

RAZORENOV, V.F.

Method for calculating systematic errors in clay rock compression tests. Vop.gidrogeol. i inzh.geol. no.19:136-148 '61.

(MIRA 15:2)

(Clay)

RAZORENCOV, Vadim-Igor' Fedorovich; EYZLET, Pavel Il'ich;  
KHILGOR, Vitaliy Gavrilovich; GRIGOR'YEV, V.A., red.

[New method and instruments for testing cohesive soils  
for compact b'ility] Novyi metod i pribory dlia ispytani  
sviaznykh gr. tov na uplotniaemost'. Leningrad, 1964.  
27 p. (MIRA 17:9)

RAZOPENOV, V.I., inzh.

Methods for changing the gauge of the driving wheels of a tractor  
using the power of the engine. Trakt. i sel'khoz mash. no. 5:  
43-45 My '65. (MIRA 18:6)

КОЛОДЧИЙ, Б. И.; РАКОРЕНОВ, В. И.

Electric Lighting, Fluorescent

Several new designs of reflectors for fluorescent lamps. Tekst. prom., No. 1, 1952

9. Monthly List of Russian Accessions. Library of Congress, March 1957, Uncl.  
2

KOLMOGOROV, B. I., SAVITSKIY, V. I.

Electric Lighting, Fluorescent

Several new designs of reflectors for fluorescent lamps. Tekst. prom., No. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953, Uncl.

2

LYUBOV, B.Ya.; RAZORENOV, V.M.

Effect of drift on the kinetics of phase transformations limited  
by diffusion. Fiz. met. i metalloved. 16 no.5:655-662 N '63.

(MIRA 17:2)

1. Institut metallovedeniya i fiziki metallov Tsentral'nogo nauch-  
no-issledovatel'skogo instituta chernoy metallurgii.

NIKOLOTOVA, N.V., starshiy nauchnyy sotrudnik; ORLOV, P.A.;  
RAZORENOV, Ye.A.

Effect of the various illumination conditions of poultry  
houses on the productivity of caged laying hens. Trudy TSNIIPPa  
9:88-91 '62. (MIRA 16:6)

(Poultry houses and equipment)

RUSSIAN, A. P.

RUSSIAN

Ch. 1, in vol. (U.S. Library) dated 1, 1953. U.S. LIB. CON. SER. 57, No. 5,  
1953.

9. Monthly List of Russian Accessions, Library of Congress, \_\_\_\_\_ 1953. Unclassified.



20995

S/058/61/000/005/003/050  
A001/A101

21.5200

AUTHORS:

Bogomolov, K.S., Ruditskaya, I.A., Razorenova, I.F., Sirotinskaya, A.A., Dobroserdova, Ye.P.

TITLE:

Hypersensitization of nuclear photoemulsions

PERIODICAL:

Referativnyy zhurnal. Fizika, no 5, 1961, 69-70, abstract 5B176  
("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 5 - 18)

TEXT:

A number of theoretical and practical problems connected with the employment of triethanolamine for hypersensitization of nuclear emulsions are investigated. Optimum conditions are selected for dipping of plates of the P (R) type in triethanolamine; it is shown that some growth of fog can be easily eliminated by the subsequent underdevelopment. The high sensitivity attained drops noticeably in the storing process, and this restricts the employment of emulsions dipped in triethanolamine for lasting experiments, e.g. for studying cosmic rays. The treatment with triethanolamine after exposure yields no results. Other alkali solutions affect the sensitivity considerably less than triethanolamine at the same pH 9 as the latter. Introduction of triethanolamine prior to coating fogs conventional R-type emulsions; however, using undermatured emulsions one

Card 1/2

20995

X

Hypersensitization of nuclear photoemulsions

S/058/61/000/005/003/050  
A001/A101

can attain rather high sensitivity by introducing triethanolamine prior to coating, but in this case the quantity of triethanolamine needed is much greater than for dipping. The washing out of triethanolamine from the emulsion prior to exposure reduces sensitivity almost to the initial level. The employment of mono- and diethanolamines is less efficient than that of triethanolamine. To explain the effect of triethanolamine, the authors hold that it is necessary to ascribe to it, in addition to its inherent reducing and alkaline properties, the ability of transferring radiation energy, absorbed in gelatine, to emulsion crystals. To prove the existence of this ability, special experiments were carried out in which emulsions were exposed to ultraviolet rays through a gelatine film absorbing them completely.

A. Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

S/091/61/000/022/055/076  
B101/B147

AUTHORS: Bogomolov, K. S., Ruditskaya, I. A., Razorenova, I. F.,  
Sirovinskaya, A. A., Dobroserdova, Ye. P.

TITLE: Hypersensitization of nuclear photoemulsions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 22, 1961, 381, abstract  
22L336 (Tr. Vses. n.-i. kinofotoin-ta, no. 32, 1959, 5 - 18)

TEXT: A method of hypersensitizing various types of nuclear emulsion layers by means of triethanolamine (TEA) solutions is described. When studying the sensitizing effect of TEA it was found that TEA mainly influences the formation of the latent image, while its influence on the development process is unimportant. The effect of TEA is assumed to be connected with the gelatin structure of the emulsion layer which is definitely formed after the layer has dried. Results were obtained which prove that if TEA is present in the layer that energy can be partially utilized in the photographic process which has been absorbed by the gelatin layer. [Abstracter's note: Complete translation.]

Card 1/1

20996

S/058/61/000/005/004/050  
A001/A101

21.520 0

AUTHORS:

Bogomolov, K.S., Razorenova, I.F., Sirotinskaya, A.A.

TITLE:

Sensitivity of photoemulsions to action of charged particles at low temperatures

PERIODICAL:

Referativnyy zhurnal, Fizika, no 5, 1961, 70, abstract 5B177 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 19 - 25)

TEXT:

The authors investigated mechanism of sensitivity reduction of photoemulsions to ionizing particles at low temperatures. Experiments on exposing  $\rho$  (R) type emulsions to an 660-Mev proton beam at  $-186^{\circ}\text{C}$  have shown that the final result in no way depends on the conditions of emulsion transition to room temperature after exposure. Residual sensitivity at this temperature does not depend on initial sensitivity (at room temperature) and conditions of emulsion maturing. The absence of ionic (dark) conductivity in emulsion crystals at liquid air temperature is insufficient for the explanation of all these facts, as well as the phenomenon of a further sensitivity drop at still lower temperatures. Therefore a presumption has been made that recombination of conductivity electrons, "frozen" in traps, with bromine ions plays a part in the phenomena

Card 1/2

20996

Sensitivity of photoemulsions ...

S/058/61/000/005/004/050  
A001/A101

mentioned; this process manifests itself in the form of low-temperature fluorescence of AgBr. It has been found that intensity of the latter depends on the AgI content in the emulsion solid phase, and it is the highest at concentrations of AgI of the order of a few tenths per cent. If the assumption mentioned is true, iodine-free emulsions must possess greater sensitivity at low temperatures than conventional emulsions. This was confirmed by experiments, and such emulsions recorded minimum ionization particles not only at  $-186^{\circ}\text{C}$  but also at  $-252^{\circ}\text{C}$  (density of 17 grains/100  $\mu$ ) when in conventional R-type emulsions tracks of relativistic particles were absent.

A. Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

20997

S/058/61/000/005/005/050  
A001/A101

21.5201

AUTHORS: Bogomolov, K.S., Razorenova, I.F., Ruditskaya, I.A., Sirotinskaya, A.A.

TITLE: Raising sensitivity of nuclear photoemulsions at low temperatures as a result of hypersensitization

PERIODICAL: Referativnyy zhurnal. Fizika, no 5, 1961, 70, abstract 5B178 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 26 - 28) X

TEXT: Degree of sensitivity to minimum ionization particles preserved at temperatures  $-186$  and  $-252^{\circ}\text{C}$  was investigated in the following types of R emulsions: conventional (I), hypersensitized by triethanolamine (II), special iodine-free emulsion prior to hypersensitization (III) and the same after hypersensitization (IV). The degree of sensitivity preservation at  $-186^{\circ}\text{C}$  proved to be  $\sim 70\%$  in (I),  $\sim 50\%$  in (II),  $\sim 70\%$  in (III); the density of tracks was  $\sim 20-25$  in (I) and (III) and  $40-50$  grains/ $100\mu$  in (II). At  $-252^{\circ}\text{C}$  sensitivity is completely absent in (I); in (II) it preserved by  $\sim 40\%$ , in (III) by  $\sim 70\%$ , and in (IV) by

Card 1/2

20997

Raising sensitivity of nuclear photoemulsions ...

S/058/61/000/005/005/050  
A001/A001

~80%; the track density amounted to ~25 - 30 in (II), ~20-25 in (III) and to ~50 (in one case 76) grains/100 $\mu$  in (IV). Fog amounted to 1.4 in (I) and (III) and 2.5 grains/100 $\mu$  in (II) and (IV).

A. Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

BOGOMOLOV, K.S., red.; PERFILOV, N.A., red.; BELOVITSKIY, G.Ye., red.;  
DOEROSERLOVA, Ye.P., red.; ZHDANOV, G.B., red.; KARTUZHANSKIY,  
A.L., red.; LYUBOMILOV, S.I., red.; MINERVINA, Z.V., red.;  
RAZORENOVA, I.F., red.; ROMANOVSKAYA, K.M., red.; SAMOYLOVICH,  
D.M., red.; STARININ, K.V., red.; TRET'YAKOVA, M.I., red.;  
UVAROVA, V.M., red.; SHUR, L.I., red.; POPOVA, A.K., red.; VEPRIK,  
Ya.M., red.; VERES, L.F., red. izd-va; KUZNETSOVA, Ye.B., red. izd-  
va; POLYAKOVA, T.V., tekhn. red.

[Nuclear photography; transactions] IAdernaia fotografiia; trudy  
tret'ego Mezhdunarodnogo soveshchaniia. Moskva, Izd-vo Akad. nauk  
SSSR, 1962. 474 p. (MIRA 15:6)

1. Colloque International de Photographie Corpusculaire. 3d,  
Moscow, 1960. 2. Nauchno-issledovatel'skiy kinofotoinstitut,  
Moskva (for Bogomolov, Uvarova, Romanovskaya, Starinin). 3. Pred-  
sedatel' Organizatsionnogo komiteta Tret'yego Mezhdunarodnogo sove-  
shchaniya po yadernoy fotografii. 1960, Moskva (for Bogomolov).  
4. Zamestitel' predsedatelya Organizatsionnogo komiteta Tre'yego  
Mezhdunarodnogo soveshchaniya po yadernoy fotografii. 1960, Moskva  
(for Perfilov). 5. Radiyevyy institut im. V.G.Khlopina Akademii  
nauk, Leningrad (for Shur, Perfilov). 6. Institut sovetskoy trgovli  
im. F.Engel'sa (for Kartuzhanskiy). 7. Ob'yedinennyy institut yader-  
nykh issledovaniy, Dubna (for Lyubomilov). 8. Institut atomnoy  
energii im. I.V.Kurchatova Akademii nauk SSSR, Moskva (for  
Samoylovich).

(Photography, Particle track)



BOGOMOLOV, K.S.; RAZORENOVA, I.F.

Study of the radiolysis of silver halide. Zhur. nauch. i prikl.  
fot. i kin. 3 no.5:321-322 S-O '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.  
(Photographic emulsions)

BOGOMOLOVA, K.S.; RAZOREKOVA, I.F.; RUDITSKAYA, I.A.; SIROPINSKAYA, A.A.

Sensitivity of hypersensitized nuclear photographic emulsions  
at the liquid hydrogen temperature. Zhur. nauch. i prikl. fot.  
i kin. 3 no.5:380-381 S-O '58. (MIRA 11:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.  
(Photographic sensitometry)

*RAZORENOVA, I. F.*  
BOGOMOLOV, K.S.; MASLENNIKOVA, N.V.; RAZORENOVA, I.F.; ANOSOVA, N.V.;  
ZHARKOV, V.N.

Determining the energy loss caused by ionizing radiation during the  
formation of silver of the latent image. Zhur.nauch.i prikl.fot.i  
kin. 2 no.6:408-412 N-D '57. (MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut.  
(Photography--Developing and developers)

VINOGRADOV, A.N.; LIVSHIN, G.L.; OBRAZTSOVA, R.I.; TULUPOV, L.P.;  
Prinimali uchastiye: RAZORENOVA, L.K., inzh.; DUBINKINA,  
L.I., inzh.; PODGORNYKH, A.L., inzh.; LAVRENT'YEV, M.V.,  
retsenzent; MINAKOV, A.D., retsenzent; NESTEROV, Ye.P.,  
retsenzent; STEFANOV, N.Ya., retsenzent; USHAKOV, P.S.,  
retsenzent; KRISHTAL', L.I., red.; KHITROVA, N.A., tekhn.  
red.

[Calculating machines in accounting, planning and administra-  
tion in railroad transportation] Vychislitel'naia tekhnika v  
uchete, planirovanii i upravlenii na zheleznodorozhnom trans-  
porte. [By] A.N.Vinogradov i dr. Moskva, Transzheldorizdat,  
1963. 407 p. (MIRA 17:2)

RAZOPENOVA, N.A.

Work of the All-Union Society of Soil Scientists in 1960.  
Pochvovedenie no.3:117-120 Mr '61. (MIRA 14:3)  
(Soil research)

RAZORENOVA, N.A.

Activities of the All-Union Society of Soil Scientists in 1962.  
Pochvovedenie no.5:105-112 My '63. (MIRA 16:5)  
(Soil research)

ALEKSANDROVA, I.V.; DIMO, V.N.; MURATOVA, V.S.; NOGINA, N.A.;  
PRESHYAKOVA, G.A.; RAZORENOVA, N.A.; TSERLING, V.V.; SHKONDE, E.I.

Second Congress of Soil Science Delegates. Pochvovedenie  
no.1:93-102 Ja '63. (MIRA 16:2)  
(Soil research--Congresses)

RAZORENOVA, N.A.

Work of the All-Union Society of Soil Scientists in 1957.

Pochvovedenie no.4:120-121 Ap '58.

(Soil research)

(MIRA 11:5)



RAZORENOVA, N.A.

Report on the work of the All-Union Society of Soil Scientists for  
1961. Pochvovedenie no.6:104-108 Je '62. (MIRA 15:2)  
(Soil research)

RAZORENOVA, U.A.

First delegate conference of soil scientist. Izv. AN SSSR. Ser. biol.  
no. 6:760-763 N-D '58 (MIRA 11:11)  
(SOIL RESEARCH)

AUTHOR: Razorenova, N. A.

SOV/30-58-8-31/43

TITLE: A New Stage of the Activity of the All Union Society of Soil Science Experts (Novyy etap deyatel'nosti vsesoyuznogo obshchestva pochvovedov) Transactions of the First Congress of Delegates (Pervyy delegatskiy s"yezd)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 8, pp. 127 - 128 (USSR)

ABSTRACT: After the war, the society took up its activity not until 1956. In the bygone two years 15 branches of the society were established in the Union Republics, 30 departments in large towns and 13 sub-departments in various institutions and organizations in Moscow. The total number of members reached 2452. Besides, 16 collective organizations are members of the society, (scientific institutions, agricultural universities and regional agricultural administrations). The first conference was held in Moscow from May, 12 - 16. It was attended by 240 delegates and 700 guests, among them the following foreign scientists: Shen' Dzhi-pei, China (Kitay), I.F.Stranskiy, Bulgaria (Bolgariya), V. Novak,

Card 1/4

A New Stage of the Activity of the All Union Society of Soil Science Experts. Transactions of the First Congress of Delegates  
S07/30-58-8-31/43

V.Kosil, Czechoslovakia (Chekhoslovakiya), I.I.Tomashevskiy, V.S.Dobrzhanskiy, Poland (Pol'sha), N.Chernesku, Roumania (Rumyniya), Di-Gleriya, Hungary (Vengriya), E.Evald, V.Kash German Democratic Republic (GDR), N.Pavichevich, G. Filippovskiy, Yugoslavia (Yugoslaviya). V. N. Sukachev, Member, Academy of Sciences, USSR, opened the conference. I.V.Tyurin, Member, Academy of Sciences, USSR, reported on present-day problems facing Soviet soil science experts in the USSR. In the plenary sessions reports on the principal problems of soil science were heard, which were compiled by collective groups of members of the society. In the special sections 220 reports by Soviet scientists were heard. The following sections had been formed: soil physics, genesis and classification of soil types, regional classification and amelioration of soil, soil fertility, soil amelioration. A sub-committee was also formed which was concerned with measures against soil erosion. Soviet soil scientists performed an outstanding achievement in compiling a state soil map. It was found that the results of research are only insufficiently introduced into practical agriculture. It was emphasized that research

Card 2/4

A New Stage of the Activity of the All Union Society of Soil Science Experts. Transactions of the First Congress of Delegates SOV/30-58-8-31/43

in all fields of soil science must be intensified. The conference also dealt with organizational problems. The statute of the society was acknowledged. The central council of the society was elected, consisting of 50 Members and 6 Candidates, 15 of which have formed the Presidium of the society. I.V.Tyurin, Member, Academy of Sciences, USSR, was elected president of the society and the Corresponding Member, Academy of Sciences, USSR, V.A. Kovda, Professors S.V.Zonn, A.V.Sokolov and K.P. Gorshenin were elected vice-presidents of the society. It was considered to be one of the outstanding tasks of the society to **accelerate** the establishment of an agronomical soil service. The council is also advised to hold conferences on individual problems in Moscow and in other large towns of the country. It was also recommended to intensify the relations with foreign scientists and with the International Society of Soil Science Experts.

Card 3/4

CHELNOKOV, N.M., kand.tekhn.nauk; Prinimali uchastiye: RAZORENOVA, N.I.;  
CHIRKOV, M.T.

Welding in the manufacture of ignition coils. Svar.proizv. no.1:  
32 Ja '62. (MIRA 15:3)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche im. Baumana (for  
Chelnokov, Chirko). 2. Zavod avtotraktornogo elektrooborudovaniya  
No.2 (for Razorenova).  
(Electric coils--Welding)

BOGORODINSKIY, D.K.; RAZORENOVA, R.A.; KRIVOSHEINA, A.N.;  
SKOROMETS, A.A.

