IOSILEVICH, G.B., inzh.

Threaded joint with spiral inserts. Vest.mashinostr. 44 no.3:35-37
Mr '64.   (MIRA 17:4)

IOSILEVICH, G.B., inzh.

Investigation of the static strength of threaded joints with
spiral inserts. Vest. mashinostr. 44 no.8:29-31 Ag '64.
(MIRA 17:9)

AKUNOV, V.I., kand. tekhn. nauk; IOSELEVICH, K.S., inzh.

Wear of grinding chambers of jet mills for superfine grinding.
Khim. i neft. mashinostr. no.6:28-30 D '64   (MIRA 18:2)

GORELIK, A.M., kand.tekhn.nauk; IOSILEVICH, V.A., inzh.

Instrument for the field testing of soils. Transp. stroi. 10 no.9:54
S '60.   (MIRA 13:9)
                        (Soils—Testing)

IOSILEVSKIY, L.I.

1. YEVGRAFOV, G.K. (PROF.), IOSILEVSKIY, L.I. (Eng)

2. USSR (600)

4. Reinforced concrete construction

7. Examining models of preliminarily tightened reinforced
   concrete beams. Stroi. prom. 30 no 6, 1952
   Engineer

9. Monthly List of Russian Accessions, Library of Congress,
   August 1952. Unclassified.

IOSILEVSKIY, LEV IZRAILEVICH

TROITSKIY, Yevgeniy Aleksandrovich; BOGDANOV, Nikolay Nikolayevich;
   IOSILEVSKIY, Lev Izrailevich; SOROKIN,N.N., redaktor; YEVGRAFOV,
   G.K., professor, redaktor; KHITROV,P.A., tekhnicheskiy redaktor

[Railroad bridge span structures of prestressed concrete] Pro-
letnye stroeniia zheleznodorozhnykh mostov iz predvaritel'no
napriazhennogo zhelezobetona. Moskva, Gos.transp. zhel-dor. izd-
vo, 1955. 330 p.   (MIRA 9:3)
                    (Bridges, Concrete)

AUTHOR: Iosilevskiy, L.I.

TITLE: Use of Wire Strain Gages for Measurement of Stresses in the
            Reinforcement of Reinforced-concrete Structures (Primene-
            niye provolochnykh datchikov dlya izmereniya napryazheniy v
            armature zhelezobetonnykh konstruktsiy)

PERIODICAL: Tr. Mosk. in-ta inzh. zh.-d. transp., 1956, Nr 85/6, pp
            174-197

ABSTRACT: A description is given of a gage which is glued on to the re-
            inforcement; means for insulating the same from moisture and
            mechanical damage during concrete pouring are explained. A
            case of compensating strain gages that change their resistance
            after pouring of the concrete is examined. In some cases, al-
            though the gages lose their insulation, the static measurements
            obtained are still satisfactory.
            1. Strain gages--Performance
            2. Reinforcing steel--Stresses   3. Stress
            analysis   N.P. Rayevskiy

Card 1/1

IOSILEVSKIY, L.I., kandidat tekhnicheskikh nauk; MAL'KO, M.N., inzhener.

Double loop bundles for prestressed span construction. Transp.stroi.
6 no.12:13-15 D '56.   (MIRA 10:3)
                    (Prestressed concrete) (Bridges, Concrete)

IOSIIEVSKIY, L.I., kandidat tekhnicheskikh nauk; MAL'KO, M.N., inzhener.

Tapered anchor bolts with iron rings for prestressed reinforced
construction. Bet.i zhel.-bet. no.9:330-334 S '56. (MLRA 9:10)
(Prestressed reinforced construction)

IOSILEVSKIY, L.I., kandidat tekhnicheskikh nauk; MAL'KO, M.N., inzhener.

Using stressing stands for manufacturing prestressed reinforced concrete span structures. Bet. i zhel.-bet.no.1:12-19 Ja '57.

(MIRA 10:3)

(Prestressed concrete)

97 - 1 - 4/10

AUTHOR: IOSILEVSKIY, L.I., Cand.Tech.Sci. and MAIKO, M.N. Engineer

TITLE: Techniques in Prestressing and Post-stressing Reinforced Concrete
            Constructions
            (Stendovaya tekhnologiya izgotovleniya predvaritel'no napryazhen-
            nykh zhelezobetonnykh proletnykh stroeniy)

PERIODICAL: Beton i Zhelezobeton, 1957, No. 1., pp. 12- 19. (U.S.S.R.)

ABSTRACT: A method of post-stressing trusses for long spans was developed by
            the ЦНИИС Минтрансстрой. Prestressing for industrial mass pro-
            duction purposes was found to be uneconomical. The new method
            consists in casting concrete trusses with continuous voids in
            order to be able to place the reinforcement. This is inserted into
            the voids after the concrete is allowed to mature. Then the voids
            are injected with cement grout. The defects of this methods lie
            in the complicated equipment, waste of reinforcement in the case
            of trusses of different spans, damage to the plant in the case
            of wire breakage, the necessity of large capacity cranes for man-
            ipulating purposes during processing. A prestressing method used
            in the Laboratory For Investigating and Testing Bridge Constructions
            (Mostoispytatel'naya Laboratoriya МИИТ(ref.:1) was carried out with

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97 - 1 - 4/10

TITLE:
.Techniques in Prestressing and Post-stressing Reinforced Concrete Constructions
(Stendovaya tekhnologiya izgotovleniya predvaritel'no napryazhen-nykh zhelezobetonnykh proletnykh stroeniy)

special equipment.. The reinforcement consists of 32 five millimeter .diameter wires (fig. 1.). This reinforcement is led at the far end over a drum and a series of hydraulic jacks are used for stressing. The reinforcement ГОСТ 7348 - 55 has a break limit of 16.000 kg/cm^2. This method is also used by the Leningrad "MostostrcY" factory and by the Dmitrovsk Factory for Reinforced Concrete Products. Improved working installations (situated partly underground) for long prestressed trusses make it possible to dispense with various obstructive super-structures (fig.6) Results of investigations on deflections and internal stresses are shown in diagram No. 7 and the dependence of the quality of cement on these factors is pointed out. Tables (8) and (9) give the technical and economic aspects of the ПШМТ and the ЦНИИС methods with regard to the waste of labour material and time. It is concluded that simultaneous stressing of all reinforcement is necessary. Uninterrupted truss casting should be provided as well as a shortening of the production cycle by

Card 2/3

TITLE: Techniques in Prestressing and Post-Stressing Reinforced Concrete
         Constructions. (Stendovaya tekhnologiya izgotovleniya predvaritel'no
         napryazhennykh zhelezobetonnykh proletnykh stroeniy.)

         simultaneous prestressing, continuous concreting, and the exclusion
         of injection processes. The advantages of prestressing over
         post-stressing are pointed out and the importance of selecting the
         right type of anchoring is emphasized. Further, the elimination
         of non-linear reinforcement, the simplification of the wire grouping
         and stressing equipment, and the elimination of lifting the
         unit during production are discussed.

         There are 9 drawings and 1 table, also 2 footnotes.

ASSOCIATION: ---

PRESENTED BY: ---

SUBMITTED: ---

AVAILABLE: Library of Congress

Card 3/3

Iosilevskiy, Lev Izrailevich

CHEZHIN, Vladimir Aleksandrovich; BURKHARD, Eduard Eduardovich;
     IOSILEVSKIY, Lev Izrailevich; YEVGRAFOV, G.K., prof., red.;
     SOROKIN, N.B., inzh., red.; BOBROVA, Ye.N., tekhn.red.

     [Constructing overpasses of prefabricated prestressed reinforced
     concrete] Opyt postroiki puteprovoda iz predvaritel'no napriazhennogo
     sbornogo zhelezobetona. Pod red. G.K.Evgrafova. Moskva, Gos.transp.
     zhel-dor.izd-vo. 1957. 93 p.   (MIRA 11:1)

     1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR
     (for Yevgrafov).
          (Viaducts)   (Prestressed concrete construction)

IOSILEVSKIY, L.I., kand. tekhn. nauk; MAL'KO, M.N., inzh.

