MERKHER, A.M., Inzr.

      Seminar in Kishinev on welding in a medium of shielding gases.
Svar. proizv. no.7:45 Jl '65.

MERKHILEVICH, V.P., inzhener;  OMEL'CHENKO, I.S.

Insulation of the hearth pipes of continuous furnaces.  Stal' 15
no.2:183-184 F '55.                                      (MIRA 8:5)

1.  Stalinskiy metallurgicheskiy zavod.
        (Metallurgical furnaces)

MERKULOV. ... Y .

Use of machinery in mining Borkyn. In drezervizist, 1954, 9/ p.

peredovye metody truin)

T.12:5.'74

USENKO, A.; MERKIN, A.

Preventing axial displacements of bottom rolls in the ZM roller
mill. Muk.-elev. prom. 24 no.12:21-22 D '58.          (MIRA 12:1)

1.Sorochanskaya mel'nita No.16 Vinnitskogo upravleniya khleboproduktov
(for Usenko).  2. Upravleniye mukomol'nokrupyanykh i kombikormovykh
predpriyatiy Ministerstva khleboproduktov SSSR (for Merkin).
                    (Milling machinery)

KHIGEROVICH, M.I., doktor tekhn. nauk, prof.; MERKIN, A.P., inzh.;
   KITAYTSEV, V.A., kand. tekhn. nauk, dots., retsenzent;

[Intensification of the making of cellular concrete by using
vibration]Intensifikatsiia izgotovleniia iacheistykh betonov
putem primeneniia vibrirovaniia; doklad na seminare prepoda-
vatelei i aspirantov stroitel'no-tekhnologicheskogo fakul'-
teta i na XX nauchno-issledovatel'skoi konferentsii instituta.
Moskva, Mosk. inzhenerno-stroit. in-t im. V.V.Kuibysheva,
1961.  14 p.                                    (MIRA 15:11)

1. Zaveduyushchiy kafedroy tekhnologii teploizolyatsionnykh
materialov (for Kitaytsev).
      (Lightweight concrete)   (Vibrated concrete)

KHIGEROVICH, M.I., doktor tekhn.nauk; LEVIN, S.N., kand.tekhn.nauk;
MERKIN, A.F., inzh.

Manufacture of silicate air-entrained concrete articles by vibration
inflation.  Stroi. mat.  7  no.9:34-37  S '61.         (MIRA 14:11)
(Air-entrained concrete)

KHIGEROVICH, M.I., doktor tekhn. nauk, prof.; LOGGINOV, G.I., doktor
     khim. nauk, prof.; MERKIN, A.P., inzh.; FILIN, A.P., aspirant;
     KITAYTSEV, V.A., kand. tekhn. nauk, ispolnyayushchiy obyaz.
     prof., retsenzent

[Vibration-inflated gas concrete; manufacture, macrostructure,
and technical characteristics. Reports at the 22d Research
Conference] Vibrovspuchennyi gazobeton; izgotovlenie, makro-
struktura i tekhnicheskie svoistva.  Doklady na XXI nauchno-
issledovatel'skoi konferentsii.  Moskva, 1962.  19 p.
                                        (MIRA 17:4)
1. Moscow. Inzhenerno-stroitel'nyy institut. 2. Zaveduyushchiy
kafedroy tekhnologii teploizolyatsionnykh materialov Moskovskogo
inzhenerno-stroitel'nogo instituta (for Kitaytsev).    .

LEVIN, S.N., kand. tekhn. nauk; AMKHANITSKIY, G.Ya., inzh.;
MERKIN, A.P., inzh.

Vibration in the technology of air-entrained concretes and
air-entrained silicates. Stroi. mat. 9 no.5:6-7  My '63.
(MIRA 16:7)

(Air-entrained concrete)
(Vibrated concrete)

MERKIN, A.P.; FILIN, A.P.; ZEMTSOV, D.G.