Syndromes of disorder in the blood circulation of the spinal  
cord. Vop. psikh. i nevr. no.9:24-40 '62,

(MIRA 17:1)

1. Kafedra nervnykh bolezney (zav. - prof. D.K. Bogorodinskiy)  
1-go Leningradskogo meditsinskogo instituta imeni Pavlova.

RAZORENOVA, V.A.

Chemical protection in acute radiation injury. Med. rad. 5 no.12:  
78-79 '60. (MIRA 14:3)

(RADIATION PROTECTION



RAZORENOVA, V.A.; SHCHERBOVA, Ye.N.

Preventive use of cysteamine and cysteinamine in acute radiation  
sickness. Med.rad. 6 no.3:11-14 '61. (MIRA 14:5)  
(ETHYLAMINE) (RADIATION PROTECTION)

RAZORENOVA, V.A.

Experience in the use of S,  $\beta$ -aminoethylisothiuronium in prevention of experimental acute radiation. Pat. fiziol. i eksp. terap. 6 no.6:49-54 N-D'62 (MIRA 17:3)

1. Nauchnyy rukovoditel' - deystvitel'nyy chlen AMN SSSR  
prof. P.D.Gorizontov.

Б. В. КУЗНЕЦОВА, М. Я. ...

Б. В. Кузнецова and М. Я. Тейсманская, Derivatives of acetylene. Article 1800XV. Synthesis and investigation of heterocyclic compounds. VI. Synthesis of 4-ethynyl-4-hydroxy-piperidines by condensation of acetylene with  $\alpha$ -piperidones. 1. 401.

The condensation of acetylene with  $\alpha$ -piperidones under the influence of powdered caustic potash is described, leading to the formation of 4-ethynyl-4-hydroxy-piperidines with a high yield (about 90%). The hydration of the latter is accomplished in the presence of a Pt-catalyst into the corresponding 4-vinyl-4-hydroxy-piperidines and 4-ethyl-4-hydroxy-piperidines. The formation of stereoisomers complete hydration of 4-ethynyl-4-hydroxy-piperidines and the action on the  $\alpha$ -piperidones of magnesium-lithium-ethyl are established.

Inst. of Organic Chemistry of the  
Acad. of Sci. USSR  
March 20, 1948

51: Bulletin of the U.S.S.R. Academy of Sciences (Chemistry Series)  
Izvestia Akad. Nauk, S.S.S.R., No. 6, 1948.

RAZOV, I.; FIAIKOV, D.

Range estimation. Voен.znan. 29 no.8:17 Ag '53.

(MLR 6:8)  
(Range finding)

RAZOV, I. A.

Influence of the geometry of surface and of the surrounding medium on the low-temperature brittleness of steel. E. M. Shevandin, I. A. Razov, and R. R. Koshelnikova (*Dokl. Akad. Nauk SSSR*, 1988, 483-488).—Low-temp. brittleness of P (0.80%) and Si (5.20%) steels is studied at  $-196^{\circ}$ . The rod-shaped specimens of steel are subjected to tension and bending. The tensile strength of the P-steel and pig iron at  $-196^{\circ}$  does not depend on the surface finish, whereas in the case of Si-steel it is  $\sim 15\%$  higher for the polished specimens than for the roughly finished ones. This fact is attributed to the more homogenous structure of Si-steel. The brittle strength of Si-steel, measured at  $60^{\circ}$  by bending in different media, declines with increasing surface activity of the medium and is 7 and 17% lower in water and castor oil, respectively, than in air. S. K. Lachowicz.

Evaluation B-81575, 28 Dec 54

JP

OT

RAZOV, I. A.

27  
 ✓ Cold-shortness of iron and steel as a function of grain size and composition. E. M. Sherardin and I. A. RAZOV. *Phys. Metal. & Metallog.* 1, 219-30(1955).—Specimens of 0.02% C iron contg. Cr 1.5-2.5, Ni 1.5-2.5, or Cu 2.5% were annealed at 900-940° to produce an av. grain size of 40-70 $\mu$  and tensile tested at -196°. None of them showed a completely brittle fracture, the min. reduction of area still being 2.4% and the ductility decreased roughly proportionally to the grain size increase. The results of these careful expts. did not check the data of other investigators, and the reasons for this are discussed at length. J. D. Cot

5  
 18 4E 2C  
 2  
 Phys

ja  
 25  
 any

SHEVANDIN, Ye.M.; RAZOV, I.A.

On metal failure. Fiz. met. i metalloved. 1 no.3:541-545 '55.  
(Metals--Testing) (MLRA 9:6)

*1978, 1.11*

SHEVANDIN, Ye.M.; RAZOV, I.A.; SERPENINOV, B.N.

Investigating the process of destruction of specimens of various sizes and computing the effect of yielding in the load system.

Zav.lab.22 no.11:1338-1342 '56.

(MLRA 10:2)

(Metals--Testing)



R 200, I. A.

AUTHORS: Shevandin, Ye. M., and Razov, I. A. 126-2-35/35  
TITLE: Comments to the communication of P. O. Pashkov  
"On the yield point and cold brittleness of metals".  
(Zamechaniya po povodu soobshcheniya P. O. Pashkova  
"O predele tekuchesti i khladnolomkosti metallov".)  
PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.2,  
pp. 383-384 (USSR)  
ABSTRACT: The author of these comments disagrees with certain  
conclusions arrived at by Pashkov in his article  
published in the same journal in 1956 (Vol.3, No.3,  
pp. 565, etc.).  
SUBMITTED: April 25, 1957.  
(Central Scientific Research Institute imeni Acad.A.N.Krylov)  
ASSOCIATION:(Tsentral'nyy Nauchno-Issledovatel'skiy Institut  
imeni Akad. A. N. Krylova).  
AVAILABLE: Library of Congress.

Card 1/1

SHEVANDIN, Ye.M.; BAZOV, I.A.; MATVEYEV, V.P.; KONSTANTINOVA, G.N.

Study of local deformations during plastic bending in connection  
with experimental bend testing. Zav. lab. 23 no.4:469-476 '57.  
(Steel--Testing) (Strains and stresses) (MLBA 10:6)

RAZOV, I.A.

USSR/Solid State Physics - Mechanical Properties of Crystals  
and Poly-Crystalline Compounds

E-9

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1113

Author : Shevanin, Ye.M., Razov, I.A., Reshetnikova, R.Ye.  
Serpeninov, B.N.

Inst : Central Scientific Research Institute, imeni A.N. Krylov

Title : Nature of the Scale Effect in the Failure of Metals.

Orig Pub : Dokl. AN SSSR, 1957, 113, No 5, 1057-1060

Abstract : To investigate the role of the scale factor in viscous, semi-brittle, and brittle failure, static bending tests were made with specimens of SKhL-1 steel, with the following dimensions: 60 by 60 by 330, 30 by 30 by 165, 20 by 20 by 110, 10 by 10 by 55, and 5 by 5 by 27.5 mm. To study the viscous fracture, a specimen with a grid placed on the notch was subjected to flexure in steps

Card 1/3

USSR/Solid State Physics - Mechanical Properties of Crystals  
And Poly-Crystalline Compounds

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001444420020-0

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1113

(1° -- 2° for the first series and 10' -- 20' for the second), with measurement of the local plastic deformation over the grids and over the length of all the cracks upon the production and further development of the cracks. The first cracks were obtained, independently of the dimensions of the specimens, at practically the same limiting deformation. The effect of the scale factor manifests itself only in the later stages of the failure, causing a greater rate of development of the cracks in the larger specimens. Analogous experiments confirmed that in the case of semi-brittle fracture, the role of the elastic energy manifests itself in an earlier appearance of the crystalline fracture and in a reinforcement of the tendency to brittleness. In the case of brittle failure, it manifests itself in a reduced value of the brittle strength. Thus, the scale effect, observed in the failure of metals,

Card 2/3

AUTHORS: Razov, I.A., Shevardin, Ye.L.