Precast latticed spans made of prestressed reinforced concrete
members. Trudy MIIT no.101:54-80 '58.   (MIRA 11:6)
                        (Prestressed concrete construction)
                        (Trusses)   (Railroad bridges)

SOV/97-59-3-3/15

AUTHORS: Iosilevskiy, L.I., Candidate of Technical Sciences, and
Strokov, G. I., Chief Engineer

TITLE: Manufacture of Pre-Stressed Reinforced Concrete Trusses
for Kremenchug Hydroelectric Power Station Viaduct (GES)

PERIODICAL: Beton i zhelezobeton, 1959, Nr 3, pp 103-109 (USSR)

ABSTRACT: The above viaduct was constructed to carry both lorry and
railway traffic. Fig 1 gives cross-section of the viaduct
showing the shape of the pre-stressed reinforced concrete
trusses which effect a saving of 4000 t of steel normally
required for riveted or welded steel girders. The viaduct
has in each span six trusses of 18 or 23 m long. The con-
struction was designed by Kremenchuggesstroy in collabora-
tion with the Moscow Institute of Railway Engineers
(Moskovskiy institut inzhenerov zheleznodorozhnogo trans-
porta, MIIT). Fig 2 illustrates the construction of the
trusses. The reinforcement consists of batches of 5 mm
wires which are placed in the lower zone of the beam cross-
section. The reinforcing batches at the ends of the trusses
Card 1/4 are fanned out by a disk, which forms the anchorage (see

SOV/97-59-3-3/15

Manufacture of Pre-Stressed Reinforced Concrete Trusses for
Kremenchug Hydroelectric Power Station Viaduct (GES)

        Fig 3). Fig 4 shows a MIIT type of a frame stand of rectan-
gular form, which absorbs the reactions of the tensioned
reinforcement used for the beams of Kremenchug viaduct.
The circular perforations through which the tensioned
reinforcement formerly passed were replaced by ten rectan-
gular slots arranged in four rows, with 2 batches of wire
passing through each slot, which proved much more satisfac-
tory (see Figs 4 and 5). Steam curing of trusses is carried
out by a system of ducting round the frame. The process of
casting is described in detail and the concreting yard
layout is illustrated in Figs 6 and 7. Until recently timber
shuttering was used for trusses of complicated forms, but
the time required to construct and secure this accounted
for 50% of the total manufacturing time. Metal shuttering
has now been designed by Engineer I. A. Avdeyenko which
reduces the time of construction, simplifies the casting
and allows repeated re-use of the same shuttering. Further-
more it is possible to attach "press" vibrators to the walls
Card 2/4 of metal shuttering. Use of these together with internal

SOV/97-59-3-3/15

Manufacture of Pre-Stressed Reinforced Concrete Trusses for
Kremenchug Hydroelectric Power Station Viaduct (GES)

vibrators reduces the casting time by 2 to $2\frac{1}{2}$ times that of
casting in timber shuttering without vibration. The timely
removal of metal shuttering is very important as, even if
it is well oiled, adhesion may occur between the shuttering
and concrete. The form should be removed before the
strength of the concrete reaches 80-100 kg/cm^2. Products
cast in metal shuttering should not be cured by very hot
steam as the metal corrodes considerably. If the product
is made from good quality concrete, after two to three days
the truss acquires strength of 300 to 400 kg/cm^2, which
allows tensioning of reinforcement to be transmitted to
concrete. Production on the concreting yards is carried out
in cycles using 8 forms (see graph in Table 1). The dura-
tion of the cycle is 8 days. Work study showed that the
most difficult operation in this eight-day manufacturing
cycle is the removal of the trusses from the stands: for
this work cranes are used extensively. Table 2 gives aver-
age production time for one truss (according to time and

Card 3/4 motion study carried out by the standardization and research

SOV/97-59-3-3/15

Manufacture of Pre-Stressed Reinforced Concrete Trusses for
Kremenchug Hydroelectric Power Station Viaduct (GES)

department of Kremenchuggesstroy). Table 3 gives comparative
average production time for one truss for various casting
yards. Trusses are selected at random and test-loaded on
a special stand up to 10-15% higher than the calculated load.
If after three successive loadings neither residual deforma-
tions nor cracks appear, and the deflection corresponds to
the calculated value, the truss is considered satisfactory.
The testing stand is illustrated in Fig 8. Further tests
are carried out on 2 trusses of 18 and 23.3 m span to de-
termine the actual safety coefficient and crack resistance
of the construction. First, each truss is 3 times tested
to the calculated load; then it is loaded gradually until
cracks appear, and finally the load is increased until the
truss is broken. All the tests carried out show the high
economy and technological effectiveness of this construction.
There are 8 figures and 3 tables.

ASSOCIATION: Kremenchuggesstroy

Card 4/4

YEVGRAFOV, G.K.; IOSILEVSKIY, L.I.,kand. tekhn. nauk; CHIRKOV, V.P., inzh.

Effectiveness of using polygonal and upper prestressed reinforcement in bridge spans. Transp. stroi. 9 no.4:10-16 Ap '59.

(MIRA 12:6)

1.Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for Yevgrafov).

(Bridges, Concrete)

IOSILEVSKIY, L.I., kand.tekhn.nauk, NOSAREV, A.V., inzh.

Prestressed span structures with transversally compressed webs.
Transp. stroi. 10 no.9:38—40 S '60.   (MIRA 13:9)
                        (Girders)

IOSILEVSKIY, L.I., kand.tekhn.nauk, dotsent; ANTIPOV, A.S., inzh.

Results of testing reinforced boundles with MIITa anchor shoes for pulsating loads.   Trudy MIIT no.126:68-83 '60.   (MIRA 13:10)
                         (Girders—Testing)

IOSILEVSKIY, L.I., kand. tekhn. nauk; CHIRKOV, V.P., inzh.; CHESTNOY, V.M., inzh.

Effect of anchors on strength, crack resistance, and bundle
fastening in prestressed beams. Bet. i zhel.-bet. no.11:
515-518 '61.   (MIRA 16:8)

(Beams and girders)   (Prestressed concrete)

IOSILEVSKIY, L.I., kand.tekhn.nauk

Strength and deformability of prestressed elements under early
loading. Transp.stroi. 11 no.4:40-44 Ap '61.   (MIRA 14:5)
                    (Prestressed concrete)

YEVGRAFOV, Georgiy Konstantinovich, prof., doktor tekhn.nauk; IOSILEVSKIY,
Lev Izrailevich, kand.tekhn.nauk, dotsent; ALEKSANDROV, Anatoliy
Vasil'yevich, kand.tekhn.nauk, dotsent; BOGDANOV, Nikolay
Nikolayevich, kand.tekhn.nauk, dotsent; YEREMEYEV, Genrikh
Mikhaylovich, inzh.; CHIRKOV, Vladilen Pavlovich, inzh.;
Prinimali uchastiye: RYBIN, V.D., inzh.; ANTIPOV, A.S., inzh.
MITROFANOV, Yu.M., inzh., retsenzent; KARAMYSHEV, I.A., inzh.,
red.; USENKO, L.A., tekhn.red.

[Prestressed bridge girders with stretching of the reinforcement
before the concrete is placed] Predvaritel'no napriazhennye
balochnye proletnye stroeniia mostov s napriazheniem armatury
do betonirovaniia. Moskva, Vses.izdatel'sko-poligr.ob"edinenie
M-va putei soobshcheniia, 1962. 282 p. ·   (MIRA 15:4)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury
SSSR (for Yevgrafov).
      (Bridges, Concrete)   (Prestressed concrete)

IOSILEVSKIY, L.I., kand.tekhn.nauk; CHIRKOV, V.P., inzh.

Experimental spans with vertically stressed hoops. Transp.stroi.
13 no.9:54-57 S '63.   (MIRA 16:12)

IOSILEVSKIY, L.I., kand. tekhn. nauk

Rigidity of prestressed structures with reduced pinching
of booms. Transp. stroi. 14 no.3:39-43 Mr '64.   (MIRA 17:6)

IOSILEVSKIY, L.I., kand. tekhn. nauk; YEREMEYEV, G.M., inzh.;
    KOSAREV, A.V., inzh.

Precast reinforced concrete crane girders with partial
prestressing. Gidr. stroi. 33 no.2:18-22 F '63.
                                        (MIRA 16:4)

    (Votkinsk Hydroelectric Power Station—Beams and
                                        girders)
        (Prestressed concrete)

IOSILEVSKIY, L.I., kand.tekhn.nauk; CHIRKOV,V.P., kand.tekhn.nauk

Resistance to torsion in unribbed spans. Transp.stroi.
14 no.12:39-42 D '64.

(MIRA 19:1)

KOLOKOLOV, N.M., doktor tekhn. nauk, prof.; IOSILEVSKIY, L.I.,
        kand. tekhn. nauk

        Calculation of junction of plate with wall in prestressed
        spans. Transp. stroi. 15 no.3:41-43 Mr '65.

                                        (MIRA 18:11)

IOSILEVSKIY, YA. A.

95

8/089/62/013/006/019/027
B102/B186

AUTHORS: G. T. and M. R.

TITLE: Nauchnaya konferentsiya Moskovskogo inshenerno-fisicheskogo
institute (Scientific Conference of the Moscow Engineering
Physics Institute) 1962

PERIODICAL: Atomnaya energiya, v. 13, no. 6, 1962, 603 - 606

TEXT: The annual conference took place in May 1962 with more than 400
delegates participating. A review is given of these lectures that are
assumed to be of interest for the readers of Atomnaya energiya. They are
following: A. I. Leypunskiy, future of fast reactors; A. A. Vasil'yev,
design of accelerators for superhigh energies; I. Ya. Pomeranchuk,
analyticity, unitarity, and asymptotic behavior of strong interactions at
high energies; A. B. Migdal, phenomenological theory for the many-body
problem; Yu. D. Piveyskiy, deceleration of medium-energy antiprotons in
matter; Yu. M. Kogan, Ya. A. Iosilevskiy, theory of the Mössbauer effect;
M. I. Ryazanov, theory of ionisation losses in nonhomogeneous medium;
Yu. B. Ivanov, A. A. Rukhadse, h-f conductivity of subcritical plasma;

Card 1/4

S/056/62/042/001/039/048
B102/B108

AUTHORS: Kagan, Yu., Iosilevskiy, Ya. A.

