Ovsiyenko). (Blood--Transfusion) (Brain)

KRAINSKAYA-IGNATOVA, V.N., professor; ORLENKO, Yu.M., starshiy nauchnyy sotrudnik; CHERNENKO, M.I., starshiy nauchnyy sotrudnik

Cross reaction to individual blood compatibility and its role in the detection of isosensitixation of the recipient. Vop.perel.krovi 4:89-96 '55. (MLRA 9:12)
(BLOOD--TRANSFUSION)

[redacted], starshiy nauchnyy sotrudnik (Khar'kov, ul. Basseynaya, d. 6/8, kv. 15)

Experimental and clinical use of chloride plasma in acute intestinal obstruction. Nov.khir.arkh. no.2:7-11 Mr-Ap '57. (MLRA 10:8)

1. Ukrainskiy nauchno-issledovatel'skiy institut perelivaniya krovi i neotlozhnoy khirurgii
(INTESTINES--OBSTRUCTION) (BLOOD PLASMA SUBSTITUTES)

X

ORLENKO, Yu.M., starshiy nauchnyy sotrudnik

New compound "Chloride plasma" and its use in several diseases requiring surgery. Vop.perel.krovi 4:192-212 '55. (MLRA 9:12)
(BLOOD PLASMA SUBSTITUTES)

ORLENKO, Yu.M., starshiy nauchnyysotrudnik; KOZYR', P.T., kandidat biologicheskikh nauk

Role of "midget ampules" for the bacteriological control of stored blood and its components at various stages of preservation. Vop. perel.krovi 4:231-241 '55. (MLRA 9:12)

(BLOOD—COLLECTION AND PRESERVATION)
(LABORATORIES—INSTRUMENTS AND APPARATUS)

ARLOZOROV, Z.G., starshiy nauchnyy sotrudnik; ORLENKO, Yu.M., starshiy nauchnyy sotrudnik; LEKAREV, S.A., vrach

New method of preparing serum from the blood of donors with conservation of the globular mass for transfusions. Vop.perel.krovi 4:259-255 '55. (MLRA 9:12)

(SERUM) (COLLECTION AND PRESERVATION)

2695. A TRIAL OF CHLORIDE-PLASMA IN ACUTE INTESTINAL OBSTRUCTION. A CLINICAL AND EXPERIMENTAL STUDY (Russian text) - Orlenko Yu. M. - NOV. KHIR. ARKH. 1957, 2 (7-11)

Two preparations of chloride-containing plasma no. 1 and no. 2, both containing extra proteins in plasma, were suggested by the author in 1949. I. v. administration of the preparation increases the blood concentration of chlorides and rapidly abolishes hypoproteinaemia and hypochloraemia. Experimental results were favourable and clinical use (475 transfusions to 275 patients) showed that the preparation accelerates disappearance of toxaemia while the increase of blood chlorides is maintained for 6-10 days. (S)

ORLENKO, Yu.M., dotsent

Use of chloride-treated plasma in acute intestinal obstruction in experimental and clinical conditions. Probl.gemat. i perel.krovi 2 no.3:38-41 My-Je '57. (MLRA 10:8)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta perelivaniya krovi i neotlozhnoy khirurgii

(INTESTINAL OBSTRUCTION, therapy,
blood plasma with chlorides in exper. & clin. cases (Rus))
(BLOOD TRANSFUSION, in various diseases,
intestinal obstruct., chloride-treated plasma in exper. & clin. cases (Rus))
(CHLORIDES,
blood plasma treated with chlorides in ther. of exper. & clin. intestinal obstruct. (Rus))

ORLENKO, Yu.M.

"Current problems in hematology and blood transfusion." Probl.gemat. i perel.krovi 3 no.4:56-57 Jl-Ag'58 (MIRA 11:8)
(BLOOD)

ORLENKO, Yu. M., Doc Med Sci -- (diss) "Chloride plasma and its application in complex therapy of acute blockage of the intestines. (Experimental-clinical research)." Khar'kov, 1960. 19 pp; (Khar'kov State Medical Inst); 250 copies; price not given; (KL, 17-60, 166)

ORLENKO, Yu.M., doktor med.nauk; BRUSNITSYNA, M.P.; BIRYUKOVA, S.N.

Immediate and late results of different surgical interventions for perforating ulcers of the stomach and duodenum. Khirurgiia no.3:47-51 '62. (MIRA 15:3)

1. Iz Ukrainskogo instituta perelivaniya krovi i neotlozhnoy khirurgii i kafedry obshchey khirurgii Khar'kovskogo meditsinskogo instituta.
(PEPTIC ULCER) (STOMACH—SURGERY) (DUODENUM—SURGERY)

ORLENKO, Yu. M., doktor med. nauk (Khar'kov, ul. Petrovskogo, d. 6/8, kv. 15)

Perforating ulcers of the stomach and duodenum in elderly and senile subjects. Vest. khir. no.4:12-15 '62. (MIRA 15:4)

1. Iz kliniki obshchey khirurgii Khar'kovskogo meditsinskogo instituta (rektor - dotsent B. A. Zadoroshnyy).

(PEPTIC ULCER)

ORLENKO, Yu.M., doktor med. nauk (Khar'kov, ul. Petrovskogo, d.6/8, kv.15); PRUMAN, Yu.Ya.

Acute cholecystitis in aged and senile persons. Vest. khir. 89 no.10: 125-127 O '62. (MIRA 17:10)

1. Iz kliniki obshchey khirurgii (zav. - doktor med. nauk Yu.M. Orlenko) lechebnogo fakul'teta Khar'kovskogo meditsinskogo instituta (rektor - dotsent B.A. Zadorozhnyy) na baze 11-y Khar'kovskoy gorodskoy klinicheskoy bol'nitsy (glavnyy vrach - Ye.D. Guzhel).

ORLENKOV, Ye. K.
Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow 1956

ORLENKOV, Ye. K.:— "The effect of the quality of weld penetration on the strength and plasticity of butt joints in automatic flux welding." Min Higher Education USSR. Moscow Order of Lenin and Order of Labor Red Banner Higher Technical School imeni Bauman. Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences)

SO: Knizhnaya Letopis', No. 2 , 1956

137-58-3-5198

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 106 (USSR)

AUTHOR: Orlenkov, Ye. K.