32-3-25/52

TITLE: The Application of Dividing Nets to the Investigation of the Effect of the State of Tension Upon the Boundary Plasticity of Steel (ispol'zovaniye delitel'nykh setok dlya izucheniya vliyaniya vida napryazhennogo sostoyaniya na predel'nyu plastichnost' stali)

PERIODICAL: Zavodskaya Laboratoriya. 1958, Vol. 24, Nr 3, pp. 317-324 (USSR)

ABSTRACT: G.N. Konstantinova and B.N. Serpentinov assisted in carrying out experiments. An evaluation of work carried out in this field is found in a monograph by P.O. Pashkova [Ref.1]. For the investigations mentioned in the title the method of marked crevices was employed, which had hitherto been employed when investigating the scale factor. It is based on the application of dividing-nets which are applied in a manner described by T.K. Zilova and Ya.P. Fridman [Ref.4]. The investigation itself was, however, carried out in a manner hitherto not described. Flat metal samples of different dimensions, with and without incision, were investigated by bending tests. Among other things, the results of investigations carried out by I.L. Danilov and I.L. Shimilevich as well as by G. Sachs

Card 1/2

The Application of Dividing Nets to the Investigation  
of the Effect of the State of  
Tension Upon the Boundary Plasticity of Steel

32-3-25/52

[Ref.6] were confirmed. It was found that already before cracks were formed waves form where later the first cracks occur. Two methods were developed in order to be able to investigate the formation of cracks better. It follows from investigations carried out that with the increase of the rigidity of the state of tension the value of maximum bending diminishes. The degree of the rigidity volume of the state of tension increases with the increasing width of the investigated samples and with a reduction of the radius of the incision base. The limiting width for smooth samples under investigation is 5-fold that of thickness. The amount of the actual maximum bending can not be taken as a criterion of plasticity, because it is expressed by two tensile forces, whereas a third tensile force (originating in the surface layer) must be included within the formula. Formulae for computation and graphs are given. There are 8 figures, 1 table, and 7 references, 5 of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2 1. Steel-Plasticity 2. Steel-Tension 3. Dividing nets-Application

SOV/32-24-10-25/70

AUTHORS: Danilov, T. L., Ivanov, A. P., Kroskin, A. A., Razov, I. A.,  
Shevandin, Ye. M., Shimelevich, I. L.

TITLE: Investigation of the Bending of a Broad Sample in Classifying  
the Deformability of Metals (Ispytaniye shirokoy proby na zagib  
dlya otsenki deformatsionnoy sposobnosti metallov)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol 24, Nr 10, pp 1233-1236 (USSR)

ABSTRACT: Testing the bending strength in the cold state serves to classify  
the plasticity of steel. According to OST 1683 a certain ratio  
between the width and the thickness of the sample must exist  
in the bending tests of sheet iron and other sectional materials.  
Under actual conditions the width of the sheet of metal exposed  
to bending exceeds, however, the thickness by ten- to one hundred-  
fold. For this reason the testing of sheet iron is carried out  
with broad samples at present. The new steel types (SKhL4,09g 2,  
MK have a higher resistance to brittle breaking. The use of a  
wide sample in cold bending tests makes possible the classi-  
fication of the deformability of steel under rigid limiting  
conditions, close to real ones. The testing of the broad sample  
with respect to bending is to be arranged for sheet iron of

Card 1/2

SOV/32-24-10-25/70

Investigation of the Bending of a Broad Sample in Classifying the Deformability of Metals

any thickness. The results obtained are called satisfactory if the sample can be bent by  $120^\circ$  in the case of a special mandrel diameter, and if the sample does not break into two pieces on a further bending to  $180^\circ$ . From a diagram it may be seen that the extent of the maximum deformation of steel of type SKhLI decreases to a great extent with increase in the span width (Ref 2). According to a suggestion by A. P. Ivanov and S. S. Kanfor and parallel to tests with samples of normal width tests on broad samples with cores were also carried out. In papers by E. S. Volokhvyanskaya (Ref 6) tests of samples with grooves and numbered cores are described. It was found that the bending tests according to OST 1683 concerning the narrow samples ( $b=2a$ ) should be followed by those for broad samples ( $b=5a$ ) ( $b$ =width;  $a$ =thickness). There are 2 figures and 6 references, 5 of which are Soviet.

Card 2/2

BAZOV, I. A.: Master Tech Sci (diss) -- "Investigation of the maximum plasticity of steel". Leningrad, 1959. 15 pp (Central Order of Lenin Sci Res Inst) (KL, No 13, 1959, 107)



S/137/20/000/009/012/029  
ACC6/ACC1

Translation from. Referativnyy zhurnal, Metallurgiya, 1960, No. 9, p. 236.  
# 21413

AUTHORS: Shevandin, Ye.M., Raziv, I.A., Yefimov, A.V.

TITLE: Investigation of the Scale Effect During Plastic Deformation and Failure on Steels of Various Strength <sup>20</sup>

PERIODICAL: V sb.: Nekotoryye probl. prochnosti tverdogo tela, Moscow-Leningrad, AN SSSR, 1959, pp. 194-206

TEXT: It is shown that the deformation,  $\delta$  in. corresponding to the appearance of the first cracks of 0.2-0.3 mm size, does not depend on the scale of specimens. The scale effect consists in the considerable reduction of the ultimate deformation corresponding to complete failure  $\delta_{fin}$ . This is explained by an increase of energy stored in the loaded system at a larger size of the specimens. A zone that is strongly affected by the scale factor appears at a

✓

Card 1/2

5/137/60/000/009/012/029  
AOC5/A001

Investigation of the Scale Effect During Plastic Deformation and Failure on Steels of Various Strength

relatively small size of high-strength steels. Reduced yielding of the testing machine causes an increase of  $\delta_{fin}$ , which also indicates the energy nature of the scale factor. There are 19 references. (Abstractor's note. Subscripts "in" and "fin" are translations from the original n = nachal'noye (initial) and k = konechnoye (final).)



I.K.

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

Card 2/2

RAZOV, I.A.

Academy of Sciences USSR

Methodology problems in the study of the strength of metals (Some Problems in the Strength of Solids, Collection of Articles, Moscow, Izdatel'stvo AN SSSR, 1955. 322 p. 8000 copies printed.)

Ed. of Publishing House: V. I. Aver'yanov; Tech. Ed.: R. S. Perzner; Editorial Board: A. P. Ioffe, A. A. Galitskiy; G. V. Kurdyumov, Academician; S. E. Zhuravov, Corresponding Member, USSR Academy of Sciences; E. P. Konstantinov, Corresponding Member, USSR Academy of Sciences; F. P. Vilmas, Doctor of Physical and Mathematical Sciences, Professor; M. A. Lutin, Doctor of Physical and Mathematical Sciences, Professor; M. A. Lutin, Doctor of Technical Sciences; M. B. Fridman, Doctor of Technical Sciences, Professor; B. S. Ioffe, Candidate of Technical Sciences (Deputy Resp. Ed.).

PURPOSE: This book is intended for construction engineers, technologists, physicists and other persons interested in the strength of materials.

CONTENTS: This collection of articles was compiled by the Odelskiy Scientific Center of the Academy of Sciences of the USSR (Department of Physical and Mathematical Sciences) and the Fiziko-khimiya Institut AN SSSR (Institute of Applied Physics, Academy of Sciences, USSR) in connection of the 60th birthday of Nikolay Nikolayevich Ioffe, member of the Ukrainian Academy of Sciences, founder and head of the Odessa University (Department of the Strength of Materials) at the Institute of Applied Physics, Academy of Sciences, USSR, founder of the Kharkov State University (Department of Applied Physics, Kharkov Institute) at the Leninizhskiy Politehnicheskii Institut (Engineering Polytechnic Institute), recipient of the Stalin Prize (1953), the Order of the Red Banner of Labor (1945) and the Order of Lenin (1955). The articles deal with the strength of materials, phenomena of imperfect elasticity, behavior with the strength of materials, phenomena of cold brittleness, influence of deformation speed on the mechanical properties of materials, fatigue of metals, and general problems of the strength, plasticity, and mechanical properties of materials. Numerous personalities are mentioned in the introductory profile of Professor Ioffe. References are given at the end of each article.

Merzlikin, L. A., and Yu. D. Shalov. Investigation of the Hydrogen Embrittlement of Two-Phase Titanium Alloys	140
Popov, Zh. M., and G. P. Emel'yanov. Hydrogen Embrittlement of Steel and the Influence of Mechanical Testing Conditions on Its Occurrence	152
Shobolov, Ye. S., V. D. Rodonozkiy, and S. F. Rykova. Institute for Metal Physics, Ural Branch, Academy of Sciences, USSR, (Sverdlovsk) Structure of Austenite Grain Boundaries and the Temperature Brittleness of Structural Steel 165	165
Agayev, E. V., and Y. A. Zverevskiy (Institut metallurgii AN SSSR, G. Kharkov) Metallurgical Institute, Academy of Sciences, USSR, Moscow). Influence of the Degree of Purity on Cold Brittleness and Other Properties of Chromium	172
Martov, V. G., P. O. Pashkov, and Ye. D. Topolov. Cold Hardening of Pearlitic Steel with an External Layer of Austenitic Steel Alloy	179
Sakharov, P. S. (Industrialnyy Institut Imani Ruyzysheva, S. Ruyzyshev - Industrial Institute Imani Ruyzyshev, Ruyzyshev). Effect of the Cooling Rate and Some Other Factors on Rupture Strength of Chromium-Aluminum Steel	187
Shvaidin, Ye. M. (Gosned), L. A. Nagel, and A. V. Yelizer. Influence of the Scale Factor During Plastic Deformation and Rupture of Sheets of Varying Strength	194
Vituro, E. F., and V. A. Stepanov (Institute of Applied Physics, Academy of Sciences, USSR, Leningrad). Influence of Deformation Rate on the Deformation Resistance of Metals at Impact Speeds of 10 <sup>3</sup> -10 <sup>4</sup> m/sec	207
Zlatko, M. A. (Institute of Applied Physics, Academy of Sciences, USSR, Leningrad) Role of Compressibility in the Dynamic Deformation of Plastic Bodies	222
Konstantinov, J. M., and Ye. I. Timofayev. Influence of a High Deformation Rate on the Mechanical Properties of Steel Alloy Type V-95 After Varying Degrees of Aging	230
Ushak, G. V., and Yu. Ye. Volobzhenko (Institute of Mechanical Engineering, Academy of Sciences, USSR, Moscow) Resistance to Initial Plastic Deformation During Impact Stress Under Low-Temperature Conditions	236
Gilman, L. A., and V. F. Zhukh. Physical Nature of Metal Fatigue.	246
Rudkovskiy, I. V., and E. M. Savvin (Tsentr Nauchnoy - Central Scientific Research Institute of Technology and Machinery). Fatigue Strength of Large Plates	256