TITLE: The Mössbauer effect for an impurity nucleus in a crystal. I

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42,
             no. 1, 1962, 259 - 272

TEXT: Up to now the Mössbauer effect in a solid has been investigated for
regular lattices only. The present paper considers a crystal with low
impurity concentration, such that an impurity atom can be assumed isolated.
The probability of the Mössbauer effect on such an impurity atom at a
lattice site is calculated. Changes in mass and force constants are taken
into account. The probability is obtained as the product of the probabil-
ities of the absence of excitation in the continuous and discrete spectra,
respectively:

$$W = W_1 W_2;$$ (2.4)

$$W_1 = \exp\left\{-\sum_\beta |k u_{1\beta}|^2\right\},$$ (2.5)

$$W_2 = |\langle n||e^{iku}||n\rangle|^2,$$ (2.5')

Card 1/5

The Mössbauer effect for an ...

[n] is the totality of population numbers relevant to the discrete spectrum, $\vec{u}$ is the displacement of the atom, $\vec{k}$ the wave vector of the γ-quantum. The vibrations of the impurity atom are considered for a lattice with one atom per unit cell, and expressions for W_1 and W_2 are obtained:

$$W_1 = \exp\left\{-\sum_p \frac{R}{\hbar\omega_p}(\varkappa j_p)^2\left(\frac{\partial \ln \omega_p^2}{\partial \varepsilon}\right)_\gamma (2\bar{n}(\omega_p) + 1)\right\}. \qquad (3.22)$$

$$W_2 = \exp\left\{-\sum_l \frac{R}{\hbar\omega_l}(\varkappa j_l)^2\left(\frac{\partial \ln \omega_l^2}{\partial \varepsilon}\right)_\gamma\right\} \times \qquad (3.25);$$

$$\times \prod_s\left[\sum_{v=0}^{n_s}\frac{n_s!}{(n_s-v)!(v!)^2}\left(-\frac{R}{\hbar\omega_s}(\varkappa j_s)^2\left(\frac{\partial \ln \omega_s^2}{\partial \varepsilon}\right)_\gamma\right)^v\right]^2.$$

$\varepsilon = (m-m')/m$, m' - mass of impurity atom, m - mass of basic atom; $R = \hbar^2 k^2/2m$, $\varkappa = \vec{k}/k$; $\vec{j}$ - unit vector. For discrete frequencies, $\bar{n} \ll 1$ ($\bar{n}$ - equilibrium value) at low temperatures $(T/\Theta \ll 1)$ and

$$W_2 = \exp\left\{-\sum_l \frac{R}{\hbar\omega_l}(\varkappa j_l)^2\left(\frac{\partial \ln \omega_l^2}{\partial \varepsilon}\right)_\gamma\right\}\prod_s\left\{1-2\left[\frac{R}{\hbar\omega_s}(\varkappa j_s)^2\left(\frac{\partial \ln \omega_s^2}{\partial \varepsilon}\right)_\gamma - \qquad (3.26). \right.\right.$$

$$\left.\left. -\frac{1}{2}\left(\frac{R}{\hbar\omega_s}\right)^2(\varkappa j_s)^4\left(\frac{\partial \ln \omega_s^2}{\partial \varepsilon}\right)^2_\gamma\right]\bar{n}(\omega_s)\right\}.$$

Card 2/5

The Mössbauer effect for an ...

The equations for the frequencies of the perturbed spectrum

$$j^l = D^{lk}(\omega^2) j^k; \tag{3.16}$$

$$D^{lk} = \frac{\omega^2}{N(1-\gamma)} B^{lk} \sum_{l,a} \frac{e^l(l,a)\, e^{l*}(l,a)}{\omega^2 - \omega_0^2(l,a)}. \tag{3.17}$$

are solved in order to determine the effect of the discrete frequencies on the Mössbauer effect. The tensor

$$T^{ll}(\omega^2) = \delta^{ll} \frac{1}{3N} \sum_{l,a} \frac{1}{\omega^2 - \omega_0^2(l,a)}. \tag{4.1}$$

for a cubic lattice is introduced. For T → 0 one has

$$W_a \approx \exp\left\{-\frac{R'}{\hbar\langle\omega_0^2\rangle^{1/2}}\sqrt{\frac{m'}{m}}\frac{1-\gamma}{(a-\gamma)^{1/2}} \times \right. \tag{4.11}$$

$$\left. \times \left[1 - \frac{(1-a)(2a-3\gamma+1)}{2(a-\gamma)^2(1-\gamma)}\left((a-2\gamma+\gamma^2)\frac{\langle\omega_0^2\rangle}{\langle\omega_0^2\rangle^2} + \gamma(1-\gamma)\right)\right]\right\}.$$

R' is the recoil energy of the impurity nucleus. It can be seen that with decreasing mass of the radiating atom $(\varepsilon \to 1)$ the exponent increases as

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B102/B108

The Mössbauer effect for an ...

$1/\sqrt{m'}$. It is evident that with decreasing m' the frequency of the local-ized levels increases and the excitation probability of these levels is reduced. With increasing temperature W_2 decreases considerably slower than W_1. The effect of the quasi-continuous spectrum on the Mössbauer effect is

$$W_1 = \exp\left\{-\frac{R}{A(1-\eta)^2}\int_0^{\omega_0\,max} d\omega_0^2\,\frac{g(\omega_0^2)}{\omega_0}\,\frac{1}{[1-b(\omega_0^2)S(\omega_0^2)]^2+[\pi b(\omega_0^2)\omega_0^2 g(\omega_0^2)]^2}\times(2\bar{n}(\omega_0)+1)\right\}.$$ (5.15)

for a cubic lattice. If the mass of the impurity atom is great and if $\gamma \gg 0$, $g \sim \sqrt{\omega_0^2}$, $T=0$ one obtains

$$W_1 = \exp\left\{-\frac{R_1}{A\omega_0\,max}\,\frac{1}{(1-\eta)^2}\left[\frac{\langle\omega_0^2\,max/\omega_0^2\rangle}{|b|(1+4\langle\omega_0^2\,max/\omega_0^2\rangle)}\right]^{1/2}\right\}.$$ (5.16)

$$W_2 = 1.$$

which becomes

$$W_1 = \exp\left\{-\frac{R}{A}\langle\frac{1}{\omega_0^2}\rangle^{1/2}|b|^{-1/2}\right\}.$$ (5.17)

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The Mössbauer effect for an ...   S/056/62/042/001/039/048
                                                 B102/B108

if $\gamma = 0$. I. M. Lifshits (ZhETF, 17, 1017, 1076, 1947) is mentioned.
There are 11 references: 4 Soviet and 7 non-Soviet. The four most
recent references to English-language publications read as follows:
D. A. Shirley et al. Phys. Rev. 123, 816, 1961; E. W. Montroll, R. B.
Potts. Phys. Rev., 100, 525, 1955; E. W. Montroll. Proc. of the Third
Berkeley Symposium on Mathemat. Statistics and Probability, Univ.
California Press, 3, 1956,   p. 209; A. A. Maradudin, P. Mazur,
E. W. Montroll, G. H. Weiss. Rev. Mod. Phys., 30, 175, 1958; H. J.
Lipkin. Ann. Physics, 9, 332, 1960.

ASSOCIATION: Institut atomnoy energii Akademii nauk SSSR (Institute of
              Atomic Energy of the Academy of Sciences USSR)

SUBMITTED: August 10, 1961

Card 5/5

S/056/63/044/001/049/067
B102/B186

AUTHORS: Kagan, Yu., Iosilevskiy, Ya. A.

TITLE: The Mössbauer effect for an impurity nucleus in a crystal.
                II.

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
                no. 1, 1963, 284-302

TEXT: In article I (ZhETF, 42, 259, 1962) the authors developed a method
for describing the Mössbauer effect for an impurity atom. For the case
of a monatomic cubic lattice the probability of this effect was obtained
explicitly for any mass ratio of the atoms. This method is now used for
studying resonance absorption (emission) of gamma quanta by any impurity
nuclei accompanied by changes in state of the macrosystem. Particular
attention is paid to single-quantum transitions so as to obtain information
on the spectrum of the impurity atom and the interrelation between single-
quantum transition probability and the crystals' vibrational spectrum. The
localized vibrations induced by the impurity emitters as well as the
possibility of determining the frequency distribution function for an

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The Mössbauer effect for an ...   S/056/63/044/001/049/067
                                       B102/B186

arbitrary regular lattice are investigated. General formulas are obtained
describing the elastic and inelastic processes in arbitrary harmonic
interaction of the particle system on gamma decay. The quasicontinuous
and discrete spectra over the whole temperature range are considered. The
temperature dependence of the probabilities of the Mössbauer effect, and
of the single-quantum excitation in the case of resonance absorption are
analyzed taking account of the role played by degeneracy. In the last
chapter of the paper the results obtained for a simple unit-cell lattice,
when the central and noncentral interactions of the nearest neighbors are
taken into account, are compared with experimental data. This is done for
Au^{197} impurity nuclei in Fe and Ni cubic lattices. There are 3 figures.