TITLE: Vibration Strength of Welded Butt Joints with Defects Due to Non-fusion (Vibratsionnaya prochnost' svarnykh stykovykh soyedineniy s neprovarom)

PERIODICAL: V sb.: Prochnost' i avtomatizatsiya svarki (MVTU, 71), Mashgiz, 1957, pp 39-45

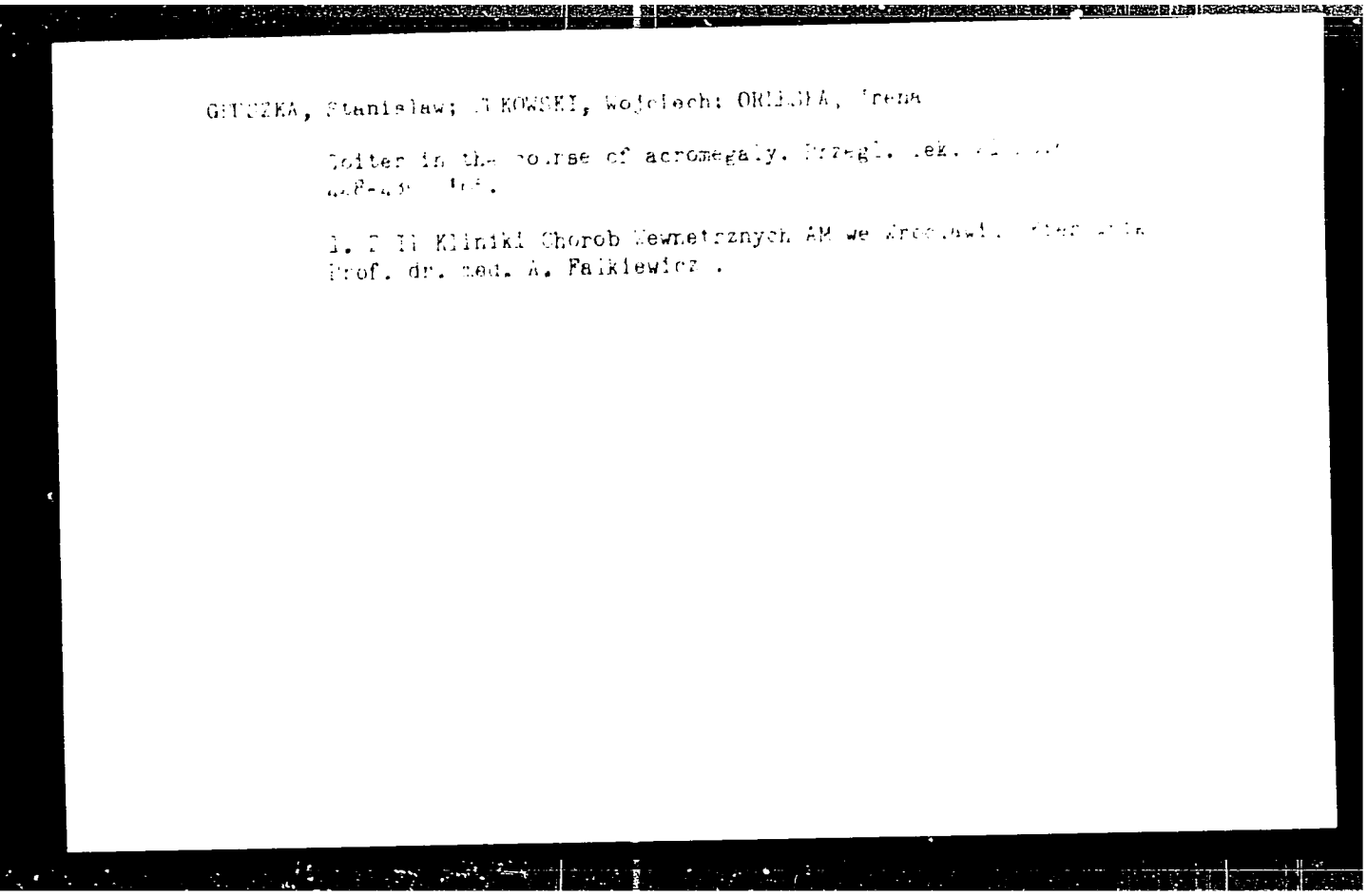
ABSTRACT: The σ_w of butt joints of low-carbon steel welded on both sides and containing flaws caused by various degrees of incomplete penetration was compared with the σ_w of identical, but defect-free joints. A limited σ_w was determined for each series of specimens on the basis of 2×10^6 cycles with alternating tension and pure bending alternating in sense. It is shown that under both types of vibrational loading a welded seam obtained by automatic two-sided welding with flux exhibits greater strength than the parent metal. In all specimens exhibiting complete penetration and free of other defects of the seam, the rupture occurred in the parent metal far from the welded region. Under a pure bending load the presence of up to 25 percent of

Card 1/2

Vibration Strength of Welded Butt Joints (cont.)

incomplete penetration has no effect whatsoever on the vibrational strength of the weld. At 40 percent incomplete penetration the σ_w of the welded joint is 7 percent lower than that of the parent metal. A considerable decrease in σ_w (29 percent) was observed at approximately 50 percent of incomplete penetration. Under a tensile load, incomplete penetration in welded butt joints sharply reduces their σ_w. Even the presence of 5-6 percent of incomplete penetration results in a 30 percent decrease in σ_w. Not unlike a sharp notch, the effect of stress concentrations created by incomplete penetration is more pronounced at low stresses which approach the σ_w. Parent metal with transverse fibers exhibits a σ_w which is 14 percent lower than that of a metal with longitudinal fibers.