18.8200

67674

AUTHORS: Razov, I.A., Shevandin, Ye.M. and Yefimov, A.V. SOV/126-8-6-22/24

TITLE: Influence of Size Effect on the Deformability of Metals

PERIODICAL: Fizika metallov i metallovedeniye, 1959, Vol 8, Nr 6, pp 928-933 (USSR)

ABSTRACT: An investigation was carried out with specimens of SKhL-4<sup>6</sup> steel of the following dimensions: 20 x 20 x 110 mm with a notch base radius of  $\varphi = 6$  mm and 5 x 5 x 27.5 mm with a notch base diameter of  $\varphi = 1.5$  mm. The small specimens were cut out from the halves of large specimens after the latter had been tested. The position of the notch of the small specimen always coincided with that of the large one. Thus, the maximum possible material uniformity was ensured for specimens of both dimensions which were subjected to plastic deformation and fracture. This enabled the physical size effect to be investigated and any possible influence of the technological factor to be practically entirely excluded. The specimens were tested in static bending by a concentrated force applied at the centre of the span. In all specimens the percentage deformation at which macro-cracks of approximately 0.2 to 0.3 mm in dimension made their first

Card 1/3

67674

SOV/126-8-6-22/24

Influence of Size Effect on the Deformability of Metals

appearance was determined, as well as the deformation at which complete failure occurred, ie at which fracture cracks appeared along the whole length of the notch base. The method by which the deformation was determined in the testing of the large specimens was the same as described by Shevandin et al (Ref 13). A somewhat different method was used in the testing of the small specimens. The latter consisted in applying to the surface of the notch base a few "points" with a tyre dye. The size of the "points" chosen was 0.3 to 0.5 mm, depending on the radius of the notch base. The point sizes before and during testing were measured with the instrument microscope UIM-21 with an accuracy of up to 0.001 mm. To each specimen 3 - 4 "points" were applied in the central of its 3 portions. The average of all measurements was taken as the result. The results obtained for all the specimens are shown in the table, p 929. From these results frequency curves of deformation, corresponding to the first appearance of cracks and to complete failure, have been constructed (Fig 1 and 2). Fig 3 shows the schematic disposition of curves for the

Card 2/3

67674

SOV/126-8-6-22/24

Influence of Size Effect on the Deformability of Metals

distribution of deformation at which failure is initiated: a - at the Gauss and b - at the hyperbolic law of defect distribution. (1 - large specimens; 2 - small specimens). The authors conclude that the size effect as a whole is a manifestation of energetic and static factors. The former plays the main and the latter the subsidiary role, determining the position and nature, respectively, of the distribution curve. The so-called metallurgical factor which is responsible for the inhomogeneity of metals is also of particular importance, especially in steel, in connection with the technology of its manufacture, namely, the particular methods of casting, rolling etc. There are 3 figures, 1 table and 15 references, 13 of which are Soviet, 1 Swedish and 1 English.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut im A.N.Krylova (Central Scientific Research Institute imeni A.N.Krylov)

SUBMITTED: February 24, 1959

Card 3/3



14(11)

SOV/32-25-2-35/78

AUTHORS:

Razov, I. A., Shevandin, Ye. M.

TITLE:

The Effect of the Rate of Application and the Test-Temperature on the Limit-Plasticity of Steel (O vliyaniy skorosti nagruzheniya i temperatury ispytaniya na predel'nyu plastichnost' stali)

PERIODICAL:

Zavodskaya Laboratoriya, 1959, Vol 25, Nr 2, pp 198 - 202 (USSR)

ABSTRACT:

A method was used with smooth samples which was developed for the purpose of studying the effect of the kind of tension on flat samples (Ref 1). In the present case flat samples (7x30x55 mm) of steel of the SKhL 1 type (chemical composition in references 2,3) were subjected to static tests on a 30 ton Shopper machine at temperatures ranging from +20° to -120°, while dynamic tests were carried out at +20° on a 75 kgm ram according to Mor and Federgaf. In accordance with the T. K. Zilova and Ya. B. Fridman (Ref 4) a calibration grid was applied to the samples. It was found (Table 1) that the border deformation (corresponding with the formation of the first macrocracks) changes very little when the temperature is

Card 1/2

The Effect of the Rate of Application and the Test-  
Temperature on the Limit-Plasticity of Steel

SOV/32-25-2-35/78

lowered or the rate of load application mounts. The influence of the rate of load application and the test temperature on the plasticity of notched samples was examined by two methods. The results of steels 30G and 12KhN3MA (Fig 3) showed that the moment at which the first cracks appear is independent of the rate of load application and the test temperature, and that cracks increase as the bending angle increases. Examinations of notched steel 30G samples furnished the same results. It is stated in conclusion that except in the case of cold-brittleness it is practically not necessary to take into consideration the effect of a higher rate of load application and lower test temperature on the border plasticity of steel. There are 4 figures, 2 tables and 5 Soviet references.

Card 2/2



DAVIDENKOV, N.N., akademik; VITMAN, F.F., prof., doktor fiz.-mat.nauk;  
GLIKMAN, L.A., prof., doktor tekhn.nauk; FRIDMAN, Ya.B., prof.,  
doktor tekhn.nauk; MIROLYUBOV, I.N., kand.tekhn.nauk; RILEOV,  
I.A., mladshiy nauchnyy sotrudnik

Evgenii Mikhailovich Shevandin; obituary. Zav.lab. 25 no.7:896  
'59. (MIRA 12:10)

1. AN USSR (for Davidenkov).  
(Shevandin, Evgenii Mikhailovich)

17-1220

3/18/86/00781/08-785  
E111/E171

AUTHORS: Rasov, I.A., and Shevanin, Ye.N.

TITLE: Kinetics of Plastic Deformation and Fracture of Steel  
in Bending

PERIODICAL: Fizika metallov i metallovedeniye, 1980, Vol 9, Nr 1,  
pp 133-139 (USSR)

ABSTRACT: The authors draw attention to the different views  
(Refs 1-3 and 5-9) on the question of moment and place  
of formation of the first macro-cracks during bending of  
steel specimens. The object of the present work was to  
study in detail the kinetics of plastic deformation and  
solve the above question. Type SKhL-1 steel (0.16% C,  
0.94% Mn, 0.44% Si, 0.028% S, 0.032% P, 0.74% Cr,  
0.40% Ni and 0.001% Cu) was used as sheets 7 x 30 x 55  
and notched 20 x 20 x 110 and 30 x 60 x 330 mm specimens,  
with notches 6 and 18 mm deep, respectively. Notch-base  
radii were from 0 to 0.5, 0.8, 1.0 and 1.5 mm,  
respectively. A reference grid was applied for plastic  
deformation studies, while a type k51 microscope was used  
for following crack formation and development. Fracture  
was taken to have initiated when several cracks 0.1-0.3 mm

Card  
1/3

S/121/00/007/01/024/011  
ER11/ET11

Kinetics of Plastic Deformation and Fracture of Steel in Bending

in size had formed in the most deformed zone. Fig 1 shows relative deformations as functions of bending angle, values with and without allowance for crack width being indicated. For same function is given in Fig 2, where the different stages of deformation are shown; these are discussed. Fig 3 shows development of cracks on the marked specimen surface; when a main crack forms the number of cracks falls (Fig 4 plots the number of cracks against the bending angle) because of crack coalescence. Fig 5 shows a series of curves (for different notch-base radii) of relative crack length and load as functions of bending angle. The authors have previously shown (Ref 10) that a critical crack is not likely to form within the surface layer and therefore halves of notched specimens were cut in the middle (along the axes) and polished sections prepared. These were examined by V.M. Badashova, some showing clearly (Fig 7a, 7b) that the first cracks are formed in the surface layer of the notch bottom; the cracks narrow towards the surface. In general (Fig 6) macro-cracks form in the

Card  
2/3

no. 99

S/126/60/009/01/024/031  
E111/E191

Kinetics of Plastic Deformation and Fracture of Steel in Bending

notch long before the maximum load is reached. The ratio of the angle of deflection when first cracks appear in notched specimens to the angle of deflection of the maximum load is about 0.5, irrespective of the notch-bottom radius. From a comparison of the bending and tensile diagrams it is evident that elastic energy, stored in the loaded system, plays a considerable part. There are 7 figures and 19 references, of which 16 are Soviet and 3 English.

SUBMITTED: September 16, 1959

Card 3/3

20196

2807  
10 9230

103.1-13

07032,61/027/003/016/025  
BAC/B203

AUTHORS: Rylov, I. A., Aleksandrov, S. I. and Yefimov, A. V.

