

SMELYANSKIY, Z.B.; ULANOVA, I.P. (Moskva)

New standards for permissible limits on the amount of toxic gases,  
vapors and dust in the air of working areas. Gig.truda i prof.zab.  
3 no.5:7-15 S-0 '59. (MIRA 13:2)

1. Tsentral'nyy institut usovershenstvovaniya vrachey.  
(INDUSTRIAL HYGIENE--LAW AND LEGISLATION)  
(AIR--POLLUTION)

ULANOVA, I.P.: YANOVSKAYA, B.I.

Effect of chlorinated hydrocarbons on the ascorbic acid content of internal organs in white rats. Report No.2: Effect of methylene chloride. *Biul.eksp.biol. i med.* 48 no.7:54-57 J1 '59. (MIRA 12:16)

1. Iz gruppy deystvitel'nogo chlena AMN SSSR B.A.Lavrova i laboratorii proizvodstvennykh issledovaniy (zav. - prof. S.B. Smelyanskiy) Instituta gigiyeny truda i profzabolevaniy (dir. - deystvitel'nyy chlen AMN SSSR A.A.Letavet) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR B.A.Lavrovym.  
(VITAMIN C - metabolism)  
(METHYL CHLORIDE - pharmacology)

ULANOVA, I.P.; GARKAVI, P.G.

Toxicological and biochemical studies of chlorinated hydrocarbons (tetrachloropropane, tetrachloropentane and tetrachloroheptane). Toks. nov. prom. khim. veshch. no.1:11-29'61.  
(MIRA 16:8)

(CHLORINE ORGANIC COMPOUNDS —TOXICOLOGY)

ULANOVA, I.P.; GARKAVI, P.G.; SAMOYLOVA, L.M.

Toxicological characteristics of chloroanthic acid. Toks.  
nov. prom. khim. veshch. no.1:29-35'61 (MIRA 16:8)  
(HEPTANOIC ACID—TOXICOLOGY)

TOIGSKAYA, M.S.; STASENKOVA, K.P.; ULANOVA, I.P.

Changes in the axodendritic interneuronal connections of the cerebral cortex and the disorders of higher nervous activity in animals intoxicated with methylene chloride and dimethylformamide. Toks. nov. prom. khim. veshch. no.1:72-80'61.

(MIRA 16:8)

(METHANE—TOXICOLOGY) (CEREBRAL CORTEX)  
(FORMAMIDE—TOXICOLOGY)

ULANOVA, I.P.

Toxicological characteristics of methylene chloride. Toks. nov.  
prom. khin. veshch. no.1:96-113'61 (MIRA 16:8)  
(METHANE—TOXICOLOGY)

ULANOVA, I.P.; SAMOYLOVA, L.M.; AVILOVA, G.G.

Materials on the toxicological characteristics of tetrachloroundecane.  
Toks. nov. prom. khim. veshch. no.5:80-89 '63. (MIRA 17:9)

ULANOVA, I.P.; SAMOYLOVA, L.M.; KARANZINA, N.M.; AVILOVA, G.G.

Toxicology of chloropelargonic acid condensation aerosols.  
Toks. nov. prom. khim. veshch. no.5:89-100 '63. (MIRA 17:9)



GARKAVI, P.G.; ULANOVA, I.P.

Inclusion of tagged amino acids in tissue proteins under the  
acute and chronic action of tetrachloroalkanes. Toks. nov. prom.  
khim. veshch. no.5:100-107 '63. (MIRA 17:9)

SANOTSKIY, I.V.; ULANOVA, I.P.; SIFINSKAYA, N.I.

Combined action of ozone and ionizing radiation. Toks. sov. proz.  
khim. veshch. no.6:116-128 '64. (MIRA 1964)

TOLJUBANOV, A.F.; GRIGOR'YEVA, V.D.; MUKHINA, A.I.; YUDOLOVICH, V.V.;  
ULANOVA, K.M.; DAMBIT, N.P.; GREBENSCHIKOV, P.A., red.;  
YABLCKOVA, G.I., red.izd-va; YUPAYEV, Kh., tekhn.red.

[Forty years of the Chechen-Ingush A.S.S.R.; statistics]  
Checheno-Ingushskaya ASSR za 40 let; statisticheskiy sbornik.  
Groznyi, Checheno-Ingushskoe knizhnoe izd-vo, 1960. 184 p.  
(MIRA 13:10)

1. Chechen-Ingush A.S.S.R. Statisticheskoye upravleniye.
2. Nachal'nik Statisticheskogo upravleniya Checheno-Ingushskoy ASSR (for Grebenshchikov).  
(Chechen-Ingush A.S.S.R.--Statistics)

OPARIN, A.I., akademik; SFUDITSKIY, A.N., prof.; NAUMOV, N.P.,  
prof.; KOVAL'SKIY, V.V.; YUROVA, I.L., dots.; PLATONOV, G.V.,  
prof.; KAGANOV, V.M.; FURMAN, A.Ye., dots.; MEDVEDEV,  
N.V., prof.; YAKIMOV, V.P., kand. biol. nauk;  
ZHUKOV-VEREZHNIKOV, N.N.; BONDARENKO, P.P., prof.;  
MAYSKIY, I.N., prof.; TRIBULEV, G.P., dots.;  
TSAREGORODTSEV, G.I., dots.; DOBROKHVALOV, V.P., kand.  
biol. nauk; YAZDOVSKIY, V.I., prof.; VIKTOROVA, V., red.;  
CHEREMNYKH, I., mlad. red.; ULANOVA, L., tekhn.red.

[Studies on the dialectic of living nature] Ocherk dia-  
lektiki zhivoi prirody. Moskva, Sotsekgiz, 1963. 527 p.  
(MIRA 16:12)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokho-  
zyaystvennykh nauk imeni V.I.Lenina (for Koval'skiy).
2. Deystvitel'nyy chlen AMN SSSR (for Zhukov-Verezhnikov).  
(Biology--Philosophy)

L 47117-66 EWT(1) GW

ACC NR: AR6019879 SOURCE CODE: UR/0169/66/000/002/B039/B040

AUTHOR: Burman, E. A.; Zorina, Z. I.; Ulanova, L. V.

8  
6

TITLE: Possibility of objectively estimating favorable conditions for breeze development

SOURCE: Ref. zh. Geofizika, Abs. 2B267

REF SOURCE: Meteorol. klimatol. i gidrol. Mezhved. nauchn. sb., vyp. 1, 1965, 8-11

TOPIC TAGS: breeze, land temperature, sea temperature, breeze development

ABSTRACT: The maximum contrast between land and sea temperatures  $\Delta T_{max}$  is determined as the characteristic of breeze-development conditions at the moment  $t = \tau$ , from the equations of daily variation of land and sea surface-layer temperatures: where index 1 is referred to as

$$\Delta T_{max} = \frac{1}{\rho_1 c_1 z_1} \int_0^{\tau} (R_1 - P_1 - LE_1) dt.$$

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UDC: 551.553.11

L 47117-66

ACC NR: AR6019879

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the land characteristics,  $\tau$  is time,  $\rho$  is density,  $c$  is specific heat,  $z$  is the propagation depth of temperature fluctuation,  $R$  is the value of the radiative balance of the underlying surface,  $P$  is the turbulent influx of heat, and  $LE$  is the heat consumption in evaporation. The physical meaning of this equation permits an assumption that the value of temperature amplitude represents the characteristic of breeze-development conditions (the maximum difference between land and sea temperatures is equal to the maximum excess of soil temperature over its mean values, i. e., it is equal to the amplitude). The existing correlation graphs of these characteristics confirm this. Besides,  $\Delta T_{\max}$  is proportionate to total radiation  $S_{\tau}$ . To account for the wind effect due to other causes, the authors deem it advisable to introduce the dimensionless characteristic  $K = \frac{S_{\tau}}{\rho C_p \tau U}$ ,

which reflects the effect of both factors, where  $U$  is the total transfer. This characteristic calculated on the basis of averaged data over several years agrees well with the average frequency of breezes. L. Volokitina. [Translation of abstract] [DW]

SUB CODE: 04/

S  
Card 2/2

RAPOPORT, I.B.; ULANOVA, M.F.