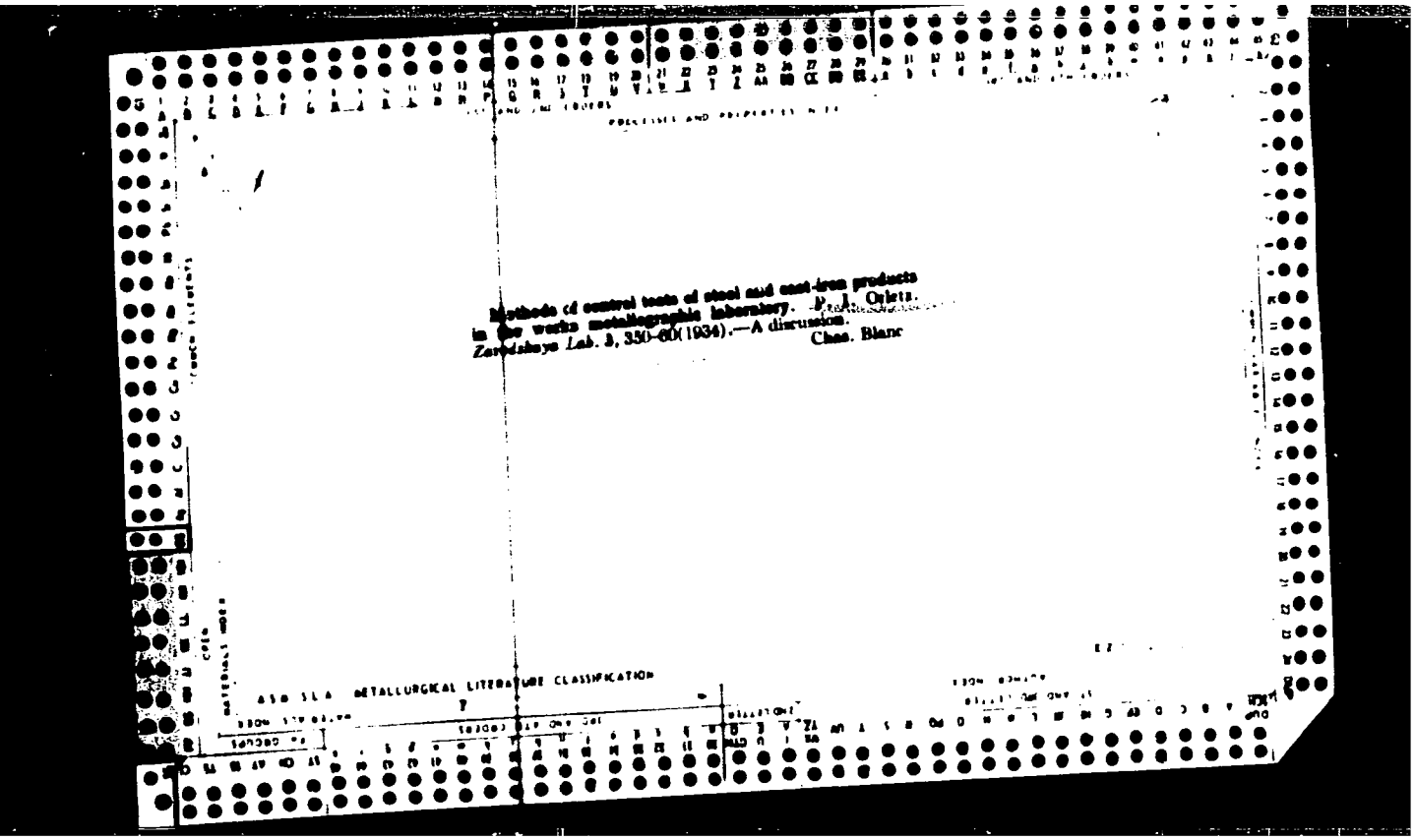
N. T.



GRUSZKA, Stanislaw; JANKOWSKI, Wojciech; ORLICKA, Irena

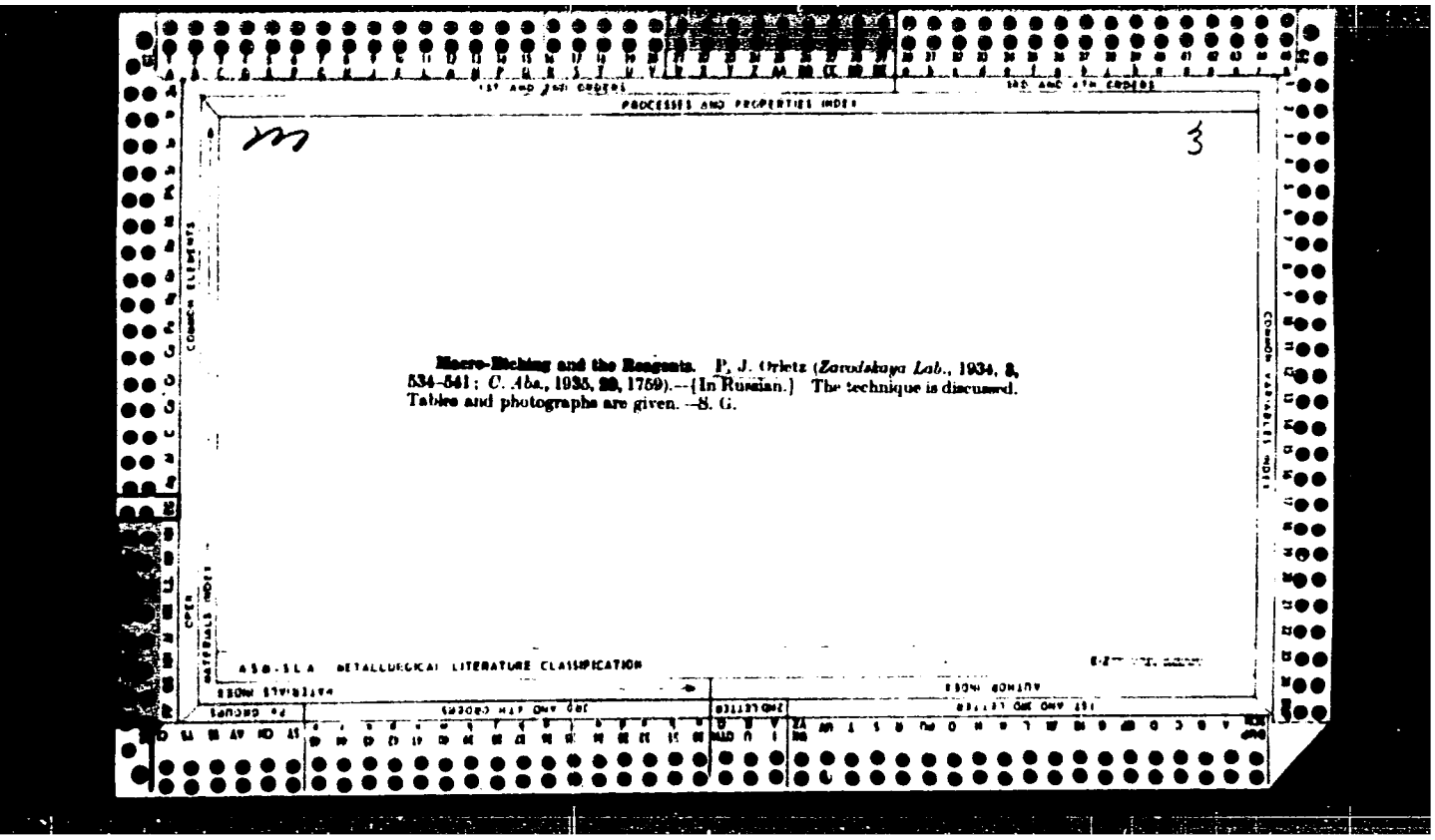
Goiter in the course of acromegaly. Przegl. lek. [illegible]