SUBMITTED: July 31, 1962

Card 2/2

S/056/63/044/004/036/044
B102/B186

AUTHORS: Kagan, Yu., Iosilevskiy, Ya.,

TITLE: Neutron scattering from crystals with impurity nuclei and the
              problem of reconstruction of the vibrational spectrum

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
              no. 4, 1963, 1375 - 1395

TEXT: Neutron scattering from crystals containing isolated impurity nuclei
in a low concentration (so that incoherent scattering is also due to the
presence of distorted regions distributed at random around the impurities)
is theoretically analyzed. The latter effect makes it possible to obtain
information both on the characteristics of the impurity site and on the
vibrational spectrum of the basic ideal lattice. The crystal considered is
assumed to be monatomic but of arbitrary symmetry; the impurities are
located in lattice sites, interstitial impurities should have no signific-
ance. The mass ratio between impurity and basic atoms may be arbitrary.
The cross sections for coherent and incoherent scattering corresponding to
single-quantum excitations in the system are calculated. It is investigated
how the contribution of incoherent scattering from impurities and the
Card 1/2

Neutron scattering from crystals...

S/056/63/044/004/036/044
B102/B186

distorted regions surrounding them might be singled out. It is shown that from the cross sections corresponding to this branch direct information may be obtained not only on the impurity atom but also on the frequency density distribution function of the phonon spectrum of the ideal crystal. The separation of the interesting term (incoherent scattering from the impurity region) is demonstrated for slow-neutron scattering in the case when there are no discrete frequencies. This term is analyzed with respect to its information contents.

SUBMITTED: November 22, 1962

Card 2/2

KAGAN, Yu.; IOSILEVSKIY, Ya.

Anomalous behavior of the heat capacity of crystals with heavy impurity atoms. Zhur. eksp. i teor. fiz. 45 no.3:819-821 S '63.

(MIRA 16:10)

(Crystals—Thermal properties)

ACCESSION NR: AP4042582   S/0056/64/046/006/2165/2182

AUTHORS: Iosilevskiy, Ya. A.; Kagan, Yu.

TITLE: Impurity atoms in lattices with optical oscillation modes.
The Mossbauer effect. Infrared absorption

SOURCE: Zh. eksper. i teor. fiz., v. 46, no. 6, 1964, 2165-2182

TOPIC TAGS: Mossbauer effect, force constant, anisotropy, ir ab-
sorption, impurity center, energy gap

ABSTRACT: This is a continuation of earlier work on the theory of
the Mossbauer effect for isolated impurity atoms in a crystal (ZhETF
v. 42, 259, 962 and v. 44, 284, 1963). The theory is extended here
to include crystals with an arbitrary number of atoms per unit cell.
A detailed analysis is made of the oscillation of an impurity atom
which is substituted for an arbitrary atom in a unit cell of a com-
plex anisotropic crystal. The basic analysis is made for an impurity

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ACCESSION NR: AP4042582

atom of arbitrary mass, with the variation of the force constants ac-
counted for by perturbation theory. The spectral density of the
square of the displacement of the impurity atom is analyzed in detail,
in particular in the presence of local and quasilocal levels in the
perturbed frequency spectrum. It is pointed out that the assumption
that the force constants can be treated by perturbation theory is
confirmed by recent experimental data (V. A. Bryukhanov et al., ZhETF
v. 45, 1372, 1963 and v. 46, 825, 1964). The results of this analy-
sis are used to determine and analyze the Mossbauer effect on an im-
purity nucleus for the entire temperature range. The probability
of infrared absorption by isolated impurity atoms is also determined.
Orig. art. has: 71 formulas.

ASSOCIATION: None

SUBMITTED: 29Dec63   ENCL: 00

SUB CODE: OP, SS   NR REF SOV: 008   OTHER: 008

Card: 2/2

EWT(1)/T/EEC(b)-2   PI-4   IJP(c)   GG

AP500900   S/0181/65/007/003/0885/0892

Iatlevskiy, Ya. A.

TITLE: Possible reduction of the dynamic problem for the diatomic lattice to the dynamic problem for the monoatomic lattice

SOURCE: Fizika tverdogo tela, v. 7, no. 3, 1965, 885-892

TOPIC TAGS: Hamiltonian, crystal dynamics, ionic crystal, matrix diagonalization, diatomic lattice, monoatomic lattice

ABSTRACT: The motivation for this research is the fact that the diagonalization of the matrix of the diatomic lattice entails difficulties both of mathematical and principal character. The problem ... the assumption that the effective interatomic forces depend only on the relative placement of the atoms, and not on the type of atom lattice site. It is shown that this assumption permits not only an appreciable simplification of the dynamic problem itself, and ... to the solution of a homogeneous system consisting of three equations of the ordinary six, but ... in principle to express the final solutions in terms of known ...

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ACCESSION NR: AP5006900

lattice. Such solutions are given in explicit form for a series of crystal-
lographic preferred directions in the general case, and also for all directions
and factors, without exception, within the framework of some simple models
of the nearest-neighbor-interaction model). Orig. art. has: 31 formulas.

ASSOCIATION: Institut fiziki tverdogo tela AN SSSR, Moscow (Institute of Solid
State Physics, AN SSSR)

SUBMITTED: 23Jul64   ENCL: 00   SUB CODE: SS

NR REF SOV: 002   OTHER: 002

Card 2/2

L 22059-66   EWT(1)/T   IJP(c)   GG

ACC NR: AP6009640

SOURCE CODE: UR/0181/66/008/003/0651/0665

3 P

B

AUTHOR: Iosilveskiy, Ya. A.

ORG: Institute of Solid State Physics, AN SSSR, Moscow (Institut fiziki tverdogo tela AN SSSR)

TITLE: On the energy of oscillations of systems that undergo ordering

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 651-665

TOPIC TAGS: crystal lattice, ordered alloy, solid solution, crystal lattice vibration

ABSTRACT: The author considers the effect of long-range ordering on the natural oscillations of systems undergoing ordering. The problem is solved by re-expanding equations originally obtained by I. M. Lifshits and G. I. Stepanova (ZhETF v. 31, 156, 1956), using results obtained by the author in an earlier paper (FTT v. 7, 885, 1965) and choosing as the zero-order approximation a suitable ideal monoatomic lattice whose spectrum no longer depends on the ordering parameter. Assuming that the matrix of the force constants depends only on the difference of the radius vectors of the interacting atoms, but not on the type of the atoms, the author obtains the vibrational part of the free energy of binary solid solutions undergoing

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L 22059-66

ACC NR: AF6009640 O

ordering (disregarding correlation), with arbitrary component concentration. The
results are presented in the form of a series in powers of the parameter $\epsilon =$
$(m_2 - m_1)/(m_1 + m_2)$ at low temperatures (calculated accurate to ϵ^2 inclusive) in
a series of the moment of the distribution function of the square of the frequen-
cies, which is accurate at temperatures higher than $\theta_D/2\pi$ (θ_D = Debye temperature).
A simple method is given for calculating the distribution function of the squares
of the frequencies in the form of a series in ϵ, and also of the accurate values
of the moments (with arbitrary ϵ) in the presence of long-range order. It is found
that the vibrational part of the free energy increases with increasing degree of
long-range order, thus hindering the ordering, but quantitatively the reaction of
the oscillations on the ordering is quite small. Orig. art. has: 65 formulas.

SUB CODE: 20/   SUBM DATE: 28Jun65/   ORIG REF: 005/   OTH REF: 001

Card 2/2 *MPS*

L 29960-66   EWT(1)

ACC NR: AP6012521   SOURCE CODE: UR/0181/66/008/004/1314/1317

3/

B

AUTHOR: Iosilevskiy, Ya. A.

ORG: Institute of Solid State Physics,AN SSSR, Moscow (Institut fiziki tverdogo tela AN SSSR)

TITLE: "Temperature" splitting of the Mossbauer line in complex crystalline compounds

SOURCE: Fizika tverdogo tela, v. 8, no. 4, 1966, 1314-1317

TOPIC TAGS: Mossbauer spectrum, spectral line, line splitting, temperature dependence, Atom

ABSTRACT: The author calls attention to some characteristic singularities of the structure of the Mossbauer line in complex compounds, connected with the temperature dependence of the line structure. These characteristics can be observed and st be borne in mind when interpreting the results of the Mossbauer effect in such compounds. The singularities consist in the fact that if the Mossbauer atoms occupy in the system a discrete series of nonequivalent positions, then the Mossbauer line should experience, in addition to "chemical" splitting, also "temperature" splitting due to the differences in the oscillations of the individual active

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L 29960-66
ACC NR: AP6012521   0

atoms and their rms velocities. The number of components due to temperature split-
ting should be equal to the number of nonequivalent positions. Both types of split-
ting are of comparable magnitude and in general are of the same order as quadrupole
splitting. By way of an example the author presents calculations for a crystalline
absorber in which the γ-active atoms can occupy two nonequivalent positions. The
temperature splitting becomes more noticeable with decreasing temperature. The
arguments presented can be extended to include more than two nonequivalent positions
and also when the atomic positions are not strictly discrete but the atoms bunch
about certain characteristic mean positions with a practically continuous statis-
tical weight. Orig. art. has: 10 formulas.

SUB CODE: 20/   SUBM DATE: 30Nov65/   ORIG REF: 003/   OTH REF: 004

Card 2/2 CC

L 45428-66   T   IJP(c)   GG

ACC NR: AP6027756   SOURCE CODE: GE/0030/66/016/002/0633/0649

27

AUTHOR: Iosilevskii, Ya. A.