Composition of high-molecular carbonyl compounds (ketones) obtained by the synthesis from CO and H<sub>2</sub> on an iron-copper catalyst. Neftekhimia 1 no.3:392-396 My-Je '61.

(MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.

ULANOVA, M.F.; RAPOPORT, I.B.; POLYAKOVA, A.A.; ITSIKSON, T.M.

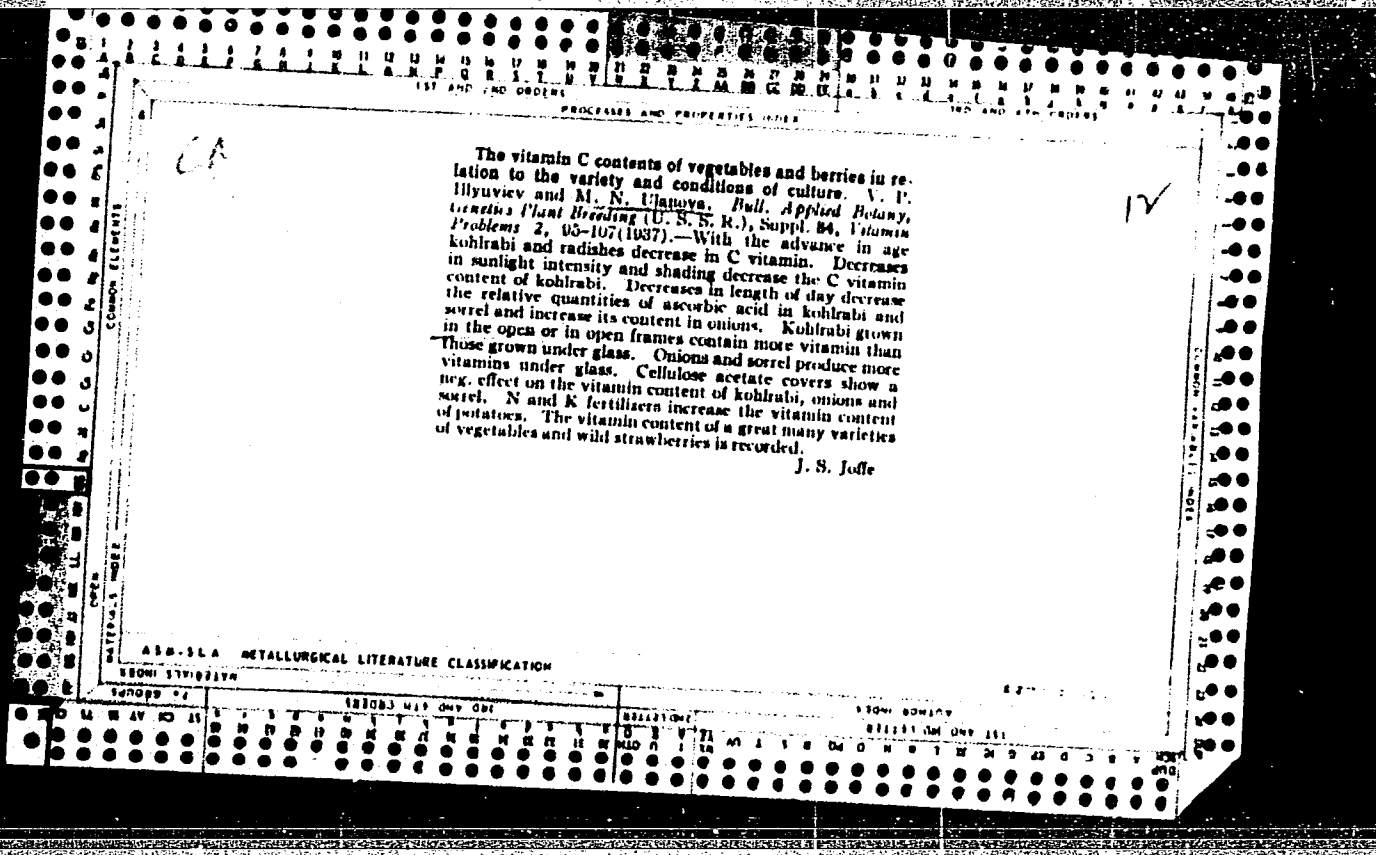
Composition of esters obtained in the synthesis from Co and H<sub>2</sub> on  
an iron-copper catalyst. Neftekhimiia 1 no.5:653-660 S-O '61.  
(MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke  
nefti i gaza i iskusstvennogo zhidkogo topliva.  
(Esters) (Carbon monoxide) (Hydrogen)



ULANOVA, M.F.; RAPOPORT, I.B.

Oxygen-containing compounds obtained in synthesis over  
an iron-copper catalyst. Trudy VNII NP no. 9:213-227  
'63. (MIRA 17:6)



1ST AND 2ND PAGES

PROCESSES AND PROPERTIES INDEX

12

OA

Stability of vitamin C in cooking potatoes. E. K. Kardo-Sysoeva and M. N. Ulagova. *Proc. Sci. Inst. Vitamin Research U. S. S. R.*, No. 1, 300-18(1941).  
 Factory-scale cooking of potatoes destroys 40-50% of their vitamin C (I) content; in making mashed potatoes the loss is about 80% (the mashing machine alone may destroy 75%). Long standing of finished products is also deleterious. To boil potatoes without loss of I they must be put in cold water and heated to boiling. Even part of the highly thermostable dehydroascorbic acid (II) is then retained, and I content may even increase after cooking, by reduction of II. Water is needed to retain I in potatoes; steaming or dry heat (150°) destroys about 40%. Stability of I is very low in potatoes taken from the water after cooking; mashing, and standing after mashing, are especially destructive. Rapid mashing in absence of any metal surface avoids most of the loss. J. F. Smith

1ST AND 2ND PAGES

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

GROUPS

1ST AND 2ND PAGES

PETROVA, E.A.; ULANOVA, N.A.

Chemical method of determining vitamin D in fats containing  
vitamins A and D. Vop. pit. 24 no. 6:57-62 N-D '65  
(MIRA 19:1)

1. Laboratoriya gosudarstvennogo vitaminologicheskogo kontrolya  
(zav. - kand. biologicheskikh nauk Ye.N. Stepanova) Nauchno-  
issledovatel'skogo instituta vitaminologii Ministerstva zdравo-  
okhraneniya SSSR, Moskva.

ULANOVA, N. S., Cand. Medic. Sci. (diss) "Condition of Trachia  
and Bronchial Tubes in Primary Tuberculosis in Children,"  
Moscow, 1961, 15 pp. (Acad. Med. Sci. USSR) 250 copies (KL  
Supp 12-61, 289).

ULANOVA, N.S., aspirant

Clinical characteristics of tuberculosis of the bronchi in  
primary tuberculosis in children. Probl.tub. 37 no.2:41-45  
'59. (MIRA 12:9)

1. Iz detskoy kliniki (zav. - prof.M.P.Pokhitonova) Instituta  
tuberkuleza AMN SSSR (dir. Z.A.Lebedeva).  
(TUBERCULOSIS, PULMONARY, in inf. & child  
bronchi (Rus))

ULANOVA, N.S.