1. Z II Kliniki Chorob Wewnetrznych AM we Wroclawie. [illegible]
Prof. dr. med. A. Falkiewicz .

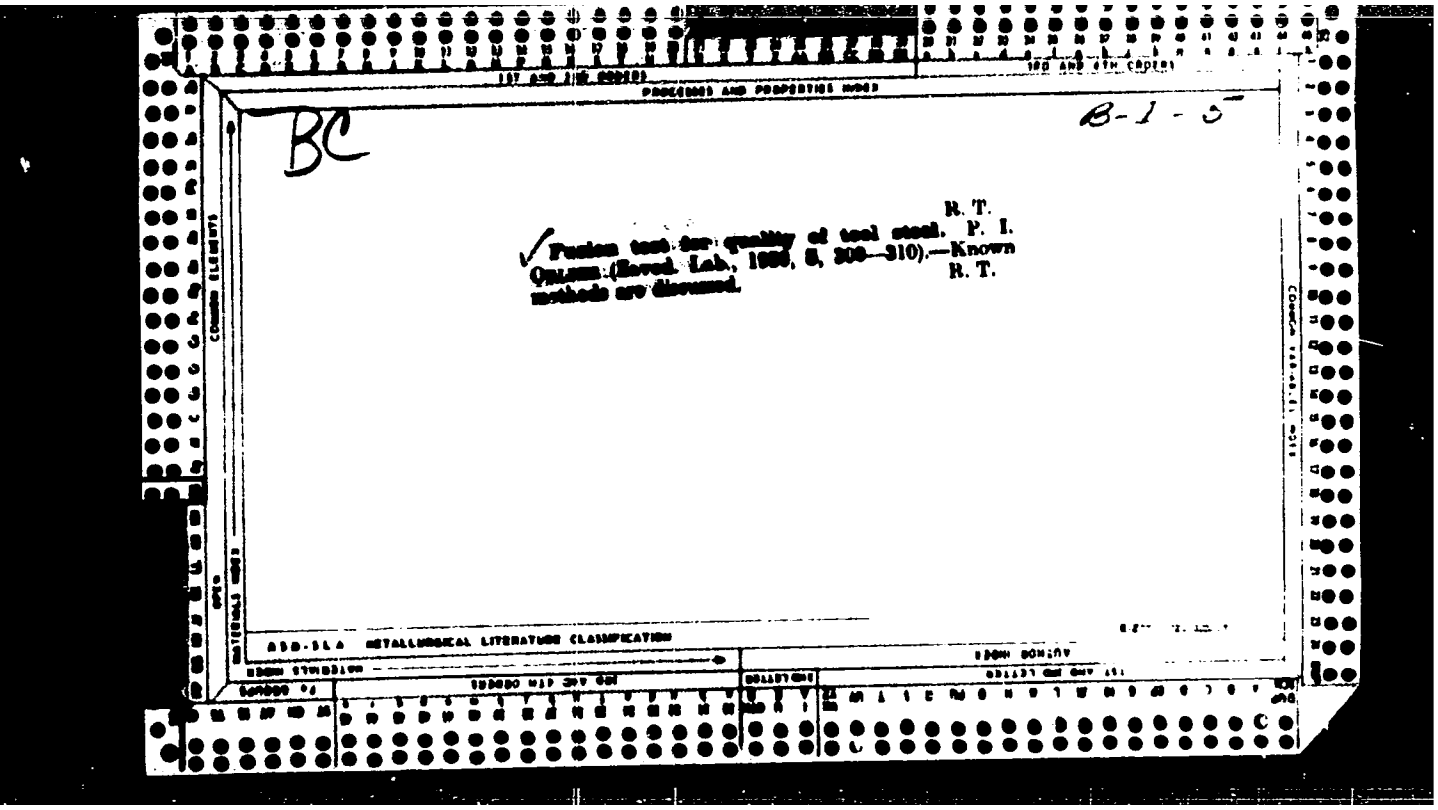


Methods of control tests of steel and cast-iron products in the works metallographic laboratory. N. I. Orlets.
Zavodskaya Lab. 3, 350-60(1934).—A discussion.
Chas. Blanc