Formation of the macrostructure of cellular concrete. Stroi.mat.
9 no.12:10-12  D '63.                                      (MIRA 17:3)

MERKIN, A.P., kand. tekhn. nauk; SAKHAROV, G.P., inzh.; MIRETSKIY, Yu.I., inzh.

Perfecting the technology and improving the properties of
gypsum products by the introduction of chemical additives.
Stroi. mat. 10 no.6:31-32 Je '64.

(MIRA 17:10)

KHIGEROVICH, M.I.; MERKIN, A.P.; ZUYKOV, G.G.; KORSHUNOVA, A.P.;
OSMANOV, N.N.; DUDAK, N.Ya.; MUSATOVA, Z.I.; red.

[Improving the properties of cements and concretes by the
addition of synthetic products from petroleum chemistry;
a contribution to the problems of using chemical resources
in construction] Uluchshenie svoistv tsementov i betonov
dobavkami sinteticheskikh produktov neftekhimii; k vopro-
sam khimizatsii stroitel'stva. [By] M.I.Khigerovich i dr.
Moskva, 1964.  38 p.                              (MIRA 18:6)

1. Moscow. Inzhenerno-stroitel'nyy institut.

MERKIN, A.P., kand. tekhn. nauk

Developing the production of cellular concrete. Strol. mat.
11 no.1:22-23 Ja '65.                    (MIRA 18:6)

MARKOVA, O.A., inzh.; MERKIN, A.P., kand. tekhn. nauk

Determining the frost resistance of porous materials. Stroi.
mat. no.11:23-24 N '65.
(MIRA 18:12)

MERKIN, A.P.; FILIN, A.P.

Relation of the strength of cellular concretes to the size of the section of the pores. Sbor. trud. MISI no.50:48-50 '65.
(MIRA 18:12)

TEREKHOV, I.N., kand.tekhn.nauk, dotsent, kapitan 1 ranga; SMIRNOVSKIY, A.F., inzh.-kapitan, red.; MERKIN, D.B., kand.fiz.-maten.nauk, starshiy nauchnyy sotrudnik, red.; SHMAKOV, N.A., kapitan-leytenant, red.; BERDNIKOVA, Ye.B., tekhn.red.

[Brief course in radio deviation] Kratkii kurs radiodeviatsii. Moskva, Voen.izd-vo M-va vooruzhennykh sil SSSR, 1947.   85 p.
(MIRA 14:1)

1. NIGShI voyenno-morskikh sil (for Terekhov).
(Radio in navigation)

MERKIN, D. R.

29205.  Ballisticheskie leviatsii i rabota vykl'chatelya zatukaniva gidroskopicheskikh
kompasov tipa "kurs". Part 2i o dinaratii, 1945, No. 1, S. 42-53

MERKIN, D. R., DERETSKIY, YU. A. I KOSHLYAKOV, V. N.

SC:  Letopis' Zhurnal'mykl Statey, Vol. 39, Moskva, 1956

MERKIN, D. R.

Gyroscope

Certain general properties of material systems containing gyroscopes. Vest. Len. un. 7, No. 9, 1952.

States that the movement of a material system with gyroscopes is often detd by essentially nonlinear 2d order differential eqs; e.g., the eqs of motion of Foucault gyroscope with two dregrees of freedom, a prototype of modern gyroscopic compasses, does not admit simplification to a linear form ($x''-iy'-ky=0, y''-iy'-kx=0$, an essentially nonlinear system). Studies material gyroscopic systems whose velocity of proper rotation is large in comparison with other angular velocities present in the system. Cites related work of nonlinear specialist A.M.Kats ("Problem of Criterion of Aperiodic Stability," Prik. Mat. i Mekh., 15, No.1, 1951) and A. Tikhonov ("Dependence of solutions of Differential Equations on a Small Parameter," Matemat. Sbor., 22, No.2, 1948)

232279

SOV/124-58-3-2599

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 3, p 8 (USSR)

AUTHOR:    Merkin, D. R.