Features of the course of primary tuberculosis in children  
with bronchial lesions. Probl.tub. 39 no.1:18-24 '61.

1. Iz detskoy kliniki (zav. - prof. M.P. Pokhitonova) (MIRA 14:1)  
tuberkuleza (dir. - prof. N.A. Shmelev) AMN SSSR. Instituta  
(TUBERCULOSIS)

ULANOVA, T.A.

DOVGARD, P.I.; KRUGMAN, K.I.; MALKES, P.S.; RODOVSKAYA, M.V.; ULANOVA, T.A.;  
KAMERON, A.A., redaktor; KANDYKIN, A.Ye., tekhnicheskiy redaktor.

[Soviet railroad literature published in 1954] Zhelesnodorozhnaya  
literatura SSSR, 1954. Moskva, Ges. transp.zhel-dor.isd-vo, 1956.  
314 p. (MLRA 9:6)

1.Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. TSen-  
tral'naya nauchno-tekhnicheskaya biblioteka. 2.Zamestitel' direktora  
TSentral'noy nauchno-tekhnicheskoy biblioteki Ministerstva putey  
soobshcheniya (for Kameron).

(Bibliography--Railroads)



ULANOVA, T.A., red.; SPANOVSKAYA, A.P., red.; KAMERON, A.A., red.;  
BOBROVA, Ye.N., tekhn.red.

[Soviet railroad literature of 1957] Zheleznodorozhnaya  
literatura SSSR, 1957. Moskva, Vses.izdatel'sko-poligr.  
ob"edinenie M-va putei soobshchenia, 1960. 293 p. (MIRA 13:8)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya.  
Tsentral'naya nauchno-tekhnicheskaya biblioteka.  
(Bibliography--Railroads)

Dissertation: "Agroclimatic Conditions in the Autumn Period of Development and Growth of Winter Crops in Western Siberia." Cand Geog Sci, Central Inst of Weather Forecasting, 11 May 54. Vechernyaya Moskva, Moscow, 3 May 54.

SO: SUM 284, 26 Nov 1954

ULANOVA, Ye.F.

Histochemical study of the fatty tissue of a silkworm under the effect chloramphenicol. TSitologiya. 6 no.3:376-379 My-Je '64.  
(MIRA 18:9)

1. Otdel virusov Instituta mikrobiologii AN SSSR, Moskva.

USSR/Farm Animals. Silkworm. Q

Abs Jour: Ref Zhur-Biol., No 17, 1958, 78875.

Author : Tarasevich, L. M.; Ulanova, Ye. F.

Inst :

Title : Antivirus Treatment of Silkworm Eggs of the Bombyx.

Orig Pub: Vestn. s.-kh. nauki, 1957, No 7, 129-132.

Abstract: The test in actual conditions of the method proposed by the authors of an anti-icteric disinfection of silkworm eggs of the bombyx (1-2 minutes with a 2% solution of NaOH, then 1 hour of washing with water and 15 minutes with a 0.01% solution of  $KMnO_4$ ) showed that such disinfection, used in spring or autumn (simultaneously with autumn washing), does not effect the animation of the silkworm eggs and leads to a significant decrease of caterpillar

Card : 1/2

TARASEVICH, L.M., ULANOVA, Ye.F.

Effect of some vitamins and antivitamins on the hemolymph of healthy silkworm caterpillars and caterpillars effected with yellows. [with summary in English] Izv. AN SSSR, Ser. biol. no.3:352-360 My-Je '58 (MIRA 11:6)

1. Institut mikrobiologii Akademii nauk SSSR, Moskva.  
(SILKWORMS--DISEASES AND PESTS)  
(VITAMINS)  
(ANTIVITAMINS)

TARASEVICH, L.M.; ULANOVA, Ye.F.

Mechanism of resistance of polyhedra. Vop. virus. 5 no. 6:715-720  
N-D '60. (MIRA 14:4)

1. Institut mikrobiologii AN SSSR, Moskva.  
(VIRUSES)

TARASEVICH, L.M.; ULANOVA, Ye.F.

Possible conversion of ribonucleic acid into deoxyribonucleic acid during the multiplication of the silkworm grasserie virus.  
TSitologiya 3 no.3:334-340 My-Je '61. (MIRA 14:6)

1. Otdel virusov Instituta mikrobiologii AN SSSR, Moskva.  
(NUCLEIC ACIDS) (VIRUSES)  
(SILKWORMS—DISEASES AND PESTS)

TARASEVICH, L. M.; ULANOVA, Ye. F.; SHVEDCHIKOVA, N. G.

"O roli rnk poliedrov, soderzhashchikh dnk-virus."  
report presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.  
Institut mikrobiologii AN SSSR, Moskva.



ULANOVA, Ye.S.

Method of long-range agrometeorological forecasting of the winter wheat crop by the spring moisture reserves in the soil and the number of stalks surviving the winter. Trudy TSIP no.145:67-89 '65.

(MIRA 18:10)

ULANOVA, Ye.S.

Agroclimatic conditions for the fall development and growth of  
winter crops in Western Siberia. Trudy TSIP no.47:3-41 '56.  
(MLRA 10:2)

(Siberia, Western--Crops and climate)

~~ULANOVA, Y. S.~~

Twenty-five years of activity in meteorological service for agriculture. Meteor. i gidrol. no.5:66 My '57. (MLRA 10:8)  
(Protserov, Aleksei Vladimirovich, 1897-)

ULANOVA, Ye. S.

SOV/2384

PHASE I BOOK EXPLOITATION

3(7)

Konferentsiya po agrometeorologii i agroklimatologii Ukrainakoy SSR  
 Materialy konferentsii (Material of the Conference on Agricultural  
 Meteorology and Climatology of the Ukrainian SSR) Leningrad,  
 gidrometeorizdat, 1959. 247 p. Errata slip inserted. 700 copies  
 printed.

Sponsoring Agencies: USSR. Glavnoye upravleniye gidrometeorologich-  
 eskiy sluzhby Ukrainain SSR. Ministerstvo sel'skogo khozyaystva,  
 Ukrainakiy nauchno-issledovatel'skiy gidrometeorologicheskii in-  
 stitut, and Ukrainakaya akademiya sel'skhozaystvennykh nauk.

Resp. Ed.: G.P. Frikhot'ko; Ed.: V.D. Pisonavevskaya; Tech. Ed.:  
 M.I. Bravina.

PURPOSE: This book is intended for agriculturists, agrometeorolo-  
 gists, and instructors in related vuzes.

COVERAGE: This collection of articles deals with problems in agri-  
 cultural meteorology in the Ukraine. Among the topics discussed  
 are: wintering, planting time for winter crops, corn cultivation,  
 potato degeneration, moisture supply, and adverse weather factors.  
 References accompany individual articles.

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Kakub, A.M. [Ukrainian Scientific Research Hydromet Institute]  
 Regional Agroclimatology (Reference Books) of the Ukraine and  
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Frikhot'ko, G.P. [Ukrainian Scientific Research Hydromet Institute]  
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 tute] Organization and Utilization of Meteorological Observations  
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Vlasuk, P.A. and M.A. Gurliakiv [Ukrainian Scientific Research  
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Lichikaki, V.M. Agroclimatic Basis for the Planting Time of Winter  
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Ulanova, Ye. S. [Central Institute of Progress] Relationship Be-  
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 the Agroclimological Conditions. Problems in Phase Develop-  
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3(7) PHASE I BOOK EXPLOITATION SOV/2384

Konferentsiya po agrometeorologii i agroklimatologii Ukrainy SSR Materialy konferentsii (Material of the Conference on Agricultural Meteorology and Climatology of the Ukrainian SSR) Leningrad, Gidrometeoizdat, 1958. 247 p. Errata slip inserted. 700 copies printed.