B

ORG: Institute of Solid-State Physics, Academy of Sciences SSSR, Moscow

TITLE: Mossbauer effect in some polyatomic crystals

SOURCE: Physica status solidi, v. 16, no. 2, 1966, 633-649

TOPIC TAGS: Mossbauer effect, polyatomic crystal, impurity atom, thermal shift

ABSTRACT: Expressions are obtained for the probability of the Mossbauer effect and the thermal shift in the energy of a γ-photon for binary crystalline compounds AB_{r-1}. These compounds include crystals of the NaCl- or CsCl-type structures, crystals of completely ordered alloys ($AuCu_3$, $AlFe_3$, etc.), and monatomic crystals with isolated impurity atoms. It is assumed that the force constants depend only on the differences of the position vectors of the atoms. The treatment includes the two cases in which nucleus B is resonant. The case in which atom A (mass M_0) and atom B (mass M) differ considerably in mass is

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L 45428-66

ACC NR: AP6027756

6

analyzed in greater detail. For $M_0/M \ll 1$ or $M_0/M \gg 1$, the fraction e^{-Z_0} of recoilless emissions (or absorptions) of γ-rays by atom A and the thermal shift δE_* are independent of M_0/M for given interatomic forces. Values of these quantities are hence determined by the appropriate limiting expressions $(M_* = \text{const}, M \to \infty \text{ or } M \to 0)$. . Thus, the finite Mossbauer effect for an atom surrounded by light atoms is independent of the mass of the matter. In addition, there exists a limit to the gain in the probability of the Mossbauer effect and in the thermal shift for an atom which can be obtained by surrounding it with increasingly heavier atoms. It is also shown that the probability of the effect and the thermal shift for the atoms A, for the given interactions, are essentailly independent of r (the relative concentration). The quasi-classical expansions of Z_j and δE_j, for the j-th atom in a unit cell are obtained for more complicated compounds of the type $A_{r_1}^{(1)} A_{r_2}^{(2)} \ldots A_{r_n}^{(n)} \quad (r_1 + r_2 + \cdots r_n = r)$ by the method of moments. Orig. art. has: 4 formulas. [Author's abstract]   [KS]

SUB CODE: 20/   SUBM DATE: 23May66/   ORIG REF: 009/   OTH REF: 002/

LS
Card 2/2

L 04667-67   EWT(1)/T   IJP(c)

ACC NR: AP6024460   SOURCE CODE: UR/0181/66/008/007/2025/2038

AUTHOR: Iosilevskiy, Ya. A.

ORG: Institute of Solid State Physics, AN SSSR, Moscow (Institut fiziki tverdogo tela AN SSSR)

TITLE: Dynamics of certain ideal polyatomic crystals

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2025-2038

TOPIC TAGS: crystal lattice vibration, vibration spectrum, crystal structure, ordered alloy, crystal impurity   2/

ABSTRACT: The problem considered is that of expressing the normal vibrations and the spectrum of a given complex crystal lattice in terms of an ideal monoatomic lattice whose spectrum is known or can be directly modeled. The author considers a fairly broad class of monoatomic crystal lattice from which the dynamic problem is meaningful in such a formulation, namely binary crystal compounds of the type AB_{n-1}, and presents its solution. It is shown that a unified approach can be used to solve the problem for crystals with different structures, such diatomic crystals of the type NaCl and CsCl, crystals of the type of fully ordered alloys ($AuCu_3$, $AlFe_3$), and lattices with isolated impurity atoms. The limiting case of a monoatomic lattice from which the impurities can be isolated is considered as part of the analysis. Orig. art. has: 73 formulas.

SUB CODE: 20/   SUBM DATE: 23Nov65/   ORIG REF: 006/   OTH REF: 001

kh

Card 1/1

L 08174-67   EWT(1)   IJP(c)   GG

ACC NR: AP6024881   SOURCE CODE: UR/0056/66/051/001/0201/0215

AUTHOR: Iosilevskiy, Ya. A.   30

ORG: Institute of Solid State Physics, Academy of Sciences SSSR (Institut fiziki B
tverdogo tela Akademii nauk SSSR)

TITLE: Contribution to the dynamics of polyatomic crystals and crystals with defects

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 1, 1966, 201-215

TOPIC TAGS: crystal defect, mixed crystal, crystal lattice vibration, vibration spec-
trum, Mossbauer effect

ABSTRACT: This is a continuation of earlier work by the author (FTT v. 8, 2025, 1966)
where the dynamic problem was considered for binary crystalline compounds of the type
AB_{r-1} with r atoms per unit cell, constructed by periodic filling with atoms A and B
the same Bravais lattice. The present article extends the earlier result to solve the
problem of vibration of a crystal lattice containing very simple extended defects such
as arbitrarily oriented change, and also flat clusters of impurity atoms. By using de-
fects of simple structure, it is possible to analyze the entire spectrum of the fre-
quencies within the framework of the microscopic dynamics of the lattice, without re-
sorting to elasticity-theory approximation. The complete spectrum of the system and
the spectrum of the oscillations of individual atoms is expressed in terms of suitably
defined spectral functions for the initial "standard" lattice, with the aid of func-
tionals of the same type, which determine the spectral properties of the crystal with

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L 08174-67

ACC NR: AF6024881   0

isolated impurity atoms. This makes the approach useful for the determination of the
probability of the Mossbauer effect and other dynamic effects connected with interac-
tion between radiation and crystals. Orig. art. has: 56 formulas.

SUB CODE: 20/   SUBM DATE: 17Jan66/   ORIG REF: 007/   OTH REF: 003 .

Cord 2/2 ast

ABSTRACT: Using a previously obtained solution of the corresponding dynamic problem (FTT v. 8, 2025, 1966; ZhETF v. 51, 201, 1966) the author considers the probability of the Mossbauer effect and of single-phonon processes and also the "temperature" line shift in binary crystals of the type AB_{r-1} (r - number of atoms per unit cell), constructed by filling sites of the same Bravais lattice with the atoms A and B. Such crystals include ideal crystals with r atoms per unit cell, or else single-atom lattices with defects in the form of isolated substitution impurities, linear chains, and plain accumulation of such impurities. A single set of general expressions is obtained for the transition probability and for the temperature line shifts for all types of compounds. In the case when atom A is γ-active, the formulas turn out under certain conditions to be practically independent of r and coincide with those previously obtained for isolated impurity atoms. In the case when the atom B is γ-active,

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ACC NR: AP6033566

the results obtained describe the influence of the small concentration of impurities on the Mossbauer effect on the atoms of the host. The dependence of the results on the ratio of the masses of the atoms is discussed. The probability of observing single-phonon processes is estimated. Orig. art. has: 42 formulas.

SUB CODE: 20/   SUBM DATE: 04Apr66/   ORIG REF: 011/   OTH REF: 004

Card   2/2

ACC NR: AP7005349   SOURCE CODE: UR/0181/67/009/001/0215/0226

AUTHOR: Iosilevskiy, Ya. A.

ORG: Institute of Solid State Physics, AN SSSR, Chernogolovka (Institute fiziki tverdogo tela AN SSSR)

TITLE: Concerning the dynamics of diatomic crystals and of the simplest layered structures

SOURCE: Fizika tverdogo tela, v. 9, no. 1, 1967, 215-226

TOPIC TAGS: ideal crystal, crystal structure, layered structure, phonon spectrum, crystal impurity

ABSTRACT: The dynamics of alternating ideal crystal compounds of type AB with two atoms per unit cell is analyzed with the aid of a method developed in earlier papers (FTT v. 8, 2025, 1966 and elsewhere). Particular attention is paid to layered structures such as AuCu and CuPt alloys. An analysis is presented of the differences between their phonon spectrum and the phonon spectrum of "body type" structures (such as NaCl or CsCl). The main equations of the earlier papers are rewritten to take account of these differences. Also considered is the general layered structure of arbitrary symmetry of type AB_{r-1} (each r-th plane consisting of atoms A), which becomes equivalent to a crystal with isolated impurity planes in the limit as r becomes infinite. In the case when the masses of the atoms A and B differ greatly, individual light atoms A (in the case of "body" structures) or planar clusters of such

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ACC NR: AP7005349

atoms (in the case of layered structures) are "screened" by the heavy atoms B in such a way that their vibrations hardly differ from localized vibrations of the corresponding isolated impurity object (individual atoms or planes) in a lattice made up of atoms B. Orig. art. has: 47 formulas.

SUB CODE: 20/   SUBM DATE: 22Jun66/   ORIG REF: 006

Card 2/2

IOSIM, S., inzh.

Semiautomatic carbon-dioxide-shieleded arc welding and
building-up. Avt. transp. 43 no.10:29-31 O '65.

(MIRA 18:10)

Iosipescu A.

RUMANIA/Morphology of Man and Animals - Pathologic Anatomy.   S-6

Abs Jour   : Ref Zhur - Biol., No 6, 1958, 26532

Author   : Lobol, S., Iosipescu, A., Butnary, C.
Inst   : -
Title   : Dicephalic Monster.

Orig Pub   : Obstetr. si ginecol., 1956, 4, No 2, 160-162.

Abstract   : No abstract.

Card 1/1

IOSIPESCU, Anatol, dr.; MANOLESCU, N. stud.