TITLE:    The Influence of Gyroscopic Forces Upon the Motion of a Non-conservative System  (Vliyaniye giroskopicheskikh sil na dvizheniye nekonservativnoy sistemy)

PERIODICAL:   Tekhn. inform. po rezul'tatam nauchn.-issled. rabot Leningr. lesotekhn. akad. 1954. Nr 15, pp 23-26

ABSTRACT:    An abridged account of the article (see RZhMekh, 1958, Nr 3, abstract 2598)

Card 1/1

AUTHOR:     Merkin D. R.

TITLE:      The Influence of Gyroscopic Forces Upon the Motion of a Non-
            conservative System  (Vliyaniye giroskopicheskikh sil na
            dvizheniye nekonservativnoy sistemy)

PERIODICAL:   Uch. zap, Leningr. gos. ped. in-t. 1955. Vol 103, pp 107-125

ABSTRACT:     The paper examines material systems whose disturbed-motion
            equations may be reduced to appear as follows

$$\ddot{q}_k + b_k \dot{q}_k + \sum_{j=1}^{n} \left[ g_{kj} \, \dot{q}_j + (c_{kj} + e_{kj}) q_j \right] = 0 \qquad (1)$$

            where $\quad g_{kj} = -g_{jk}, \quad c_{kj} = c_{jk}, \quad$ and $\quad e_{kj} = -e_{jk},$

            and the corresponding forces are gyroscopic, potential, and
            nonconservative (the latter are referred to by the author as
            radial correction forces ). For such a system the necessary
            conditions of asymptotic stability are studied, formulated in
Card 1/2    a manner analogous to Thomson and Tait's classical theorems

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The Influence of Gyroscopic Forces (cont.)

on gyroscopic stabilization. It is demonstrated that if the gyroscopes which form a part of the system under consideration possess sufficient kinetic moment, then, for the purpose of obtaining the required conditions of asympototic stability during the presence of certain extremely weak conditions, it is sufficient to apply Gurvits' analysis of inequalities for the two characteristic polynomes of the $n/2$ power, one of which corresponds to the initial system of equations without positioning terms while the other corresponds to the same equations system with discarded nutation terms (the simplified system). It is proved that the solution of this simplified system is acceptable, i.e., it is close to the solution of the initial system, which is of twice its order, provided only that the kinetic moments of the gyroscopes are sufficiently large. Bibliography: 5 references.

L. A. Rozenberg

Card 2/2

SOV/124-58-4-3674

AUTHOR:     Merkin, D. R.

TITLE:      The Motion of a Balanced Gyroscopic System (Dvizheniye
            uravnoveshennoy giroskopicheskoy sistemy)

PERIODICAL:   Uch. zap. Leningr. gos. ped. in-t, 1955, Vol 103, pp 127-137

ABSTRACT:    The motion of the axis of a free balanced gyroscope with respect
             to the earth is examined for a case when the support point has an
             arbitrary motion over the earth's surface.  An assumption is
             made that the time of observation is not long enough to necessi-
             tate the consideration of the influence of the friction in suspen-
             sion systems.  It is shown that the coordinates of the gyroscope
             axis, represented as functions of time, can be calculated either
             on the basis of geometrical transformations or on the basis of
             the so-called simplified equations of motion.  The latter equa-
             tions can be obtained from the linear part of the respective
             Routh function.  Bibliography: three references.

1. Gyroscopes--Analysis    2. Gyroscopes     L. A. Rozenberg
Card 1/1     --Motion    3. Mathematics

MERKIN, D. R.        DAVID RAHMILYEVICH

**Giroskopicheskiye Sistemy** (Gyroscopic Systems), by **D. R. Merkin**,
**State Publishing House for Technical and Theoretical Literature**,
Moscow, 1956, 300 pp

This book presents the theoretical analysis and formulas for the
calculation of gyroscopic forces, the extent to which they are governed
by dimension, the action of systems subjected to gyroscopic forces only,
the effect of gyroscopic forces on the action of conservative systems,
the fixed action of gyroscopic systems, and the stability of action of
linear systems.