Sponsoring Agencies: USSR. Glavnoye upravleniye gidrometeorologicheskoy sluzhby, Ukrainian SSR. Ministerstvo sel'skogo khozyaystva, Ukrainskiy nauchnoissledovatel'skiy gidrometeorologicheskii institut, and Ukrainskaya akademiya sel'skhozoystvennykh nauk.

Resp. Ed.: G.P. Frikhot'ko; Ed.: V.D. Piskarevskaya; Tech. Ed.: M.I. Kravtina.

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COVERAGE: This collection of articles deals with problems in agricultural meteorology in the Ukraine. Among the topics discussed are: wintering, planting time for winter crops, corn cultivation, potato degeneration, moisture supply, and adverse weather factors. References accompany individual articles.

TABLE OF CONTENTS:

Podrova, M.A. [Ukrainian Scientific Research Institute for Agriculture] Significance of Planting Time for the Wintering of Winter Crops Under Poles'ye (Woodlands) and Northern Lesostep (Forested Steppe Regions) Conditions in the UkrSSR 76

Kucheryavaya, M.I. [Ukrainian Scientific Research Institute of Crop Science] Significance of Critical Temperatures in Forecasting the Wintering Conditions 84

Churilova, M.A. [Ukrainian Scientific Research Institute for Plant Physiology] Forecasting the Reaction of the Various Grades of Winter Wheat upon the Intermittent Temperatures of the Winter and Early Spring Periods 91

Churilova, M.A. and M.A. Fedorova. Results of Checking the Method for Determining the Viability of Winter Crops by the Conditions of the Vegetative Zone 96

Kovenko, M.D. [Ukrainian Scientific Research Hydromet. Institut] Moisture Reserves of Various Climatic Soil Zones of the Ukraine 100

Yevats, G.M. [All-Union Scientific Research Institute for Study of

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ULANOVA, Yevgeniya Stanislavovna; KULIK, M.S., otv.red.; SAGATOVSKIY,  
N.V., red.; BRAYNINA, M.I., tekhn.red.

[Methods of agrometeorological forecasting] Metody agrometeoro-  
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280 p. (MIRA 13:3)

(Meteorology, Agricultural)

ULANOVA, Ye.S.; KONTORSHCHIKOVA, O.M.; ZVERINTSEVA, Y.e.S.; YARTSEVA,  
N.A.; PROTSEROV, A.V., nauchmyy red.; MOKRETSOV, A.M., red.;  
ZEMTSOVA, T.Ye., tekhn. red.

[Applicability of agrometeorological forecasting methods in dif-  
ferent regions of the U.S.S.R.; results of field tests] Primeni-  
most' metodov agrometeorologicheskikh prognozov v razlichnykh  
raionakh SSSR; rezul'taty proizvodstvennykh ispytaniy. Pod red.  
A.V.Protserova, E.S.Ulanovoi. Moskva, Gidrometeor. izd-vo,  
1961. 156 p. (MIRA 15:2)

1. Moscow. Tsentral'nyy institut prognozov.  
(Meteorology, Agricultural)

ULANOVA, Ye.S.

Method for long-range forecasting of agrometeorological conditions governing the formation of the yield of winter wheat. Meteor. i gidrol. no.11:12-20 N '63. (MIRA 16:11)

1. Tsentral'nyy institut prognozov.



ULANOVA, Ye.S.; TSAO IN [TS'ao Ying]

Effect of meteorological factors on the optimum moisture supply  
of corn fields in the Ukraine. Trudy TSIP no.131:13-29 '63.  
(MIRA 16:9)

ULANOVA, Ye.S.; RYMAR, A.L.

Relations of optimum moisture supply in different soil layers  
in winter wheat fields during the fall. Trudy TSIP no.131:53-63  
'63. (MIRA 16:9)

KONSTANTINOVA-SHLEZINGER, M.A.; OSIKO, V.V.; ULANOVSKAYA, L.S.

Luminescent zinc-lithium-silicated activated by manganese. Zhur.  
neorg. khim. 3 no.6:1286-1294 Je '58. (MIRA 11:6)

1. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR i  
Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.  
Lomonosova.

(Luminescent substances)

KOCHO, V.S.; BARZILOVICH, V.S.; LYADOV, K.P. Primalni uchastiye:  
MRYKHINA, V.I., inzh.; OMEI'CHENKO, T.Ye., tehnik; SEAKARIMOV, Yu.,  
student; YASTOCHKIN, A.I., student; ULANOVSKAYA, L.V., student

Investigating the operation of continuous furnaces with a rolling  
hearth. Stal' 24 no.2: 177-179 F '64. (MIRA 17:9)

1. Kiyevskiy politekhnicheskii institut i Kommunarskiy metallurgicheskii  
zavod.

ULANOVSKAYA, M.A.

Materialistic views of N.N. Beketov, Uch. zap. KHGU 82:5-20

157. (MIRA 12:9)

(Beketov, Nikolai Nikolaevich, 1827-1911)

ULANOVSKAYA, M.A.

N.M. Beketov on the D.I. Mendeleev periodic law. Trudy Inst.  
ist. est. i tekhn. 39:272-282 '62. (MIRA 16:2)  
(Periodic law) (Beketov, Nikolai Nikolaevich, 1827-1911)

LIVSHITS, Boris Samoylovich; MOVSHOVICH, Iosif Khaymovich; GOLUBTSOV,  
I.Ye., otv. red.; ULANOVSKAYA, N.M., red.; MARKOCH, K.G., tekhn.  
red.

[A relay block-type automatic telephone exchange with a capacity  
of 10-40 numbers] Releinaia blochnaia ATS emkost'iu 10 - 40 nome-  
rov. Moskva, Svisz'izdat, 1962. 63 p. (MIRA 15:9)  
(Telephone, Automatic)

ARKHANGEL'SKIY, Georgiy Aleksandrovich; LEVINOV, Konstantin  
Georgiyevich; YALYSHEV, Vladimir Aleksandrovich; ULANOVSKAYA,  
N.M., red.; SLUTSKIN, A.A., tekhn. red.

[Retainment of pressure in telecommunication cables] Soderzha-  
nie kabelei sviazi pod davleniem. Moskva, Sviaz'izdat, 1962.  
93 p. (MIRA 16:3)

(Electric cables) (Telephone lines)



SADOVNICHY, Nikolay Petrovich; ZHAD'KO, Ivan Ivanovich; ULANOVSKAYA,  
N.M., red.; SLUTSKIN, A.A., tekhn. red.

[Mechanization of construction and repair operations of over-  
head communication and wire broadcasting lines] Mekhanizatsiia  
stroitel'stva i remonta vozdukhnykh lini svyazi i radiofika-  
tsii. Moskva, Svyaz'izdat, 1962. 117 p. (MIRA 15:9)  
(Electric lines--Overhead) (Wire broadcasting)

TINTMAN, Nukhim Izrailevich; GUSEV, Simon Stepanovich; FAT'KIN, D.F.,  
kand. tekhn. nauk, retsenzent; SHTEYNBERG, A.L., inzh.,  
retsenzent; YAKUB, Yu.A., kand. tekhn. nauk, otv. red.;  
ULANOVSKAYA, N.M., red.; MARKOCH, K.G., tekhn. red.