On some unusual localizations of cylindroms (laryngotracheo-
bronchial localizations). Otorinolaringologie (Bucur) 10
no.1:63-68 Ja-Mr'65.

1. Lucrare efectuata in prosectura Spitalului "Coltea),
(medic primar: dr. Gh. Vrejoiu).

MIHAIL, A., dr.; GHERASIM, I., dr.; VREJOIU, Gh., dr.; IOSIPESCU, A., dr.

Hemoperitoneum of non-traumatic hepatic origin. Med. intern., Bucur 13 no.2:281-291 F '61.

1. Lucrare efectuata in Clinica a III-a medicala si Laboratorul de anatomie patologica. Spitalul "Coltea", Bucuresti.

(HEMOPERITONEUM etiology)
(LIVER NEOPLASMS complications)
(LIVER CIRRHOSIS complications)

CIORAPCIU, S., dr.; MIHAIL, A., dr.; POPESCU, P., dr.; IOSIPESCU, A., dr.;
MANOLESCU, N., tehnician

Clinical and anatomopathological aspects of rupture of the
heart caused by myocardial infarct. Med. intern. 15 no.6:
717-727 Je '63.

1. Lucrare efectuata in Clinica medicala a Spitalului "Coltea",
Bucuresti.
          (MYOCARDIAL INFARCT)   (PATHOLOGY)
             (HEART SEPTUM, VENTRICULAR)

MARINESCU-SLATINA, D.; IOSIPESCU, A.; MANOLESCU, N.

"Anatomoclinical considerations on 2 cases of tumors of the chromaffin tissue. Stud. cercet. endocr. 15 no.3:253-256 '64.

CONSTANTINESCU, Valentin; MIHAIESCU, Maria; IOSIPESCU, Adrian

    Automation equipment with elements without contacts for a transfer
line. Probleme automatiz 4:55-62 '63.

MIHAILIDE, D., dr.; MIHAILESCU, N., dr.; IOSIPESCU, I., dr.

Vertebral degenerative rheumatism in heavy industry. Med. intern.
14 no.7:813-817 Jl '62.
         (SPINAL DISEASES)   (ARTHRITIS, RHEUMATOID)
        (INDUSTRIAL MEDICINE)   (OCCUPATIONAL DISEASES)

CIUFU, V., ing.; IOSIPESCU, I., ing.

Experimentation in a new method for testing reinforced concretes. Rev constr si nat constr 15 no.9:498-500 S'63.

IOSIPESCU, N.

Photoelastic study of a locomotive main rod. p. 1449. Academia Republicii
Populare Romine. COMUNICARILE. Bucuresti. Vol. 5, no. 10, Oct. 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 5,
no. 9, Sept. 1955

IOSIPESCU,N.; FACAOARU,L.

Behavior and resistance of concrete in shearing and tension processes. p. 119

REVISTA CONSTRUCTIILOR SI A MATERIALELOR DE CONSTRUCTII. (Asociatia Stiintifica a Inginerilor si Technicienilor din Rominia si Ministerul Constructiilor si al Materialelor de Constructii) Bucuresti, Rumania.   Vol. 11, no. 3, Mar. 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 9, Sept. 1959

Uncl.

R/008/62/013/002/007/009
D272/D308

AUTHOR: Iosipescu, N.

TITLE: Photoelastic studies on a correct testing procedure in
            pure shear of materials

PERIODICAL: Studii şi cercetări de mecanică aplicată, no. 2,
            1962, 475 - 495

TEXT: The purpose of the studies was to find a new method of test-
ing various structural materials for pure shear. It is shown that
when a linearly varying bending load is applied to a sample the
point of zero moment being situated half way across the length of
the specimen a simple shearing force is obtained at this inflection
point. Photoelastic study shows that the sample should have two
right angle notches on opposite sides with depths equal to. a quarter
of the height of the sample. In this case maximum values of tangen-
tial stresses and a uniform distribution of shearing forces will ap-
pear in the maximum cross section between the notches if certain
precautions depending on the material are taken. Several practical
methods of testing building materials, based on these studies, have
Card 1/2

Photoelastic studies on a correct ...

R/008/62/013/002/007/009
D272/D308

been patented in favour of Ministerul Transporturilor şi Telecommu-
nicaţiilor (Ministry of Transportation and Telecommunications) and
Ministerul Economiei Forestiere (Ministry of Forestry) of Rumania.
There are 33 figures.

ASSOCIATION: Institutul de cercetări în construcţii şi economia
construcţiilor (INCERC), Bucureşti (Institute for
Construction Research and Construction Economics)

Card 2/2

IOSIPESCU, N.

"Photoelastometry and examples of its use" by M. Milbauer and
M. Perla. Reviewed by N.Iosipescu. Studii cerc mec apl 13
no.3:809-810 '62.

IOSIPESCU, N.

Determination and experimentation of a new proceeding in testing steels subjected to pure shear. Studii cerc mec apl 14 no.2:419-439 '63.

1. Institutul pentru cercetari in constructii si economia constructiilor (INCERC).

IOSIPOVICH, Z.I.

Using welding instead of rivets in making three-sided rectangular devices for inflowing air. [Suggested by: Z.I. Iosipovich]. Rats. i izobr. predl. v stroi. no.142:35-38 '56. (MIRA 10:4)

(Ventilation)   (Electric welding)

EBIN, L.Ye.; GANELIN, A.M.; GILINSKIY, A.M.; GORNOVESOV, G.V.; ZLATKOVSKIY,
A.P.; KAUFMAN, B.M.; KISELEV, N.A.; KULIKOV, P.Ye.; LEVIN, M.S.;
SLAVIN, M.P.; SMIRNOV, B.V.; SMIRNOV, V.I.; SMIRNOVA, I.S.;
TARASOVA, V.Ye.; CHEBOTAREV, V.I.; SHATS, Ye.L.; ENTIN, I.A.;
IOSIFYAN, S.O., redaktor; SARKISYAN, A.M., redaktor; SMIRENSKIY,
M.D., redaktor; TEPLITSKIY, Ya.S. redaktor; KOMAROVA, V.M., redaktor;
GUREVICH, M.M., tekhnicheskiy redaktor.

[Rules for the operation of electric installations in rural areas]
Pravila tekhnicheskoi ekspluatataii sel'skikh elektroustanovok.
Moskva, Gos. izd-vo sel'khoz. lit-ry, 1957. 183 p.   (MIRA 10:4)

1. Russia (1923-   U.S.S.R.) Glvanoye upravleniye sel'skikh elektro-
stantsii.
        (Electric power plants)   (Electricity in agriculture)

SMIRNOV, B.V.; BYSTRITSKIY, D.N.; ZUL', N.M.; IOSIPYAN, S.G.; SERGO-
VANTSEV, V.T.

[Basic rules pertaining to the volume of remote control to be
installed in rural electric power stations and substations]
Osnovnye polozheniia po ob"emu telemekhanizatsii sel'skikh
elektricheskikh stantsii i podstantsii. Moskva, Otdel tekhn.
informatsii, 1958. 16 p.   (MIRA 13:4)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut elektri-
fikatsii sel'skogo khozyaystva. 2. Vsesoyuznyy nauchno-issledo-
vatel'skiy institut elektrifikatsii sel'skogo khozyaystva (VIESKh)
(for Smirnov, Bystritskiy, Zul'). 3. Ministerstvo sel'skogo kho-
zyaystva SSSR (for Iosipyan). 4. Moskovskiy institut mekhanizatsii
i elektrifikatsii sel'skogo khozyaystva im. V.M.Molotova (MIMESKh)
(for Sergoventsev).
              (Electric power distribution)

SERGOVANTSEV, V.T., kand.tekhn.nauk; YURASOV, V.V., kand.tekhn.nauk;
ALUKER, Sh.M., kand.tekhn.nauk; ANDRIANOV, V.N., doktor tekhn.
nauk; ASTAF'YEV, N.N., kand.tekhn.nauk; BUDZKO, I.A., akademik;
BYSTRITSKIY, D.N., kand.tekhn.nauk; VEYALIS, B.S., kand.tekhn.
nauk; GIRSHBERG, V.V., inzh.; GORSHKOV, Ye.M., inzh.; GRI-
CHEVSKIY, B.Ya., inzh.; ZAKHARIN, A.G., doktor tekhn.nauk;
ZLATKOVSKIY, A.P., kand.tekhn.nauk; IOSIPYAN, S.G., inzh.;
ITSKOVICH, A.M., dotsent; KAUFMAN, B.M., inzh.; KVITKO, M.N.,
inzh.; KORSHUNOV, A.P., inzh.; LEVIN, M.S., kand.tekhn.nauk;
LUBANOV, V.N., dotsent; LITVINENKO, A.F., inzh.; MERKELOV,
G.F., inzh.; PIRKHAVKA, P.Ya., kand.tekhn.nauk; PROMNIKOVA,
M.I., kand.tekhn.nauk; SMIRNOV, B.V., kand.tekhn.nauk; FATYU-
SHENKO, S.G., inzh.; KHODNEV, V.V., inzh.; SHCHATS, Ye.L.,
kand.tekhn.nauk; EBIN, L.Ye., doktor tekhn.nauk; ENTIN, I.A.,
kand.tekhn.nauk; SILIN, V.S., red.; SMELYANSKIY, V.A., red.;
BALLOD, A.I., tekhn.red.; SMIRNOVA, Ye.A., tekhn.red.