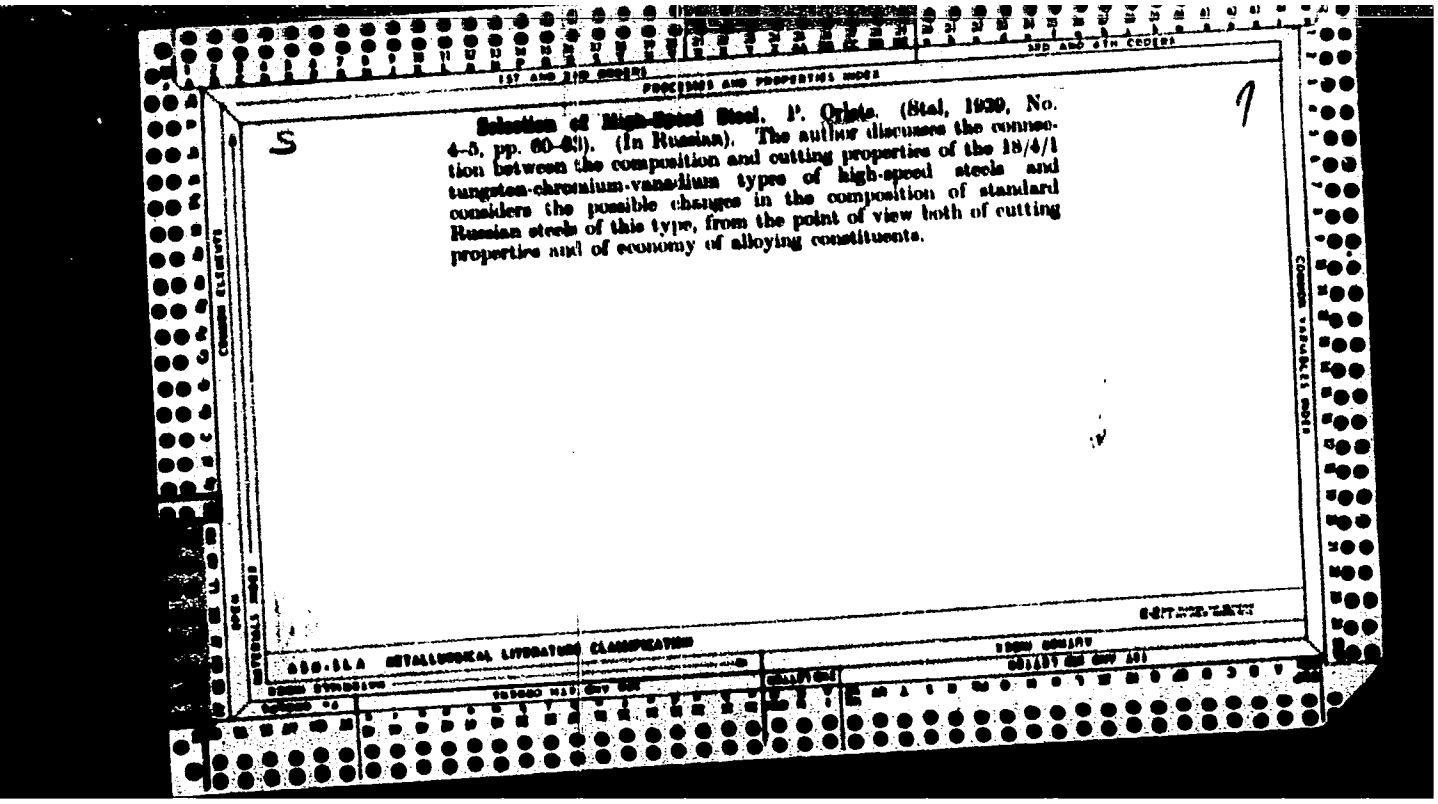
ASB SLA METALLURGICAL LITERATURE CLASSIFICATION



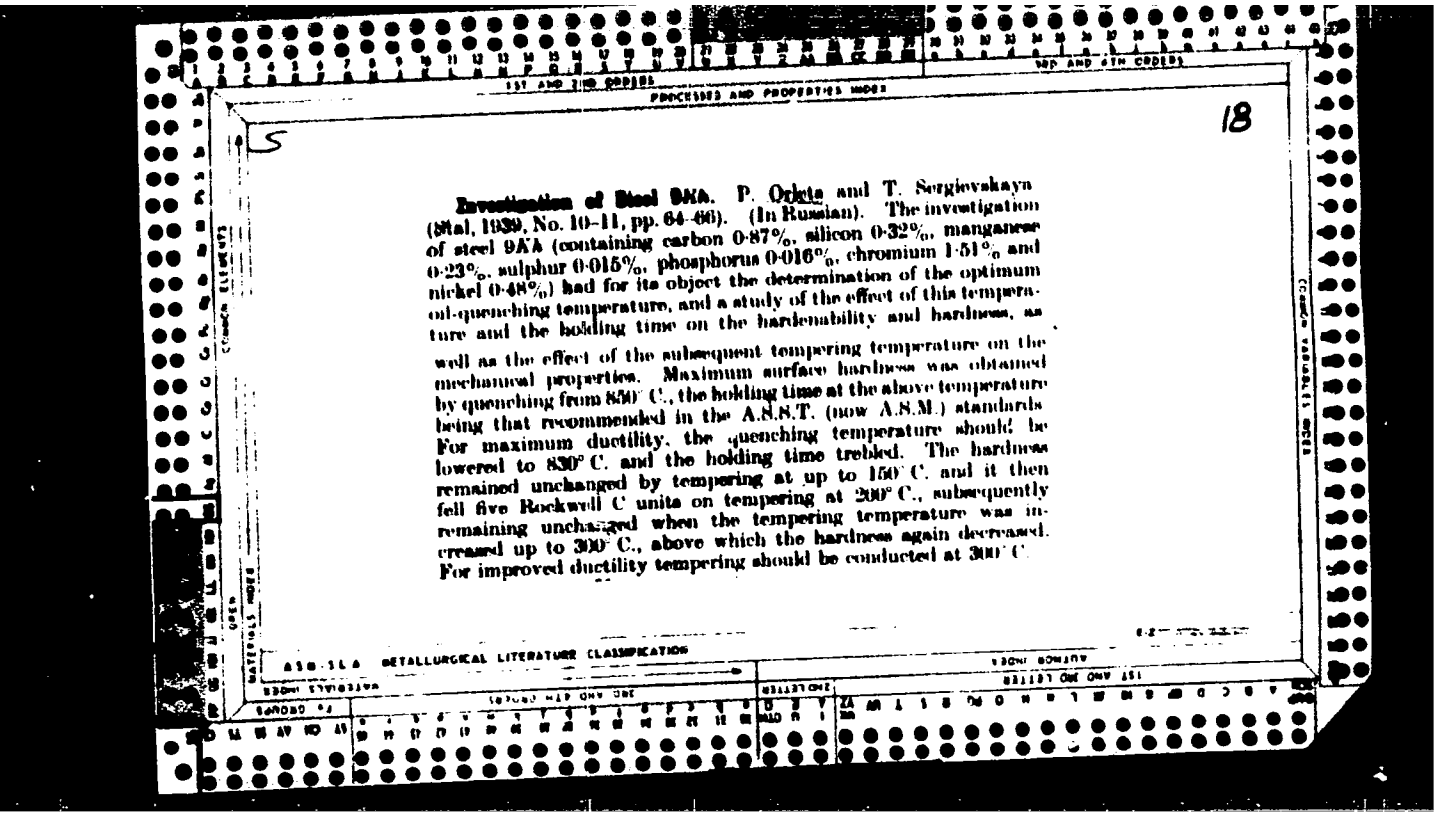
Micro-Etching and the Reagents. P. J. Ortietz (*Zavodskaya Lab.*, 1934, **3**, 534–541; *C. Abs.*, 1935, **29**, 1769).—(In Russian.) The technique is discussed. Tables and photographs are given.—S. G.