[Wire communications] Provodnaia sviaz' Moskva, Sviaz'izdat,  
1962. 290 p. (MIRA 16:1)  
(Telephone) (Telegraph) (Teletype)

GRIGOR'YEV, Vsevolod Ivanovich; KRAVCHENKO, El'vira Nikolayevna;  
SELIVANOV, Afanasiy Stepanovich; GRIGOR'YEV, V.I., otv. red.;  
ULANOVSKAYA, N.M., red.; ROMANOVA, S.F., tekhn. red.

[Adaption of ATA stations to operation in networks with direct  
connections] Prispoblenie stantsii ATA dlia raboty na seti  
priamykh soedinenii. Moskva, Sviaz'izdat, 1963. 69 p.  
(MIRA 16:6)

(Telegraph)

PAPERNOV, Lev Zakharovich; GOLUBCHIK, Adelaida Samoylovna; KANTOR,  
L.Ya., otv. red.; ULANOVSKAYA, N.M., red.; ROMANOVA, S.F.,  
tekhn. red.

[Transmission of wire broadcasting programs using municipal  
telephone network lines] Podacha programm provodnogo ve-  
shchaniia po liniiam gorodskikh telefonnykh setei. Moskva,  
Sviaz'izdat, 1963. 70 p. (MIRA 16:5)  
(Wire broadcasting)

RAZUMOV, Leonid Davydovich; PAVLOVSKIY, V.V., otv. red.; ULANOVSKAYA,  
N.M., red.; CHURAKOVA, V.A., tekhn. red.

[Protection of municipal telephone lines of intraregional  
telephone and wire broadcasting networks from electric cur-  
rent leakages of a.c.railroads] Zashchita linii gorodskikh te-  
lefonnykh setei, vnutriraiionnoi sviazi i provodnogo veshchaniia  
ot vliianiia elektricheskikh zheleznykh dorog peremennogo toka.  
Moskva, Sviaz'izdat, 1963. 75 p. (MIRA 16:10)

(Telephone lines)

(Electric railroads--Current supply)

KARMAZOV, Mikhail Grigor'yevich; METEL'SKIY, Georgiy Borisovich;  
LEZERSON, V.K., *otv. red.*; ULANOVSKAYA, N.M., *red.*

[Automatic telephony] Avtomaticheskaya telefoniya. Mo-  
skva, Sviaz'izdat, 1963. 375 p. (MIRA 17:5)

KANTOR, L.Ya.; GUMELYA, A.N.; ROZENBERG, Ya.G.; AFANAS'YEV, A.P.;  
SAMORUKOV, D.A.; GUSEV, S.S.; DOGADIN, V.N.; RAMENSKIY,  
B.N.; KARASIK, N.S.; PIONTKOVSKIY, B.A.; Primal uchastiye  
MEDOVAR, A.I.; SVERDLOVA, I.S., red.; ULANOVSKAYA, N.M.,  
red.; MARKOCH, K.G., tekhn. red. ~~XXXXXXXXXX~~

[Electrical communications and wire broadcasting] Elektri-  
cheskaia sviaz' i radiofikatsiia. [By] L.IA.Kantor i dr.  
Izd.2., dop. i ispr. Moskva, Sviaz'izdat, 1963. 672 p.

(MIRA 16:8)

(Wire broadcasting) (Telecommunication)

EYDEL'MAN, Lev Yakovlevich; SASONKO, Samuil Markovich; GRIGOR'YEV,  
G.L., otv. red.; ULANOVSKAYA, N.M., red.

[Numeration of the subscribers to the automated telephone  
network of the Soviet Union] Numeratsiia abonentov na avto-  
matizirovannoi telefonnoi seti Sovetskogo Soiuza. Moskva,  
Sviaz', 1964. 72 p. (MIRA 17:8)



TINTMAN, Nukhim Izrailevich; IOFIN, I.I., retsenzent; KOVALEVA,  
V.D., otv. red.; ULANOVSKAYA, H.H., red.

[Design of municipal automatic telephone exchanges] Pro-  
ektirovanie stantsionnykh sooruzhenii gorodskikh ATS. Mo-  
skva, Izd-vo "Sviaz'," 1964. 111 p. (MIRA 17:7)

MILEYKOVSKIY, Solomon Gerasimovich; MOROZOV, Arkadiy Petrovich;  
POLYAKOV, M.U., retsenzent; KHERN, K.D., retsenzent;  
ABOLITS, I.A., otv. red.; ULANOVSKAYA, N.M., red.

[Long-distance communication and multiplexing of municipal  
telephone circuits] Dal'niaia sviaz' i uplotnenie gorod-  
skikh telefonnykh tsepei. Moskva, Izd-vo "Sviaz," 1964.  
357 p. (MIRA 17:12)

TEST AND CHECKS PROCESSES AND PROPERTIES INDEX

1st AND 2ND ORDERS 1st AND 2ND ORDERS

ca

The creatinine test of Rehberg as an indicator of the functioning condition of the kidneys. *Rehberg, Uppström, Klin. Med. (U. S. S. R.) 18, No. 6, 61-9 (1940); Chem. Zentr. 1940, II, 3373-4.*—Detn. of the Rehberg creatinine index (urine creatinine to blood creatinine, both colorimetrically detd.) as a test for glomerular filtration of the kidneys and resorption gave results agreeing with the clinical picture only in severe kidney disorders (uremia). Since this index fluctuated considerably even in persons with normal kidney functioning it cannot be used without other data as an indication of the state of functioning of these organs. M. G. Moore

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ASAC, SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS AND SUBGROUPS

SECTION NUMBER

GROUPS AND SUBGROUPS

SECTION NUMBER

KOGAN, B.I.; KAL'ZHANOVA, Ye.G.; SAL'TINA, L.V.; SOLODOV, N.A.;  
DMITRIYEVA, O.P.; Primali uchastiye: UKHANOVA, N.I.;  
PERVUKHINA, A.Ye.; KAZANTSEVA, V.G.; ULANOVSKAYA, V.D.;  
VLASOV, K.A., glav. red.; LIZUNOV, N.V., otv. red.;  
PYATENKO, Yu.A., otv. red.; SALTYSKOVA, V.S., otv. red.;  
SLEPNEV, Yu.S., otv. red.; FABRIKOVA, Ye.A., otv. red.  
PODOSEK, V.A., red. izd-va; GOLUB', S.I., tekhn. red.

[Rare alkali metals (lithium, rubidium, and cesium); a bibliography on their geochemistry, mineralogy, crystal chemistry, geology, the analytic methods of their determination, and their economics] Redkie shchelochnye metally (litii, rubidii i tsezii); bibliografiia po geokhimii, mineralogii, kristalloghkimii, geologii, analiticheskim metodam opredelenia i ekonomike. Sost. B.I.Kogan i dr. Moskva, Izd-vo Akad. nauk SSSR, 1962. 327 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Institut mineralogii, geokhimii i kristalloghkimii redkikh elementov. 2. Chlen-korrespondent Akademii nauk SSSR (for Vlasov).

(Bibliography--Alkali metals)

ULANOVSKIY, A., inzh. .

How to utilize more efficiently ZSP-8 grain dryers. Muk.-elev.  
prom. 25 no.7:10-11 J1 '59. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zerna i  
produktov yego pererabotki.  
(Grain--Drying)

L 31110-65  
AM4021696

EWT(m)

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BOOK EXPLOITATION

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Bst

Volkov, Ivan Dmitriyevich; Ulanovskiy, Benedikt Zakharovich "Aoy. Nikolay Alekseyevich"

Engineering-rescue operations at the site of a nuclear attack /

TCPE TABS: civil defense, damage control, defense studies, legislative, police, fire

... authorized by the civil defense headquarters of the USSR as a training aid for commanders of...