[Handbook pertaining to the production and distribution of
electricity in agriculture] Spravochnik po proizvodstvu i
raspredeleniiu elektricheskoi energii v sel'skom khoziaistve.
Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 900 p. (MIRA 13:2)

1.Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni
V.I.Lenina (for Budzko).
        (Rural electrification)

IOSIPYAN, S.G.

Accelerate the development and manufacture of electrical
equipment for use in rural areas. Vest. elektroprom. 33
no.9:14-17 S '62.
(MIRA 15:10)

1. Starshiy ekspert Vsesoyuznogo ob"yedineniya Soveta Ministrov
SSSR po prodazhe sel'skokhozyaystvennoy tekhniki, zapasnykh
chastey, mineral'nykh udobreniy i drugikh material'no-tekhnicheskikh
sredstv, organizatsii remonta i ispol'zovaniya mashin v kolkhozakh
i sovkhozakh.
(Electric apparatus and appliances)
(Rural electrification--Equipment and supplies)

IOSIS, G.

Experimental procedure for crediting trade organizations on the basis of turnover. Den.i kred. 21 no.1:61-66 Ja '63.

(MIRA 16:2)

1. Nachal'nik otdela kreditovaniya torgovli i zagotovok Leningradskoy oblastnoy kontory Gosbanka.
        (Leningrad Province--Retail trade-finance)

MARINOVA, L.; IOSIVCHEV, A.; VELICHKOVA, D.; ABADZHIEV, D.

Experiences with diagnosis of congenital cardiovascular defects. Khirurgiia, Sofia 11 no.5-6:515-517 1958.

1. Iz Khirurgichnata i Detskata klinika pri ISUL.
    (CARDIOVASCULAR DEFECTS, CONGENITAL, diagnosis,
        (Bul))

IOSOF, Vasile

Polarographic determination of iron and manganese in soils
and sediments. Dari seama sed 48:369-375 60/61 [publ.'62]

Country   : USSR
Category=   : Human and Animal Physiology, Blood

Abs. Jour.   : Ref Zhur - Biol., No. 2, 1959, No. 7998

Institut.   : The National Institute of Blood Transfusion,
Title   : Changes in Globin and Hematin in Pernicious
                 Anemia.

Orig. Pub.   : Sb. tr. N.-i. in-t perelivaniya krovi. GruzSSR,
                 1957, 5, 143--147

Abstract   : A study was made using 20 patients with perni-
                 cious anemia of changes in hematin by the Sahli
                 method and in globin by the Simakov method. A
                 decrease was noted in the globin level and a
                 less pronounced decrease in the hematin level.
                 A tendency toward normalization of the globin
                 was noted following treatment; in 6 patients
                 the globin level became nearly normal. In 14
                 patients, however, full normalization did not
                 occur. In the majority of cases, the hematin
                 level became normal or was at the lower limits
                 of normal. -- A. D. Zhuchkova
Card: 1/1

ACCESSION NR: AP4027597   S/0040/64/028/002/0373/0374

AUTHOR: Ioslovich, I. V, (Moscow)

TITLE: Problem of optimal rocket trajectories

SOURCE: Prikladnaya matematika i mekhanika, v. 28, no. 2, 1964, 373-374

TOPIC TAGS: rocket trajectory, optimal rocket trajectory, optimum flight time

ABSTRACT: Extremal problems of an ideally controlled rocket in a constant gravita-
tional field are considered. The solution of the problem concerning maximal flight
time $\Delta t = t_f - t_i$ in a horizontal plane for a given final mass m_f is derived from
the extremal equations of G. Leytmann (Ob optimal'ny*kh trayektoriyakh rakety*.
PMM, 1961, v. XXV, no. 6). This solution was given earlier by Yu. A. Gorelov (O
dvukh klassakh ploskikh ekstremal'ny*kh dvizheniy rakety* v pustote. PMM, 1960, v..
XXIV, no. 2). The optimal condition is β/m = constant, where β = -m. The case
where the thrust is used only to maintain a constant altitude on a certain part of
the trajectory is investigated. Flight in the vertical plane is also discussed.
The optimizing method of Pontryagin is used to obtain a max t_f for a given m_f.
There is an infinite set of optimal conditions. It is not necessary to impose
β/m = constant. Orig. art. has: 1 figure and 12 equations.

Card 1/2

L 32030-66   EWT(d)/FSS-2/EEC(k)-2/EWP(1)   IJP(c)   BC

ACC NR: AP6019587   SOURCE CODE: UR/0293/66/004/003/0344/0350

AUTHOR: Borshchevskiy, M. Z.; Ioslovich, I. V.

ORG: none

TITLE: Some optimum stabilization problems of axially symmetric satel-
lites

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 3, 1966, 344-350

TOPIC TAGS: altitude control, satellite stabilization, optimum stabili-
zation, optimum control

ABSTRACT: The problem of stabilizing the rotational motion of an
axially symmetric body around its centroid by means of three reaction
jets with minimum fuel expenditure and an arbitrary time of stabiliza-
tion is analyzed under certain simplifying assumptions. Assuming
that the x-axis is the axis of symmetry of a body, the Euler equations
of motion are reduced to a normal form

$$\dot{x} = b_1 u_1,$$
$$\dot{y} = Dxz + b_2 u_2,$$
$$\dot{z} = -Dxy + b_3 u_3,$$
(1)

Card 1/3   UDC: 531.383:629.191

L 32030-66

ACC NR: AP6019587   ◯

where D is a coefficient expressed in terms of the principal moments of
inertia; the coefficients l_1, l_2, l_3 are expressed in terms of the
moment arms of the corresponding moments, c the constant jet velocity
and the principal moments of inertia; and $|u_1|$, $|u_2|$, $|u_3|$ is the fuel
expenditure rate per second for the corresponding jet engine. Assuming
that the fuel expenditure rate per second is bounded, the optimum
stabilization problem is reduced to determining such piece-wise continu-
ous functions $u_1(t)$, $u_2(t)$, $u_3(t)$ (the control functions) which minimize
the performance functional

$$I = \int_0^T (|u_1| + |u_2| + |u_3|)dt \tag{2}$$

which represents the expenditure of fuel in time T. The following two
approaches are used in solving the problem: a) the lower bound of the
functional I is determined and the phase trajectory is established on
which the value of I coincides with the upper bound, that is, the trajec-
tory is optimum; b) the sufficient optimality conditions of V. F. Krotov
(Avtomatika i telemekhanika, v. 23, no. 12, 1962, 1571; and v. 24,
no. 5, 1963, 581). Using the second approach, the problem is reduced
to determining a certain function ϕ from partial differential equations.
The optimality conditions for the control functions u_1, u_2, u_3 are

Card   2/3

ACCESSION NR: AP4043494   S/0293/64/002/004/0567/0569

AUTHOR: Ioslovich, I. V.

TITLE: Maximal speed of braking of the rotation of an axially symmetrical satellite

SOURCE: Kosmicheskiye issledovaniya, v. 2, no. 4, 1964, 567-569

TOPIC TAGS: artificial earth satellite, artificial satellite rotational braking, axially symmetrical artificial satellite, earth satellite orientation, earth satellite rotation

ABSTRACT: In certain cases, the rotation of a satellite around its center of mass is undesirable and can be stopped by means of a control system. The problem of the optimal speed of accomplishment of this process and the elaboration of an appropriate control system was formulated earlier (E. B. Lee, ARS. J., 32, No. 6, 981, 1962). It was found that for an axially symmetrical satellite there are a number of peculiarities associated with the nonuniqueness of solutions of the variation problem. In this paper, the author demonstrates that the equations of the variation problem are integrable in sectors of constancy of control, and presents certain facts characterizing the layering of phase space by the surfaces formed by trajectories. Orig. art. has: 17 formulas.

Card 1/2

ACC NR: AP6028333   SOURCE CODE: UR/0293/66/004/004/0545/0551

AUTHOR: Ioslovich, I. V.

ORG: none

TITLE: Optimal stabilization of axially symmetric satellite by means of a system of n jets

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 545-551

TOPIC TAGS: satellite stability, optimal control, satellite optimal stabilization, jet roll stabilization

ABSTRACT: The problem of determining the optimal mode of operation of n (n $\geq$ 2) jets used for controlling rotational motion of an axially symmetric satellite around its center of mass is investigated. The motion of a satellite around the center of mass is described by the Euler equations and the performance functional is taken in the form

$$I = \int_0^T \left(\sum_{i=1}^n u_i \right) dt,$$

where U_i is the fuel expenditure in the i-th jet in one second. The pair of vector functions (x, y, z) and $(u_1, \ldots, u_n)$ belonging to class D are defined and the
Card 1/2   UDC: 629.191

Card 2/2

IOSLOVICH, I.V.

Most rapid deceleration of the rotation of an axsymmetric satellite.
Kosm. issl. 2 no.4:567-569 Jl-Ag '64.   (MIRA 17:9)

L 42865-66   FSS-2/EWT(1)/EWP(m)/EWP(f)/T-2   IJP(c)   TT/WW/GW

ACC NR: AP6028333   SOURCE CODE: UR/0293/66/004/004/0545/0551

AUTHOR: Ioslovich, I. V.