Fusion test for quality of tool steel. Oelsen. (Stevel. Lab., 1936, 6, 309—310).—
methods are discussed.

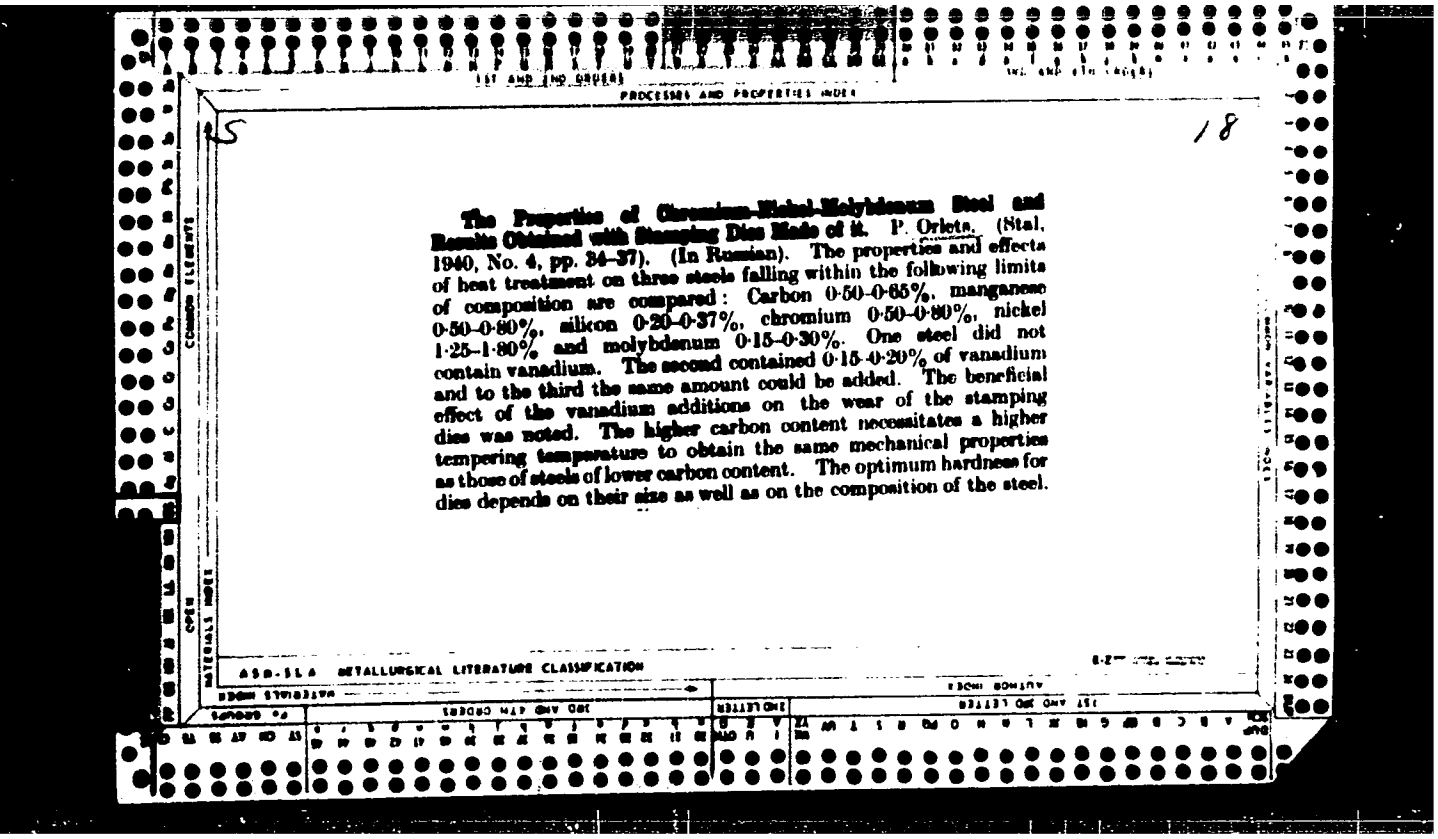


Selection of High-Speed Steel. P. Oriate. (Stal, 1939, No. 4–5, pp. 60–63). (In Russian). The author discusses the connection between the composition and cutting properties of the 18/4/1 tungsten-chromium-vanadium types of high-speed steels and considers the possible changes in the composition of standard Russian steels of this type, from the point of view both of cutting properties and of economy of alloying constituents.



18

Investigation of Steel 9XA. P. Orkin and T. Sergievskaya (Stal, 1939, No. 10–11, pp. 64–66). (In Russian). The investigation of steel 9XA (containing carbon 0·87%, silicon 0·32%, manganese 0·23%, sulphur 0·015%, phosphorus 0·016%, chromium 1·51% and nickel 0·48%) had for its object the determination of the optimum oil-quenching temperature, and a study of the effect of this temperature and the holding time on the hardenability and hardness, as well as the effect of the subsequent tempering temperature on the mechanical properties. Maximum surface hardness was obtained by quenching from 850° C., the holding time at the above temperature being that recommended in the A.S.S.T. (now A.S.M.) standards. For maximum ductility, the quenching temperature should be lowered to 830° C. and the holding time trebled. The hardness remained unchanged by tempering at up to 150° C. and it then fell five Rockwell C units on tempering at 200° C., subsequently remaining unchanged when the tempering temperature was increased up to 300° C., above which the hardness again decreased. For improved ductility tempering should be conducted at 300° C.