L 31800-65  
AM4043696

methods of organizing engineering-rescue operations, and also the fundamentals of

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3. Effect of light radiation and the formation of smoke clouds

4. Effect of operation and the character of a nuclear explosion

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AK. 1980

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4. Extinguishing fires - - 92

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6. Preparation, assembly, and concentration of engineering-rescue organizations

7. Organization and performance of engineering-rescue operations

8. Preparation, assembly, and concentration of engineering-rescue organizations

9. Organization and performance of engineering-rescue operations

10. Possibilities of an engineering-rescue operation at the site of a nuclear attack

11. Possibilities of an engineering-rescue operation at the site of a nuclear attack

12. Possibilities of an engineering-rescue operation at the site of a nuclear attack

13. Possibilities of an engineering-rescue operation at the site of a nuclear attack

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6. Safety measures in performing maintenance on a damaged reactor -

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10. ...

11. ...

OTHER: 006

401070

9(2)

PHASE I BOOK EXPLOITATION

SCV/3349

Ulanovskiy, E.N.

Izmereniye elektricheskikh parametrov selenovykh elementov, vyp. 1  
(Measuring Electric Parameters of Selenium Cells, Nr. 1) Moscow,  
Tsentr. byuro tekhn. informatsii, 1958. 23 p. (Series: Dostizheniya nauki  
i tekhniki ) 1,700 copies printed.

Sponsoring Agency: Moskovskiy (gorodskoy) ekonomicheskii administrativnyy rayon.  
Sovet narodnogo khozyaystva.

Executive Engineer: Ye.Z. Korobeynikov; Ed.: I.A. Alekseyevskiy.

**PURPOSE:** This booklet is intended for specialists working with selenium rectifiers.

**COVERAGE:** The author analyzes existing methods of measuring the electrical parameters of selenium photocells. According to him, this problem has received little attention in the Soviet literature, although these measurements are important for ensuring the necessary quality of selenium rectifiers and their

Card 1/3

Measuring Electric Parameters (Cont.)

80V/3349

proper design and use. Industrial measurements of the electrical parameters of selenium photocells are made in the USSR with half-wave sinusoidal current. The author considers it necessary that such measurements be made under as close to actual operating conditions as possible and recommends other methods. No personalities are mentioned. There are 6 references: 2 Soviet (including 1 translation), 2 English and 2 German.

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Card 2/3

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Division of Half-periods of the Measured Voltage		18
Comparative Evaluation of Measuring Systems		20
Bibliography		23
AVAILABLE: Library of Congress (TK2798.U5)		

Card 3/3

JP/gmp  
4-5-60

8(2)

AUTHORS: Kaplan, B. Ya., Ulanovskiy, E. N. SOV/32-24-11-29/37

TITLE: Polarometer - Visual Pulsating Polarometer  
(Polyarometr - vizual'nyy pul'spolyarometr)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 11, pp. 1414-1416  
(USSR)

ABSTRACT: A polarometer - pulsating polarometer PVPP with an electron interception of condenser currents was constructed. The device increases the measuring accuracy and permits the simultaneous plotting of pulsating polarometric and polarometric curves. As the literature provides no description of a system with electron interception of the condenser currents, the valve commutator was constructed according to a new design. Reliable results were obtained in determinations with solutions of reversible reducible depolarizers of concentrations of  $5 \cdot 10^{-6}$  -  $10^{-5}$ n. The pattern of arrangement is given. The instrument includes a microammeter (100 microampere), a battery FBS 0,25, a transformer 60 watt 110/270-22-400-400 volt, a safety fuse of 1 volt, a commutator, and a selenium rectifier. The 220-voltage current is

Card 1/2

Polarometer - Visual Pulsating Polarometer

SOV/32-24-11-29/37

stabilized by two barretters. The anode voltage of the amplifier valves and the polarization voltage are taken from a secondary winding of 270 volt via a rectifier bridge SV-1, a multi-stage filter and a voltage stabilizer. The voltage of the hot cathode is taken from a secondary winding of 27 volt via a rectifier bridge SV-2 and a filter condenser. The arrangement by which the condenser accelerates the charging process of the double layer of the dropping mercury electrode was proposed by I. G. Grinman. A mirror galvanometer is equipped with a four-stage shunt resistance according to Ayrton. The galvanometer serves for polarometric measurements, whereas the above-mentioned microammeter serves for pulsating polarometric determinations. The set-up of the arrangement permits mass analyses. There are 1 figure and 3 references, 2 of which are Soviet.

ASSOCIATION:

Khimicheskaya laboratoriya Geologicheskogo upravleniya  
Tsentral'nykh rayonov i Laboratoriya zavoda  
(Chemical Laboratory of the Geological Administration of  
the Central Regions and the Plant Laboratory)

Card 2/2

ULANOVSKIY, G.

18028

USSR/Attitude on Petroleum 4203.0100 Oct 1947  
WORLD/Petroleum 4203.0100

"Contemporary World Petroleum Market," G. Ulanov-  
skiy, 8 pp

"Vnesh Torg" Vol XVII, No 10

Statistical study covers petroleum production, sup-  
ply, requirements and prices for world as whole and  
for individual countries, except USSR. Demand for  
petroleum products said to have increased greatly  
during first seven months of 1947. Part of in-  
creased demand attributed to needs of Anglo-American  
occupation forces in Europe and in Far East. Spe-  
cial interest in petroleum statistics of following  
countries: US, England, France and Italy.

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ULANOVSKIY, G.

41944. ULANOVSKIY, G.-- Kon'yunktura mironogo neftyanogo rynka n 1948 g. Vneshnyaya  
toronlya, 1948 No. 11, s. 14-16

SO: Letopis' Zhurnal'nykh Statey, Vol. 47. 1948

ULANOVSKIY, I.B.

Conditions for the cathodic protection of metals in gaps.  
Zashch.met. 1 no.6:643-647 N-D '65.

1. Chernomorskaya eksperimental'naya nauchno-issledovatel'skaya  
stantsiya. (MIRA 18:11)

ULANOVSKI

"A More Rapid Method of Determining the Required Current Density in Cathodic Protection Against Corrosion" by Ivanov, Ulanovski and Rit. Translated from Zavodskaya Laboratoriya, by Hope.

SO: 1708498

ULANOVSKIY, I. B.

USSR/Metals - Testing, Corrosion

Dec 50

"Method for Testing the Dependability and Lastin Quality of Contact in Case of Using Protectors Against Corrosion," L. V. Yelin, S. A. Ivanov, I. B. Ulanovskiy

"Zavod Lab" No 12, pp 1140-1142

PA182T86

ULANOVSKIY, I. B.

USSR/Metals - Testin, Corrosion

Dec 50

"Installation for Multiple Stress Corrosion Tests," S. A. Ivanov, A. S. Krichever,  
I. B. Ulanovskiy

"Zabod Lab" No 12, pp 1471-1473

PA182T92

ULANOVSKIY, I. B.