TITLE: Character of the size effect

PERIODICAL: Zhurnal prikladnoy fiziki, v. 21, no. 4, 1961, 323-326

TEXT: The authors mention the explanation of the size effect on the basis of the statistical distribution of defects in the material, and on the basis of the energetic theory which explains the size effect by the influence exerted by the elasticity energy accumulated in the loaded system on the destruction process. In a previous paper, they studied the influence of the elasticity energy on the limit of plasticity at the beginning and the end of destruction of specimens of different sizes. The results given in Fig. 1 confirm the energetic explanation of the size effect. The statistical factor, however, also plays a certain role. The following experiments were made to confirm the energetic theory: Flat specimens with the cross section  $6 \times 20$  mm, length 1.5 - 4 m, were provided with a central notch, and subjected to a tensile test. Fig. 2 shows that the tension ( $\sigma$ ), which corresponds to the formation of the  
June 1961

✓

10196

Character of the size effect

3,042/61/027,003,016,025  
400, B205

primary crack in the metal does not depend on the length of specimen. On the other hand, the tension ( $\sigma$ ) required for a complete destruction of the specimen increases with the length of specimen. The experiments were made with Al-Mg (AlMg10) alloy. Similar results were obtained with steel. Contrary to an assertion by Ia. F. Fridman and T. A. Volodina (Ref. 10, Dokl. Akad. Nauk SSSR, v. 196, p. 1091, 1971), the high sensitiveness of highly cold alloys to cracks observed by these researchers is explained by the high absolute temporary resistance and the high stock of potential energy of the loaded system. [Abstracter's note: The statements made by Fridman and Volodina are not given.] Further, the authors discuss data found by S. M. Roitman and Ia. B. Fridman (Ref. 9; Miroshchukh, the key notes, Ispytaniya metallov, M., Oborongiz (1960)) for the dependence of temporary resistance and real resistance on size on the basis of the energetic theory, and explain the data found by B. B. Chochan in (Ref. 8; "Metallovedeniye", 3, Sudpromgiz, 158, (1959)), which contradicts the energetic theory with experimental errors. In conclusion, it is stated that the energetic factor of the size effect plays the major part, whereas the statistical factor plays an inferior part. The following is suggested to determine the sensitiveness of

Card 2/5

20196

Character of the size effect

S/032/61/027/003/016/025  
B101/B203

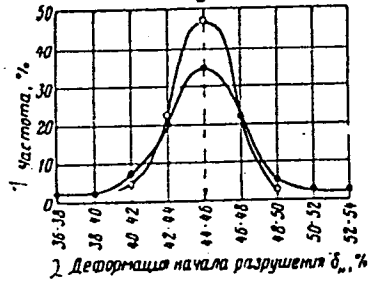
material to the size effect: bending test of specimens 5 · 5 · 27.5 mm and 20 · 20 · 110 mm, notch q of 1.5 and 6 mm, respectively, and comparison of the limit of plasticity, of the deformation curve in tough fracture, or of the strength in brittle fracture. Ye. M. Shevandin, I. L. Shimelevich, V. V. Lavrov, G. M. Bartenev, and L. P. Tsepkov are mentioned. There are 3 figures and 11 references: 9 Soviet-bloc and 2 non-Soviet-bloc.

Card 3/5

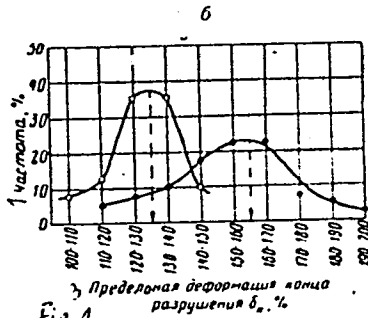
20196

S/032/61/027/003/016/025  
B101/B203

Character of the size effect



Legend to Fig. 1: Distribution curves of deformation at the beginning of destruction (a) and at the end of destruction (б); o specimen 20 · 20 · 100 mm, q = 6 mm; • 5 · 5 · 27.5 mm, q = 1.5 mm. 1) Frequency, 2) deformation at the beginning of destruction, 3) limit deformation at the end of destruction.



Card 4/5

Fig. 1



20196

Character of the size effect

S/032/61/027/003/016/025  
B101/3203

Legend to Fig. 2: a) Form of specimen,  
b) test results; o beginning of crack  
ing; x complete destruction;  
1) length of plates, m; 2) mean stress  
in the notched cross section as a  
fraction of the yield strength.

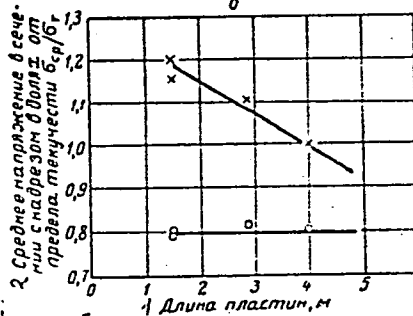
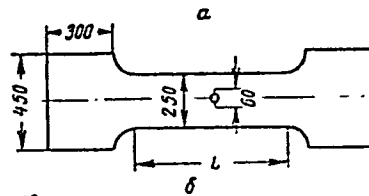


Fig. 2

Card 5/5

RAZOV, I. A.

90

SOV/6176

PHASE I BOOK EXPLOITATION

Konobeyevskiy, S. T., Corresponding Member, Academy of Sciences  
USSR, Resp. Ed.

Deystviye vadernykh izlucheniy na materialy (The Effect of  
Nuclear Radiation on Materials). Moscow, Izd-vo AN SSSR,  
1962. 383 p. Errata slip inserted. 4000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk; Otdeleniye fiziko-matematicheskikh nauk.

Resp. Ed.: S. T. Konobeyevskiy; Deputy Resp. Ed.: S. A. Adasinskiy; Editorial Board: P. L. Gruzin, G. V. Kurdyumov, B. M. Levitskiy, V. S. Lyashenko (Deceased), Yu. A. Martynyuk, Yu. I. Pokrovskiy, and N. F. Pravdyuk; Ed. of Publishing House: M. G. Makarenko; Tech. Eds: T. V. Polyakova and I. N. Dorokhina.

Card 1/14

90

SOV/6176

The Effect of Nuclear Radiation (Cont.)

PURPOSE: This book is intended for personnel concerned with nuclear materials.

COVERAGE: This is a collection of papers presented at the Moscow Conference on the Effect of Nuclear Radiation on Materials, held December 6-10, 1960. The material reflects certain trends in the work being conducted in the Soviet scientific research organization. Some of the papers are devoted to the experimental study of the effect of neutron irradiation on reactor materials (steel, ferrous alloys, molybdenum, avial, graphite, and nichromes). Others deal with the theory of neutron irradiation effects (physico-chemical transformations, relaxation of internal stresses, internal friction) and changes in the structure and properties of various crystals. Special attention is given to the effect of intense  $\gamma$ -radiation on the electrical, magnetic, and optical properties of metals, dielectrics, and semiconductors.

Card 2/14

5

The Effect of Nuclear Radiation (Cont.)

SOV/6176

Pravdyuk, N. F., A. D. Amayev, P. A. Platonov, V. N. Kuznetsov,  
and V. M. Golyanov. Effect of Neutron Irradiation on the  
Properties of Constructional Materials

34

The article presents results of investigations conducted  
in the hot laboratory at the Atomic Energy Institute  
imeni I.V. Kurchatov, Academy of Sciences USSR.

Amayev, A. D., A. V. Yefimov, P. A. Platonov, N. F. Pravdyuk,  
I. A. Razov, and A. M. Khlebnikov. Effect of Neutron Irradia-  
tion on Mechanical Properties of Heat-Resistant Steels of the  
Ferrite-Perlite Type and Their Welded Joints

58

The specimens were irradiated by a neutron flux of  $6 \cdot 10^{13}$  n/cm<sup>2</sup>  
in the RFT Reactor at the Atomic Energy Institute, Academy  
of Sciences USSR.