ORG: none

TITLE: Optimal stabilization of axially symmetric satellite by means of a system of n jets γ?

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 545-551

TOPIC TAGS: satellite stability, optimal control, satellite, optimal stabilization, jet roll stabilization   control jet

ABSTRACT: The problem of determining the optimal mode of operation of n (n ≥ 2) jets used for controlling rotational motion of an axially symmetric satellite around its center of mass is investigated. The motion of a satellite around the center of mass is described by the Euler equations and the performance functional is taken in the form

$$I = \int_0^T \left(\sum_{i=1}^{n} u_i \right) dt.$$

where U_i is the fuel expenditure in the i-th jet in one second. The pair of vector functions (x, y, z) and $(u_1, \ldots, u_n)$ belonging to class D are defined and the

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L 42865-66

ACC NR: AP6028333 O

following variational problem is formulated: for an arbitrary initial point x_0, y_0, z_0, it is required to choose from class D a sequence of pairs of vector functions. (x, y, z), $(u_1 \ldots, u_n)$ in which the performance functional (1) tends toward its lower bound. To solve this problem, the Hamilton-Jacobi-Bellman approach in the form presented by V.,F. Krotov (Avtomatika i telemekhanika, v. 23, no. 12, 1962, 1571 and v. 24, no. 5, 1963, 581) is utilized. By introducing an arbitrary continuous function $\phi(x, y, z, t)$ which has continuous first derivatives almost everywhere and using the sufficient optimality condition, the solution of the optimal control problem is reduced to solving a partial differential equation. The set of functions $\phi(x, y, z, t)$ is obtained and the question as to the domain of phase space in which the sequence of modes of operation minimizing the functional can be constructed on the basis of these functions is analyzed. It is shown that the entire phase space is decomposed into a certain number of cones and every cone corresponds to some definite jets which damp the angular velocity of the satellite in such a way that the phase point always remains in the corresponding cone. It is pointed out that for any initial conditions, the optimal stabilization of the satellite can be achieved by no more than two jets and their optimal mode of operation is, as a rule, "sliding". Orig. art. has: 30 formulas.   [LK]

SUB CODE: $22, 20$/ SUBM DATE: 01Mar66/ ORIG REF: 003   A-7D Pure 5065

Card 2/2

BASNIN, R.V., inzhener-kapitan 1-go ranga; IOSSA, V.A., kapitan 1-go
ranga zapasa

Training of students of naval schools. Mor. sbor. 48 no.5:
72-77 My '65.   (MIRA 18:6)

NOVIKOV, V.; MATVEYEV, Yu.M.; RUZHINSKIY, M.B.; BATIST, A.I.; IOSSEL', G.;
        KOROLEV, M.; IVANTSOV, V.; ARONOV, I.; SVETLAKOV, V.; ZAYONCHIK,
        L.Z.; RASPOPOV, I.V.; SERDYUKOV, G.V.; GRISHKOV, A.I.; MAKEYEV, I.F.;
        DELLO, A.A.; SHUMNAYA, V.A., inzh.; SPIRYAGIN, L.P., inzh.; GRISHKOV,
        A.I.; KARDONOV, B.A.; BURDIN, V.M., kand. tekhn. nauk; MOLGACHEV,
        D.A., inzh.; MUZALEVSKIY, O.G.; RIVKIN, A.A.; KEYS, N.V.; KOMISSAROV,
        A.I.

        New developments in research. Stal' 25 no.8:842-845 S '65.
                                                    (MIRA 18:9)

S/105/62/000/003/003/003
E025/E484

24.2400 (1057, 1147, 1385)

AUTHOR: Iossel', Yu.Ya., Engineer (Leningrad)

TITLE: Potential coefficients in a system of discs lying in
            a single plane

PERIODICAL: Elektrichestvo, no.3, 1962, 67-69

TEXT: A system of n coplanar discs of known radii and
distances between centres is considered and the potential
coefficients are determined by the method of mean potentials,
that is uniform charge distribution over the surface of the discs
is assumed.   The potential of one disc in the absence of the
others is first calculated and the mutual potential coefficient
obtained by calculating the mean value of this over the surface of
another disc.   The error due to use of the mean potentials method
is estimated by calculating the self potential coefficient by the
same method and determining the limits between which the unknown
true value must lie, from the considerations that the maximum
value is obtained in the absence of the other discs and the
minimum value when the whole plane apart from an annulus
surrounding the given disc is occupied by metal.   The maximum

Card 1/2

L 02012-67   EWT(m)/EWP(t)/ETI   IJP(c)   JD/WB

ACC NR: AM6006732   (N)   Monograph   UR/

29

Iossel', YUriy YAkovlevich; Kochanov, Eduard Stepanovich; Strunskiy, Mikhail
Grigor'yevich   B+/

Problems of designing and modeling electrochemical corrosion protection for ships
(Voprosy rascheta i modelirovaniya elektrokhimicheskoy anti-korroozionnoy zashchity
sudov) Leningrad, Izd-vo "Sudostroyeniye", 65.   0271 p.   illus., biblio. 1,600
copies printed.

TOPIC TAGS: shipbuilding engineering, corrosion protection, electroplating, sea
water corrosion

PURPOSE AND COVERAGE: The book is devoted to problems of applying modern methods of
calculation and modeling the stationary electric field to the design of electro-
chemical corrosion protection systems for ships.   It discusses results of the appli-
cation of these methods in determining the parameters of cathodic protection for
ship's hull plating, pipelines and tanks, and other standard ship systems.   The book
is intended primarily for workers in the shipbuilding industry, specializing in cor-
rosion protection of ships.   It may serve as an aid to specialists in the field of
electrochemical corrosion of metals, as well as to engineers and scientific personnel
engaged in practical applications of the theory of the electromagnetic field.

TABLE OF CONTENTS (abridged):

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L 02012-67

ACC NR: AM6006732   0

Conventional symbols used in the book—3
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  systems of electrochemical corrosion protection for ships—9
Ch. II. Calculation of systems of electrochemical corrosion protection for the
  external surface of the ship—55
Ch. III. Calculation of electrochemical protection of ship systems and tanks—150
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  ships—209
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SUB CODE: 13 / SUBM DATE: 24Sep65/ ORIG REF: 065/ OTH REF: 019

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L 18322-63   EWT(m)/BDS   ESD-3   RH
ACCESSION NR: AP3004967   S/0076/63/037/008/1689/1693

AUTHORS: Iossel, Yu. Ya.; Shchiglovskiy, K. B. (Leningrad)

TITLE: Analysis of multi-electrode galvanic systems by means
       of equivalent electrical circuits

SOURCE: Zhurnal fiz. khimii, v. 37, no. 8, 1963, 1689-1693

TOPIC TAGS: corrosion, multi-electrode galvanic system,
            equivalent electrical system, double electrical layer,
            electrolyte-metal juncture

ABSTRACT: Authors analyzed a multi-electrode galvanic system in
order to learn something about its corrosion-producing properties.
The current path in a galvanic system proceeds through the
electrolyte and metal, and the function of both links of the path
is the source of e.m.f. since the charged double electrical layer
also originates here. The difference between potentials of the
electrolyte and metal is equal to the difference of the electrode
potential of the metal and some function of current representing

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L 18322-63
ACCESSION NR: AP3004967 0

the polarization. Hence, the double electrical layer can be
represented by the source of e.m.f., the direction and magnitude
of which is determined by the electrode potential of the metal
having an electronic resistance $R_i = (1/I)f(I)$. It is possible to
represent the elemental segment of the galvanic system in Figure 1
of the enclosure by the equivalent electrical circuit shown in
Figure 2 of the enclosure. Any galvanic system can be represented
through an equivalent electrical circuit by replacing the actual
cells with centralized e.m.f. sources and also by linear and non-
linear resistances. The method of connection of the cells depends
upon current distribution in the real system. The introduction of
an equivalent circuit makes it possible to investigate a multi-
electrode system on its model. Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 29Dec60   DATE ACQ: 06Sep63   ENCL: 02

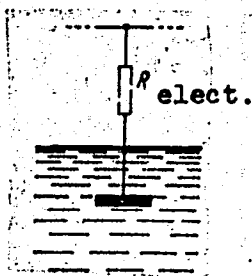SUB CODE: PH, EE   NO REF SOV: 012   OTHER: 000

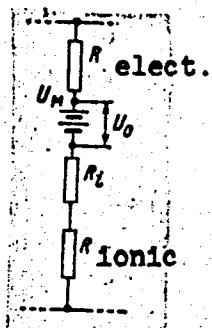Card 2/4

L 18322-63
ACCESSION NR: AP3004967

ENCLOSURE: 01

R elect.

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ENCLOSURE: 02

U_M - potential of metal.

U_0 - electrode potential of metal.

$R_i = (1/I) f(I)$

Card 4/4

IOSSEL', Yu.Ya.

Modeling of the electric field of linearly polarizing electrodes.
Zav.lab. 30 no.3:311-312 '64.   (MIRA 17:4)

IOSSEL', Yu.Ya., kand.tekhn.nauk (Leningrad); KOCHANOV, E.S., kand.tekhn.
nauk (Leningrad)

Calculation of the electric field of rectangular and band pro-
tectors. Elektrichestvo no.11:38-44 N '64.

(MIRA 18:2)