USSR/Metals - Protection

Jul 50

166758  
"Accelerated Method for Determination of Current Required for Anticorrosive Cathodic Protection," S. A. Ivanov, I. B. Ulanovskiy, E. Sh. Rit

"Zavod Lab" Vol XVI, No 7, pp 833-835

Suggests curves of cathodic polarization for determining required polarization potential and corresponding current for complete protection of metal construction against corrosion. Describes method and equipment used for plotting curves of cathodic polarization. Demonstrates determination of values for current required for

166758

USSR/Metals - Protection (Contd)

Jul 50

protection of two types of steel. Experiments for cathodic protection of same steels in sea water confirmed data obtained from polarization curves.

166758

ULANOVSKIY, I. B.

"Cathode Protection of Steel Members of Marine Hydraulic Structures With Periodic Switching-In of Current." Sub 15 Nov 51, Sci Res Inst of Bases and Foundations

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

*Card Book Sec*

<sup>B.</sup>  
ULANOVSKIY, I., kandidat tekhnicheskikh nauk.

Corrosion of the steel of hydrotechnical structures. Mor. i rech.  
flot 14 no.11:26-28 N '54. (MLBA 7:11)  
(Corrosion and anti-corrosives)



USSR/Biology - Microbiology

Card 1/1 Pub. 22 - 38/47

Authors : Nikitina, N. S., and Ulanovskiy, I. B.

Title : Germination of bacteria on a steel surface in sea water

Periodical : Dok. AN SSSR 98/5, 841-844, Oct 11, 1954

Abstract : The development of bacteria, of various physiological groups, on steel surfaces submerged in sea water was investigated to determine the effect of bacteria on corrosion of metals. The effect of the bacteria on corrosion was determined by the number and the physiological characteristics of the microorganisms. Detailed results of the investigation are tabulated. Nine references: 6-USSR and 3-USA (1939-1952). Tables.

Institution : Acad. of Sc. USSR, Institute of Physical Chemistry and Biological Station, Murmansk

Presented by : Academician V. N. Shaposhnikov, July 7, 1954

ULANOVSKIY, I. B.  
Llanovskiy, I. B.

✓ Film-resistance measurements with cathodic protection.  
I. B. Ulanovskii. *Zapodskaya Lab. 21, 209-10(1955)*.—The films formed during the cathodic protection of steel construction with c.d. 0.01-0.1 ma./sq. cm. have a compn. of  $\text{CaCO}_3$ , 60-90,  $\text{Fe}(\text{OH})_2$  10,  $\text{Mg}(\text{OH})_2$  1-25, and Fe 1-10%. Such films can be renewed by merely passing a current through them periodically. The protective properties depend on their up to 60% content of  $\text{CaCO}_3$ , which is not an electronic, but an ionic conductor, and for that reason inhibits the operation of local couples which cause electrochem. corrosion. The resistance of these films is some tens of thousands times greater than that of sea water, and can be measured with a Kohlrausch bridge. W. H. S.

df  
pac

Inst. Phys. Chem, AS USSR

by water increases the rate of diffusion of air in storage seawater.  
✓ 200-250% increase in air content in the water column in a storage  
of water in the water column.

ULANOVSKIY, I. B.

137-58-5-10193

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 187 (USSR)

AUTHORS: Nikitina, N.S., Ulanovskiy, I. B.

TITLE: Some Data on Microbiological Factors in the Corrosion of Steel in Sea Water (Nekotoryye dannyye po mikrobiologicheskim faktoram korrozii stali v morskoy vode)

PERIODICAL: Tr. Murmanskoy biol. st., 1957, Vol 3, pp 190-200

ABSTRACT: The effect of bacteria on the corrosion of steel in sea water was studied for the period of low rates of overgrowth by vegetable and animal organisms and under laboratory conditions. St 3 steel was tested in sea water for periods of 5, 10, 15, 20, and 150 days. After the test period, the corrosion products were removed from a 40-cm<sup>2</sup> area, and the total bacteria count and the number of bacteria in various physiological groups was determined. The experiments showed that development of bacteria on the surface of steel starts on the very first days of immersion in water and that it continues to intensify thereafter. After 20 days, more than a million bacteria were found per cm<sup>2</sup> of surface area, and over 310 million after 5 months. Intensive O<sub>2</sub> absorption began as a result of the electrochemical processes

Card 1/2

137-58-5-10193

Some Data on Microbiological Factors (cont.)

of corrosion. Sulfate-reducing bacteria predominantly form on the surface of steel, and after 150 days they constitute about 80% of the total number of bacteria. There is a comparatively weak growth of putrefactive bacteria. The effect of microorganisms upon corrosion was also studied under laboratory conditions. It was found that the presence of the bacteria of putrefaction increases corrosion by 20-30%. An accumulation of putrefactive O<sub>2</sub>-absorbing bacteria on metal may cause aeration cells to appear. Measurements show that in a layer of sea water immediately adjacent to the specimen pH drops by 0.14-0.19 during an 8-hour test.

K. Zh.

1. Steel--Corrosion    2. Sea water--Corrosive effects    3. Bacteria--Corrosive effects  
4. Corrosion--Test methods

Card 2/2

ULANOVSKIY, I.

ULANOVSKIY, I., inzh.; PASHKOV, A., inzh.

Effect of scale on the corrosion of underwater ship parts. Mor.  
flot 17 no.9:15-17 S '57. (MIRA 10:12)

1. Novorossiyskiy sudoremontnyy zavod.  
(Hulls (Naval architecture)--Corrosion)

Улановский, И.Б.  
ULANOVSKIY, I.B.

Formation and destruction of films during cathodic protection  
of steel surfaces in sea water. Zhur.prikl.khim. 29 no.7:1056-1062  
Jl '57. (MIRA 10:10)

1. Institut fizicheskoy khimii AN SSSR.  
(Electrolytic corrosion)

KOROVIN, Yuriy Mikhaylovich; ULANOVSKIY, Iosif Borisovich; SHOBIK, L. Ye., inzh., ved. red.; SHREYDER, A. V., kand. tekhn. nauk, red.; SOROKINA, T. M., tekhn. red.

[Corrosion of stainless steels in the spots in contact with non-metallic materials] Korrosiia nerzhaveiushchikh stalei v mestakh kontakta s nemetallicheskim telami. Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 12 p. (Pere-dovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 13. No. M-58-139/16) (MIRA 16:2)  
(Steel, Stainless--Corrosion)



ULANOVSKIY, I.B.; KOROVIN, Yu.M.

Corrosion of stainless steel at the points of contact with  
nonmetals. Zhur. prikl. khim. 31 no.9:1366-1370 S '58. (MIRA 11:10)  
(Steel, Stainless--Corrosion)

SOV/76-33-6-38/44

5(4), 18(7)

AUTHORS:

Ulanovskiy, I. B., Korovin, Yu. M.

TITLE:

Degree of Influence of Differential Aeration and of the pH-Value on the Corrosion of Stainless Steels in Narrow Cracks (Stepen' vliyaniya differentsial'noy aeratsii i velichiny pH na korroziyu nerzhavayushchikh staley v uzkikh zazorakh)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 6, pp 1414-1417 (USSR)

ABSTRACT:

The corrosion (C) of stainless steel in sea water principally occurs in narrow cracks. It is assumed that this form of (C) is due to a differential aeration of the metal inside and outside the crack whereby a galvanic element (crack .. surrounding surface) is produced (Refs 1-3). Also the amount of the  $H^+$ -ion concentration, effected in the crack by the hydrolysis products of (C), influences these galvanic elements (Refs 4, 5). The influence of the oxygen concentration and of the pH on the surface activation of the stainless steel in the crack (i.e. on the formation of the anode zone of the galvanic element) is investigated; two characteristic cases are examined - at an intense destruction of steel in the cracks, and under more stable conditions. The (C) was investigated in contact places with nonmetallic materials (rubber, plastic and plexiglass).