PROCESSES AND PROPERTIES INDEX

S

18

The Properties of Chromium-Nickel-Molybdenum Steel and Results Obtained with Stamping Dies Made of It. P. Orlets. (Stal, 1940, No. 4, pp. 34–37). (In Russian). The properties and effects of heat treatment on three steels falling within the following limits of composition are compared: Carbon 0·50–0·65%, manganese 0·50–0·80%, silicon 0·20–0·37%, chromium 0·50–0·80%, nickel 1·25–1·80% and molybdenum 0·15–0·30%. One steel did not contain vanadium. The second contained 0·15–0·20% of vanadium and to the third the same amount could be added. The beneficial effect of the vanadium additions on the wear of the stamping dies was noted. The higher carbon content necessitates a higher tempering temperature to obtain the same mechanical properties as those of steels of lower carbon content. The optimum hardness for dies depends on their size as well as on the composition of the steel.

ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION

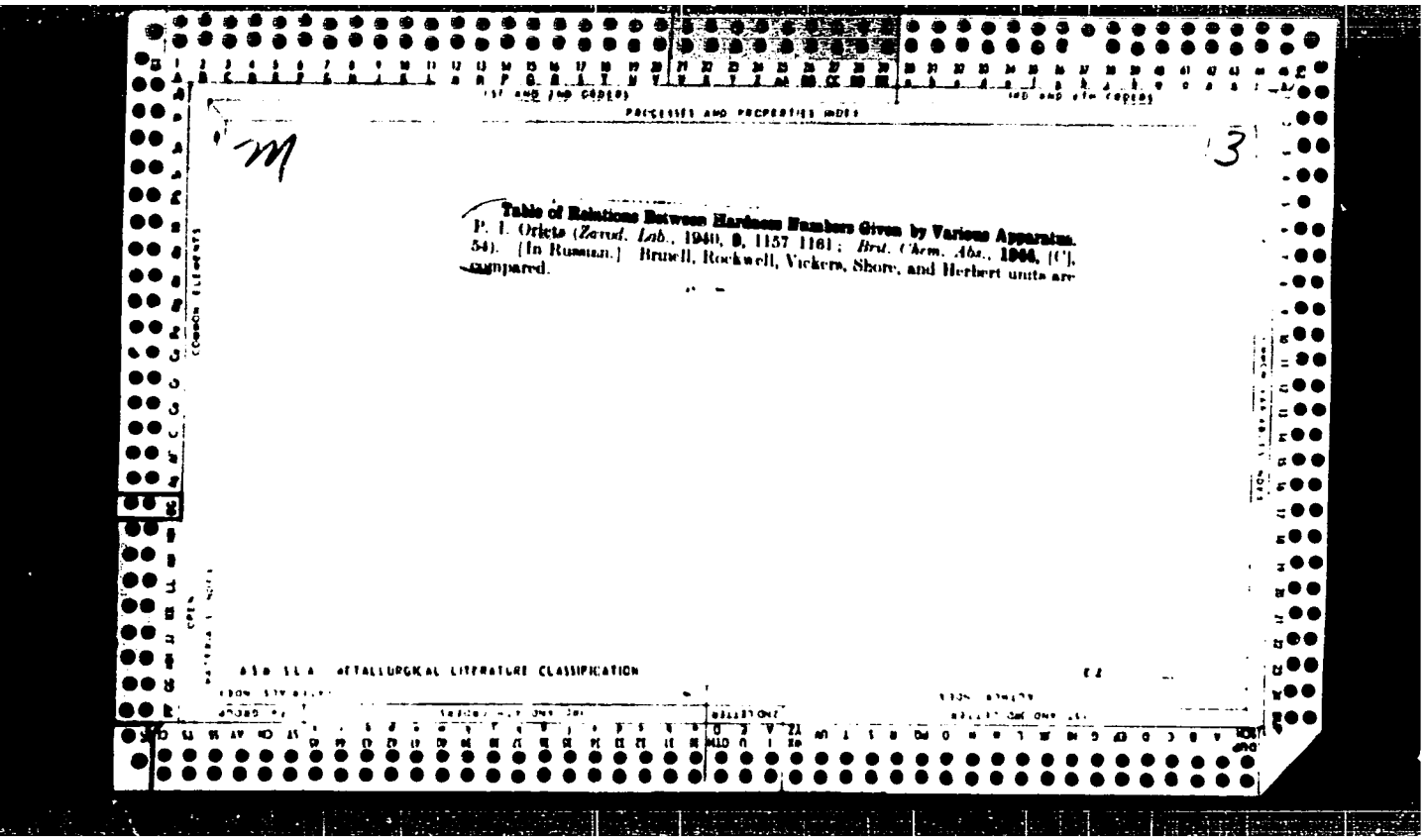


Table of Relations Between Hardness Numbers Given by Various Apparatus.
P. I. Orlets (*Zavod. Lab.*, 1940, **9**, 1157–1161; *Brit. Chem. Abs.*, **1944**, (C), 54). [In Russian.] Brunell, Rockwell, Vickers, Shore, and Herbert units are compared.

MARGOLIN, G.I., inzhener; DROZDOVSKIY, B.A., inzhener; ORLETS, P.I., inzhener.