Yefimov, A. V., O. A. Kozhevnikov, V. A. Nikolayev, N. F.  
Pravdyuk, I. A. Razov, and A. M. Khlebnikov. Effect of Neutron  
Irradiation on Mechanical Properties of Austenitic Stainless  
Steels of Various Strengths

68

Card 5/14

ACCESSION NR: AT4014045

S/3073/63/000/000/0061/0074

AUTHOR: Razov, I. A.; Khudozhnikova, L. F.; Shevandin, Ye. M. (Deceased)

TITLE: Effect of cyclic stress on the tendency of steel to cold brittleness

SOURCE: Prochnost' metallov pri peremenny\*kh nagruzkakh; materialy\* tret'yego soveshchaniya po ustalosti metallov, 1962 g. Moscow, Izd-vo AN SSSR, 1963, 61-74

TOPIC TAGS: steel, steel brittleness, plastic deformation, fatigue, fatigue strength, embrittlement, creep, cold brittleness, cyclic stress, critical embrittlement temperature

ABSTRACT: It is well known that steel tends to become brittle in the cold and that this cold brittleness increases during cyclic stress, even at stresses below the fatigue limit, due both to the effects of plastic deformation and to the fatigue cracks which appear at the sites of stress concentration. In order to relate brittle strength and cold brittleness to the creep limit, the authors investigated the effect of cyclic bending stress (3000/min.) on the critical embrittlement temperature of smooth and notched samples of steel 3, steel SKS-1 and steel SKhL-4 in the annealed, hot-rolled or superheated (1150C) states. The critical embrittlement temperature was determined in two ways: from the curves relating temperature to impact toughness and to the relative fibrosity of the break,

Card

1/2

ACCESSION NR: AT4014045

respectively; both methods gave essentially the same results. During the initial stages of cyclic stress, one or two maxima and minima were consistently observed in the curve relating the critical embrittlement temperature to the number of cycles. Comparison of the critical embrittlement temperature and brittle hardness curves showed that these maxima and minima are due to characteristic changes in brittle strength and creep limit during cyclic stress. With cyclic stresses up to 0.8-0.9 of the fatigue limit, the critical embrittlement temperature was found to increase with the stress, a maximum being obtained at stresses 35-40% beyond the fatigue limit. Orig. art. has: 14 figures and 3 tables.

ASSOCIATION: None

SUBMITTED: 00

DATE ACQ: 20Feb64

ENCL: 00

SUB CODE: MM

NO REF SOV: 011

OTHER: 002

Card 2/2

SHEVANDIN, Yevgeniy Mikhaylovich [deceased]; RAZOV, Igor' Aleksandrovich; BYTENSKIY, I.A., kand. tekhn. nauk nauchn. red.; NEBYLOV, V.M., kand. tekhn. nauk, retsenzent; YEROMITSKAYA, Ye.Ye., red.

[Cold brittleness and plasticity limit of metals in ship-building] Khladnolomkost' i predel'naia plastichnost' metallov v sudostroenii. Leningrad, Sudostroenie, 1965. 335 p. (MIRA 19:1)

L A7165-66 EWT(d)/EWT(m)/EWP(w)/EWP(w)/T/EWP(t)/ETI/EWP(k) IJP(c)

ACC NR: AR6000440

SOURCE CODE: UR/0137/65/000/009/E005/E005

JD/HM/HW/EM

AUTHORS: Aleksandrov, S. I.; Razov, I. A.

42

TITLE: Estimation of the safety factor of welded construction under conditions of transition from the viscous to the brittle state B

SOURCE: Ref. zh. Metallurgiya, Abs. 9E35

REF SOURCE: Sb. Proyektir. svarn. konstruktsiy. Kiyev, Nauk. dumka, 1965, 393-401

TOPIC TAGS: steel, sheet metal, metal test / St 4 steel, SKhL-4 steel

ABSTRACT: The critical brittleness temperature of steels St 4 and SKhL-4 was determined on large plates having interior notches of limited sharpness. The amount of fibers at the break served as the measuring criterion. The level of stresses at which brittle cracks are propagated in plate constructions at temperatures lower than the critical brittleness temperature is: for St 4 and SKhL-4 for 10--20 mm thick sheets ~ 0.25--0.30  $\sigma_s$  respectively and does not depend on further decreases in temperature and change in the magnitude of the stored elastic energy. Increasing the sheet thickness and stored elastic energy leads to a displacement of the curve for dependence of rupturing stresses on the temperature to higher temperatures. At temperatures equal to and higher than the critical brittleness temperature, cracks may propagate in sheet constructions at stresses equal to 0.9  $\sigma_s$ . M. Frolova [Transla-

tion of abstract/

Card 1/1

SUB CODE: 11, 13

UDC: 621.791.001.4

L 02013-67 EWP(m)/T/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AM6006733

(N)

Monograph

UR/

42

B+1

Shevandin, YEvgeniy Mikhaylovich; Razov, Igor' Aleksandrovich

Cold brittleness<sup>1</sup> and ultimate plasticity of metals in ship building (Khladnolomkost' i predel'naya plastichnost' metallov v sudstroyenii) Leningrad, Izd-vo "Sudostroyeniye", 65. 0335 p. illus., biblio. 1,400 copies printed.

TOPIC TAGS: low carbon steel<sup>6</sup>, low alloy steel, metal physical property, brittleness, ductility, plasticity, plastic deformation<sup>14</sup>, mechanical fracture, shipbuilding engineering

PURPOSE AND COVERAGE: The book presents results of experimental research and theoretical generalizations on problems of cold brittleness and ultimate plasticity of low carbon and low alloy steels used in shipbuilding. The book analyses the effect of temperature, loading speed, stress, scale, and elastic energy on the above properties of metals, and suggests methods for estimating the coefficient of ductility and ultimate plasticity of metals in structural elements. The book is intended for engineering and scientific personnel serving as specialists in physical metallurgy and shipbuilding technology, and may also be useful to workers in related fields.

TABLE OF CONTENTS (abridged):

Preface—3

Pt. I: Cold brittleness of metals

Card 1/2



L 02013-67

ACC NR: AM6006733

0

- Ch. I. Transition of metals from the ductile to the brittle state--5
- Ch. II. Methods for estimating the tendency of metals toward brittleness--50
- Ch. III. Effect of various factors on the tendency of metals toward brittleness--81
- Ch. IV. Practical application of data in estimating the tendency of metals toward brittleness--128
- Pt. II. Ultimate plasticity of metals:
- Ch. V. Plastic deformation and ductile fracture of metals--146
- Ch. VI. Effect of various factors on ultimate plasticity of metals--205
- Ch. VII. Practical application of data in estimating ultimate plasticity of metals--295
- Bibliography--322

SUB CODE: 11, 13/ SUBM DATE: 14Oct65/ ORIG REF: 263/ OTH REF: 081

*ms*  
Card -2/2

1 01018-67 TNP(L)/TNP(m)/T/ENP(w)/ER(v)/ENS(t)/ETI JD/AN

ACC NR: AR6000445

SOURCE CODE: UR/0137/65/000/009/EO11/EO12

AUTHOR: Razov, I. A.

28  
B

TITLE: Analysis of brittle fractures of weld structures in relation to the tendency of steel to brittleness 14

SOURCE: Ref. zh. Metallurgiya, Abs. 9E75

REF SOURCE: Sb. Proyektir. svarn. konstruktsiy. Kiyev, Nauk. dumka, 1965, 365-374

TOPIC TAGS: brittleness, metal stress, steel, ductility, weld defect, material fracture

ABSTRACT: The following conclusions are drawn on the basis of analysis of the conditions of brittle fracture of a number of weld structures. In its physical nature, brittle fracture BF is a result of cold shortness, regardless of temperature. The decisive factor in BF from cold shortness is the temperature reserve of ductility, which is the difference between the use temperature and the critical temperature of embrittlement. The value of the temperature reserve of ductility  $\Delta T = T_0 - T_c < -$

10 deg indicates the possibility of BF of weld structures at comparatively low rated stresses. Retardation of brittle fractures is observed when the temperature reserve of ductility is in the range of -10 to +10 deg. The absence of BF is possible only when the temperature reserve of ductility  $\Delta T > 10$  deg, which varies according to the level of rated stresses from 20 to 300. <sup>kh</sup> V. Fomenko /Translation of abstract/

Card 1/1 SUB CODE: 13,11,20

UDC: 621.791.001:539.4

RAZOV, N. N.

25033. RAZOV, N. N. Tipy Pochv i Mirovoye Zemledeliye. Trudy Yubileynoy Sessii, Posvyashch Stoletiyu So Dnya Rozhdeniya Dokuchayeva. M.-L., 1949, S. 113-23 ----  
Bibliogr: 8 Nazv.

SO: Letopis' No. 33, 1949

RAZOV, V. M.

---

USSR/Electronics - Oscillograph

Jul 52

"Ejections Following Square Detector," V. M. Razov

"Zhur Tekh Fiz" Vol XXII, No 7, pp 1195-1199

Attempts to solve problem of the number of deviations of a beam that exceed a given level on an oscillograph screen, under the assumption that only fluctuational noise acts on a system consisting of a selective quadrupole and a square detector, whose load potential is studied. Received 9 Nov 51.

223T42

1971, p. 1.

20-7

APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971.  
APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971.  
APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971. APRIL 1971.

APRIL 1971. APRIL 1971. APRIL 1971.

RAZOVA, Z. O.

29098-Khimicheskie issledovaniya L'nyanogo Volokna, Nauch-issled Trudy (tsentr. Nauch-issled, in-t Lub: anykh Volokon) T. 111, 1949, S. 72-103-Bibliogr: 25 Nazv

S0: Letopis' Zhurnal'nykh Statey, Vol. 39, Moskva, 1949

POLAND / General and Special Zoology. Insects.  
Systematics and Faunistics.

P

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54259.

Author : ~~Razowski, Jozef.~~

Inst : Not given.

Title : Polish Species of the Subfamily Tortricinae  
(Lepidoptera).

Orig.Pub: Polski pismo entomol., 1956 (1957), 26, No 1-26,  
135-159.

Abstract: Descriptions of 34 species of the genera Tortrix,  
Chrosis and Accleris encountered in Poland. The  
article contains descriptions and drawings of the  
male and female sexual apparatuses of these  
species.