Card 1/2

Degree of Influence of Differential Aeration and of the pH-Value on the  
Corrosion of Stainless Steels in Narrow Cracks

SOV/76-33-6-38/44

The tests were carried out in the interval pH 2.3 - 8.3; sea water (from the Black Sea) with admixtures of HCl was used as a medium. As the steel grade 1 Kh 13 (steel with 13% Cr) is intensely corroded by sea water, this grade was investigated. The most positive electrode potential values were obtained at pH 6 - 7; an increase in pH leads to a slight shifting to more negative values, whereas a reduction of pH effects a considerable shifting to more negative values. The latter is due to a destruction of the passivation film. Tests on the simultaneous influence of oxygen and pH showed that, at a reduction of the pH, the influence of the oxygen concentration is weakened, whereas that of the pH rises. Thus, the quantity of pH is one of the principal factors determining the intensity of destruction of the metal in the crack. This was also confirmed by tests on the less corrodible steel 1Kh18N9T. There are 5 figures, 1 table, and 6 Soviet references.

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17(3), 18(3)

SOV/20-125-4-62/74

AUTHORS:

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TITLE:

The Effect of Bacteria Upon the Corrosion of Stainless Steels in Narrow Clearances (Vliyaniye bakteriy na korroziyu nerzhavayushchikh staley v uzkih zazorakh)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 909-912 (USSR)

ABSTRACT:

Stainless steels are in narrow clearances under the influence of seawater subjected to intensive corrosion (Refs 5-7). Since the effect of the bacteria is considerable (Refs 2,3) the topic mentioned in the title is interesting. The destructions are on the whole due to the effect of voltaic couples. The surface of the clearance has the effect of an anode, whereas the surrounding surface has the function of a cathode (Refs 5-7). The authors observed that the corrosion processes within the clearances are of vital importance to the bacteria. In this connection the authors investigated the development of the bacteria already while the clearance has the function of an anode as well as before the formation of a voltaic couple. Samples of stainless steels 1 Kh 13 and 1 Kh 18

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N9T, 50 x 10 x 1 mm were tested in the laboratory, whereas other ones 240 x 180 x 4 mm were tested in the Black Sea. The surface was polished, degreased by alcohol and singed over a spirit burner. The desired pH-value was obtained by the addition of HCl. The experiments were carried out with *Vibrio desulfuricans*, *Leptothrix crassa*, *Pseudomonas fluorescens liquifaciens* and *Bac. mycoides*. Moreover, an amassment of saprophytic seawater bacteria and a culture isolated from it (and as well predominating in it) - called K-1 under certain conditions - was observed. Bacteria develop if the clearance has the function of an anode. If a voltaic couple is formed on the surface of a steel plate the surface within the clearance is anodically polarized and thus the pH-value of the electrolyte reduced. The authors explain the effect of either factor. Figure 1 shows the experimental scheme. Each experiment takes 24 hours. The effect of the anodic polarization on the development of various bacteria is approximately equal. The curves of figure 2a show that the number of bacteria is continuously reduced with rising current density, especially between 0 - 0.04 ma/cm<sup>2</sup>. This can be explained by electrochemical phenomena (Refs 4,6). The corrosion

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products on the anode in the seawater are on the whole concentrated solutions of metal chlorides (Fe, Cr, Ni, et al., Ref 6) in the stagnation zone. Thus the pH may be considerably reduced. In the case of a pH decrease the development of bacteria is first (between pH 8.0 - 4.0) rapidly reduced, then, however, more slowly (Fig 2b). Saprophytic bacteria decrease to a considerable great extent. Thus the development of bacteria is reduced by two phenomena connected with each other: the anodic polarization and the reduction of the pH. This was confirmed by special experiments in the sea which took 8 months (Fig 3). Development of bacteria in the clearance before the formation of the voltaic couple (Table 1). Up to that moment there are no reasons to prevent the development of bacteria in the clearance. In this case the pH is equal to that of the surrounding medium. The bacteria grow therefore well. The bacteria are not washed out of the stagnant zone since a displacement in the electrolyte is in the narrow clearance only possible by diffusion. Their quantity in the clearance is therefore probable to be much greater than on the surrounding.

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Clearances SOV/20-125-4-62/74

surface. The development of bacteria on the latter interrupts the passivity of the steel plate, thus favoring the surface activation and the formation of a voltaic couple. There are 3 figures, 2 tables, and 7 Soviet references.

ASSOCIATION: Institut okeanologii Akademii nauk SSSR (Institute of Oceanography of the Academy of Sciences, USSR)

PRESENTED: December 23, 1958, by V. N. Shaposhnikov, Academician

SUBMITTED: December 18, 1958

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17 (4)

## AUTHORS:

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Korovin, Yu. G.

307/20-125-5-50/51

## TITLE:

The Effect of Sea-acorns Upon the Corrosion of Stainless Steels  
(Vliyaniye morskikh zheluday na korroziju nerzhevoyushchikh  
stalей)

## PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5,  
pp 1137-1140 (USSR)

## ABSTRACT:

The authors detected by experiments with many samples of stainless steel in the Black Sea that barnacles (*Balanus improvisus* and *B. eburneus*) as animals, which secrete chalk for building their shells, considerably, influence corrosion processes (Refs 1, 3). The base of this shell is a thin solid lime layer which sticks immediately to the steel surface. Two characteristic kinds of destruction were found among the barnacles: a) in consequence of the contact between steel and nonmetallic shell, b) by the vital action of the barnacles itself. The present paper deals only with the first kind of destruction. The experiments were made in the harbors of Batumi and Novorossiysk with two standard samples: 1Kh18 and 1Kh18N9T in a depth of 2 m. Small cut plates were used in

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special frames at the time of the most intense settlement of the *Balanus* larvae. Both steel samples were destroyed to a different extent: the sample 1Kh13 up to a depth of 1.25 mm, that means, totally within three months (Fig 1), whereas in the case of the other sample the first corrosion defects became visible only after six months. The depth of destruction amounted here to 0.14 mm after twelve months (Table 1). It was found already macroscopically that the destruction mentioned result from the activity of a galvanic cell. The steel surface acts as an anode under the base of the barnacle shell, whereas the open steel surface has the function of a cathode (Fig 2). An annular loose hydroxide surrounded the base of the shell. The destruction increases with increasing free surface (i. e. free from barnacles). The above-mentioned results were confirmed by electrochemical measurements. The participation of bacteria is possible as well. The density of the anodic current amounts to 0.15-0.20 mA/cm<sup>2</sup>. Higher temperature increases the influence of barnacles. The corrosion products exercise a further activating influence. There are 3 figures, 2 tables, and 8 references, 7 of which are Soviet.

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Stainless Steels

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ASSOCIATION: Institut okeanologii Akademii nauk SSSR (Institute of  
Oceanography of the Academy of Sciences, USSR)

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SUBMITTED: December 7, 1958

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BABAKOV, A.A.; ULANOVSKIY, I.B.; TUFANOV, D.G.; KOROVIN, Yu.M.

Corrosion testing of stainless steels in sea water. Trudy Inst.  
fiz.khim. 8:345-353 '60. (MIRA 14:4)

(Steel, Stainless--Corrosion) (Sea water)

KOPOVIN, Yu.M.; ULANOVSKIY, I.B.

Effect of oxygen and the amount of pH on the electrode potential of  
stainless steels and the work of macrocouples. Trudy Inst.fiz.khim.  
8:354-359 '60. (MIRA 14:4)

(Steel, Stainless--Corrosion)  
(Hydrogen-ion concentration)