Junction lines in shaped steel castings. Stal' 7 no.1:58-62 '47. (MLRA 9:1)

1.Kirovskiy zavod.
(Steel castings)

L 17666-66

ACC NR: AP6009378 SOURCE CODE: HU/0012/65/013/001/0003/0006

AUTHOR: Mandi, Andor (Doctor; Doctor of technical sciences; Specialist); Orley, Denes--Yerley, D. (Specialist); Borka, Jozsef--Borka, Y. (Staff scientist)

17
B

ORG: none

TITLE: Basic problems in designing autodynes

SOURCE: Meres es automatika, v. 13, no. 1, 1965, 3-6

TOPIC TAGS: radio receiver, radio equipment

ABSTRACT: Some considerations involved in the designing of autodynes were discussed based on the authors' experience in this field. Formulas were derived for the calculation of the maximum output of direct-current units, single-armature converters, and autodynes proper. Other design considerations discussed include the number of poles for the desired output, the number of phases, and the tension ratio. Some specific parameters for various output ranges in the medium-output class were presented. Orig. art. has: 3 figures, 17 formulas, and 2 tables. [JPRS]

SUB CODE: 09 / SUBM DATE: 22Oct64 / ORIG REF: 002 / OTH REF: 003

FW

Card 1/1 UDC: 621.313.236

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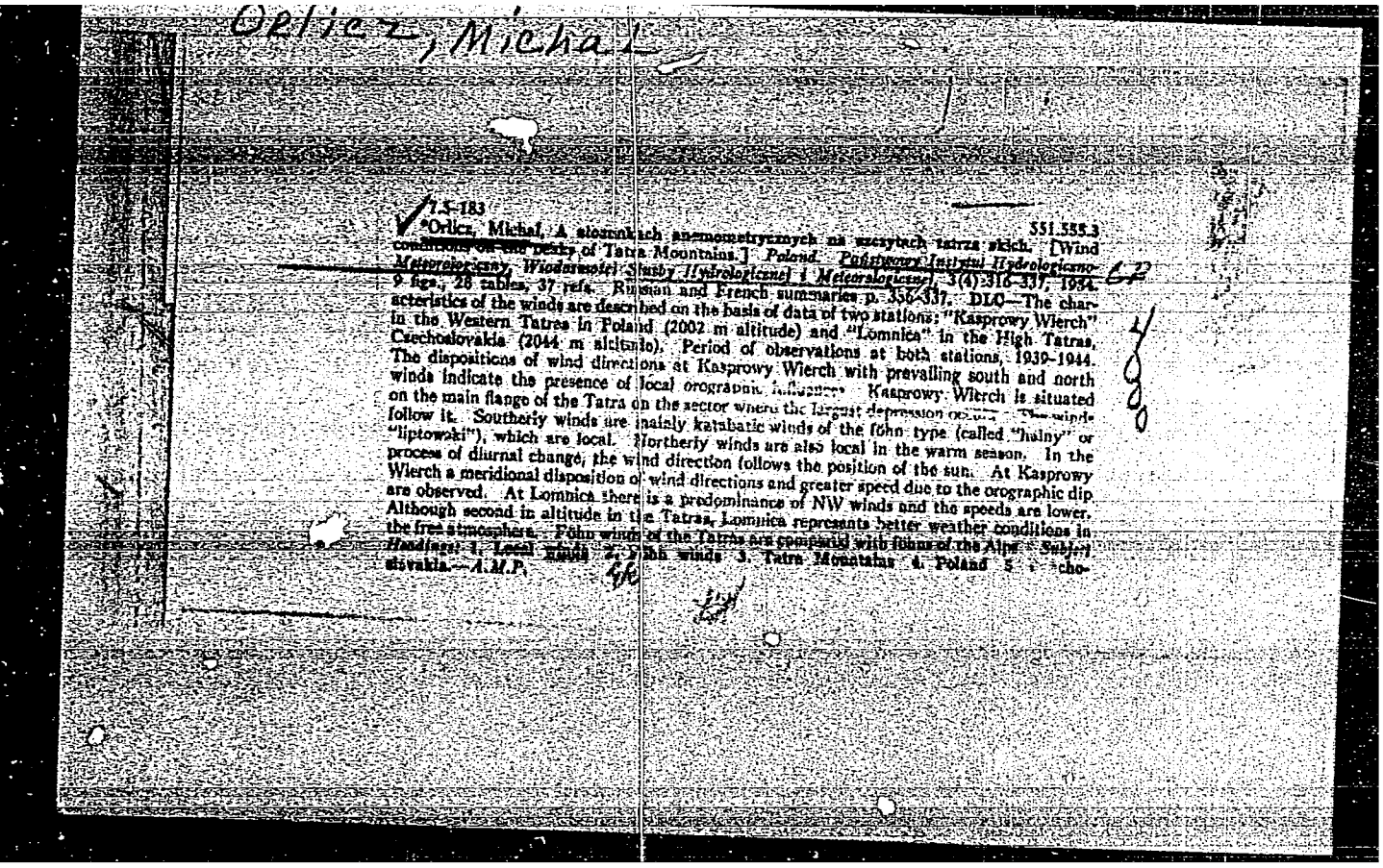

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✓Orlicz, Michał, A stosunkach anemometrycznych na wszystych tatrza skich. [Wind conditions on the peaks of Tatra Mountains.] *Poland. Państwowy Instytut Hydrologiczno-Meteorologiczny, Wiadomości: Służby Hydrologiczne i Meteorologiczne*, 3(4):316-337, 1934. 9 figs., 28 tables, 37 refs. Russian and French summaries p. 336-337. DLC—The characteristics of the winds are described on the basis of data of two stations: "Kasprowy Wierch" in the Western Tatras in Poland (2002 m altitude) and "Lomnica" in the High Tatras, Czechoslovakia (2044 m altitude). Period of observations at both stations, 1939-1944. The dispositions of wind directions at Kasprowy Wierch with prevailing south and north winds indicate the presence of local orographic influences. Kasprowy Wierch is situated on the main flange of the Tatra on the sector where the largest depression occurs. The winds follow it. Southerly winds are mainly katabatic winds of the föhn type (called "halny" or "liptowski"), which are local. Northerly winds are also local in the warm season. In the process of diurnal change, the wind direction follows the position of the sun. At Kasprowy Wierch a meridional disposition of wind directions and greater speed due to the orographic dip are observed. At Lomnica there is a predominance of NW winds and the speeds are lower. Although second in altitude in the Tatras, Lomnica represents better weather conditions in the free atmosphere. Föhn winds of the Tatras are compared with föhns of the Alps. Subj.: Handings: 1. Local winds 2. Föhn winds 3. Tatra Mountains 4. Poland 5. Czechoslovakia.—*A.M.P.*

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