Card 1/1

7

AMK

Elasticity Theory

9

84. M. I. Rozovsky, "Impact of a cylinder against the surface of a medium, whose mechanical properties change with time" in *Izv. Akad. Nauk SSSR Tekhn. Fiz.*, Vol. 1, 1968, July 1, 1968, vol. 61, pp. 23-28.

The author examines the case of an absolutely rigid right circular cylinder which strikes with its base the surface of a medium whose mechanical properties change with time. He gives a general solution for the components of stress and of deformation, and also the reaction of the medium on the cylinder. For a special case he also gives the results of integration of the basic equations and develops specific formulas for the deformation and for the reaction of the medium. Z. Bazant, Czechoslovakia

July 19

INTERNATIONAL LITERATURE CLASSIFICATION



RAZOVSKIY, N.

Boldly introduce the brigade method of sewing. Prom. koop. no.12:  
23-24 D '57. (MIRA 10:12)

1. Tekhnicheskiy rukovoditel' arteli "Bol'shevik," Magnitogorsk,  
Chelyabinskoy oblasti.  
(Magnitogorsk--Dressmaking)

RAZOVSKIY, Ye.S., inzh.; DOL'NIK, Ye.S., inzh.

New electric wood-mortising machines. Stroi. i dcr. mashinostr.  
3 no.9:23-24 S '58. (MIRA 11:10)  
(Woodworking machinery)

RAZOWSKI, Jozef

Studies on the Cochyliidae (Lepidoptera). Pt.10. Annales  
zool 22 no.16:355-385 '64.

MAKIN, Josef

Keyrick types of Tortricidae (Lepidoptera) in the Vienna Museum.  
Annales Zool 22 no.21:451-481 '64.

RAZOWSKI, J.

Studies on the Cochylidae (Lepidoptera). Pt. 8. Bul Ac Pol  
biol 11 no.3:137-139 '63.

1. Institute of Systematic Zoology, Krakow, Polish Academy  
of Sciences. Presented by J. Stach.

RAZOWSKI, J. \_\_\_\_\_

16th Congress of the International Scientific Film  
Association. Wszechswiat no.2:54 F '63.

RAZOZIN, I. I.;PROF

USSR/Medicine-Malaria, Therapy  
Medicine-Pediatrics

Mar 49

"Particulars of the Clinical Aspects and Treatment of Malaria in Children,"  
R. Z. Sherman, Clinic, Pediatrics Faculty, Second Moscow Med Inst imeni I. V.  
Stalin, 2 pp

"Sov Med" No 3

Incidence of malaria in USSR in 1948 was one half to one fourth of the 1935 figure.  
Summarizes speech on 1948 results and 1949 plans by Prof I. I. Razonin, chief, Main  
Sanitary Antiepidemic Administration.

PA 46/49T76

1965. 11. 11.

Experiments in crossbreeding sheep for market production. Trudy Inst.  
zoo. biol. AN Kazakh. SSR 11:105-112 '65.

(MIRA 18:10)



MUKHASSOGALIYEV, F.M.; RAKOZIYEV, K.M.

Use of heterosis in animal husbandry. Izv. AN Kazakh. Ser. biol.  
nauk no. 3:14-20, 1963. (MIRA 17:9)

1. M. M. V. . . . .

on the treatment of snake bites (with a report of 9 cases).  
Chirurgia (Sofia) 17 no.13266-13270 '64

1. Vsesok medicinski institut, Sofia. Katedra po bolnicna  
khirurgija (rukovoditel na katedrata: prof. St. Dimitrov).

USSR/Medicine - Veterinary

FD-1273

Card 1/1 : Pub. 137-10/17

Author : Razran, A. I., Fishbeyn, V. Ya., Candidate of Veterinary Sciences

Title : Vaccination of swine against plague

Periodical : Veterinariya, 10, 49-51, Oct 1954

Abstract : Underfed hogs and hogs that are undergoing rapid growth react violently to virus of swine plague; such hogs rarely develop immunity against plague after being vaccinated with crystal violet vaccine. Presence of bronchopneumonia, avitaminosis, and improper metabolism also hinder the development of immunity. Development of immunity in hogs against plague and length of time that immunity is maintained depends much on the number of times a hog is vaccinated, its age, and the environmental conditions. To obtain the desired immunity young hogs must be well fed and must be vaccinated with crystal violet vaccine at least three times; factors that have a negative effect on the development of immunity must be eliminated.

Institution : Leningrad Swine Breeding Trust of the Ministry of the Meat and Dairy Industry USSR

Submitted :

TSIREL'SON, Simon Aronovich; RAZRAN, Mikhail Avraamovich. Primala uchastiye TSIREL'SON, E.A.; MIROPOL'SKIY, S.V., kand. biol. nauk, retsenzent; CHICHENEV, A.I., inzh., retsenzent; BOBOSHKO, S.B., nauchnyy red.; GORDON, L.A., nauchnyy red.; YEGOROV, S.A., nauchnyy red.; KAZAROV, Yu.S., red.; KRYAKOVA, D.M., tekhn. red.

[Livability on board ships]Obitaemost' sudov. Leningrad, Sudpromgiz, 1963. 266 p. (MIRA 16:3)  
(Merchant seamen--Accommodations on shipboard)  
(Ships--Heating and ventilation)

28(2)

06446

SOV/107-59-5-41/51

AUTHORS: Zelenkevich, G., Razroyev, V.

TITLE: Electronic Computers

PERIODICAL: Radio, 1959, Nr 5, pp 51 - 55 (USSR)

ABSTRACT: This is the concluding article of a description of the theoretical principles of electronic computers which was started in Radio, 1959, Nr 4. In this article, the authors describe trigger circuits, adding of binary numbers, arithmetic units, memory devices, address systems, programming, etc. Finally, the authors mention some fields of application of electronic computers. In this connection they mention experiments in translating from English into Russian using a high-speed BESM computer of the AN USSR, developed by Academician S.A. Lebedev. There are 1 circuit diagram, 2 block diagrams, 5 tables and 1 Soviet reference.

Card 1/1

28(2)

SOV/107-59-4-37/45

AUTHOR: Zelenkevich, G., Razroyev, V.

TITLE: Electronic Computers (Elektronnyye vychislitel'nyye mashiny)

PERIODICAL: Radio, 1959, Nr 4, pp 50 - 53 (USSR)

ABSTRACT: The purpose of this article is to acquaint radio amateurs with the theoretical premises of electronic computers. After a general introduction, mentioning the speed at which electronic computers work and the fields of application, the authors explain the binary number system, triggers and trigger counters. The article will be continued. There are 2 diagrams and 1 table.

Card 1/1

SIMEONOV, L., d-r, kand. med. nauki; RAZPOPOVA, M., d-r

On some operations on the liver. Biol i khim 4 nc.6:4-6 '62.

KHADZHIDEKOV, G.; RAZPOPOVA, M.

A case of generalized arthrosis consecutive to polyarthritis in a young woman. Suvrem.med.,Sofia 2 no.1:83-88 '60.

1. Iz Katedrata po endokrinologii i obmiana na veshtestvata pri ISUL. Rukov. na katedrata: prof. Iv. Penchev i Katedrata po rentgenologija i radiologija pri ISUL. Rukov. na katedrata: prof. G. Tenchov.

(ARTHRITIS RHEUMATOID pathol.)



1733 1/10  
RAZSEK, Jan; WYSZYNSKA, Teresa

Relative hypochloremia in secondary kidney tubule insufficiency. *Pediat.*  
*polska* 32 no.12:1392-1398 Dec 57.

1. Z Kliniki Chor. Wewn. Dzieci Instytutu Matki i Dziecka w Warszawie  
Dyrektor Instytutu: prof. F. Groer. Kierownik Kliniki: doc. J. Raszek.  
(CHLORIDES, in blood  
hypochloremia in kidney tubule insuff. (Pol))  
(ACUTE RENAL FAILURE, compl.  
hypochloremia in tubule insuff. (Pol))

BEREZKIN, P.N., inzh.; BONDIN, Ye.A., inzh.; GRIGOROV, G.Ya., inzh.;  
DURNOVSKIY, V.I., inzh.; KOZHEUROV, P.I., inzh.; NARTOV, Ya.G.,  
inzh.; RAZSHIGAYEV, A.F., inzh.; RAYEVSKIY, S.A., inzh.;  
SAPOZHNIKOV, N.S., inzh.; TELIPAN, M.G., inzh.; CHEREMOVSKIY,  
Yu.I., inzh.; CHERNOV, D.A., inzh.; DUGINA, N.A., tekhn.red.

[ChTZ tractors] Traktory ChTZ. Moskva, Gos. nauchno-tekhn.  
izd-vo mashinostroit. lit-ry, 1957. 101 p. (MIRA 11:5)  
(Tractors)

SKRIPKA, L.V.; RAZSMYSLOV, Yu. S.

Determining the productive capacity of open-cut coal mines at the  
Itat deposits. Ugol' 33 no.1:19-22 Ja '58. (MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy ugol'nyy institut.  
(Itat--Lignite) (Kuznetsk Basin--Strip mining)