According to the author the book follows the general gyroscopic
principles originally laid down by W. Thomson and P. Tait, **Treatise**
**on Natural Philosophy**, Part I, Cambridge University Press, 1879, with
revisions made in accordance with the work performed in this field in
recent years.

The author presents many practical examples to illustrate the theory
of gyroscopic motion, all of these being general rather than specific,
as is the intended nature of the whole book.

Sum 1214

MERKIN, D.R.

Sufficient conditions for asymptotic stability of a nonlinear
system.  Uch. zap. Ped. inst. Gerts. 125:115-118 '56.

(MLRA 9:12)

(Differential equations)

Book—24. Markin, D. R., Gyroscopic systems [Giroskopiches-kiye sistemy]. Moscow, Gos. Izdat. Tekh.-Teor. Lit., 1956, 299 pp.

This monograph goes to the basis of the theory of gyroscopic systems as indicated by W. Thomson and P. Tait in their "Treatise on natural philosophy" (Cambridge, 1879). This conception treats, from a general viewpoint, the role of gyroscopic forces occurring in the equations of motion for mechanical systems with gyroscopes. One of the most important facts in studying such questions lies in the possibility of replacing the exact equations of gyroscopic systems by simpler relations in order to facilitate the solution of a problem. Nevertheless, such a simplification can be made only under special conditions and one has always to estimate the degree of resulting approximation. Book pays special attention to considerations of this kind.

Content is divided into six chapters and an appendix. The chapter titles will give a more detailed idea of the subject: I. Gyroscopic forces (general definition, the most important classes of mechanical systems with such forces). II. Gyroscopic forces depending upon parameters (reader's attention is called especially to the necessary conditions for simplifying the basic equations). III. Motion of systems subjected only to gyroscopic forces (stability questions, possibility of simplified solutions,

*Merkin, D. R.*

dissipative forces). IV. Influence of gyroscopic forces on the motion of conservative systems. V. The same for nonconservative cases. VI. Steady motion of gyroscopic systems (problems with cyclic coordinates, conditions of stability, motion of simplified systems). Appendix deals with the stability questions for mechanical systems having multiple and purely imaginary characteristic numbers. Book ends with a good list of literature (57 sources, both Russian and non-Russian) followed by a carefully made index of matters treated.

Paper is good, print excellent. There are 37 instructive figures throughout the text. Reading presupposes familiarity with a good course of theoretical mechanics and with the fundamentals of the theory of stability. We highly recommend this valuable book with its modern way of presentation to specialists working in gyroscopics and theoretical mechanics.

V. Vodicka, Czechoslovakia

MERKIN, D.R., doktor fiz.-mat.nauk

Theory of a self-excited gyroscope. Izv.vys.ucheb.zav.; prib.
no.3:21-24  '59.                          (MIRA 13:4)

1. Leningradskaya ordena Lenina Lesotekhnicheskaya akademiya
im. S.M.Kirova. Rekomendovana kafedroy teoreticheskoy mekhaniki.
            (Gyroscope)

CHERTKOV, Rafail Isaakovich; MERKIN, D.R., nauchnyy red.; SHAURAK, Ye.N.,
        red.; ERASTOVA, N.V., tekhn.red.

[Jacobi's method in the dynamics of solid bodies] Metod IAkobi
v dinamike tverdogo tela. Leningrad, Gos.soiuznoe izd-vo sudo-
stroit.promyshl., 1960.  323 p.                      (MIRA 13:9)
                        (Dynamics)

24(6)

S/146/60/003/01/008/016
D002/D006

AUTHOR:      Merkin, D.R., Doctor of Physical-Mathematical Sciences

TITLE:       On the Accuracy of the Calculation of a Number of Gyroscope
             Compass Parameters

PERIODICAL:  Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye,
             1960, Vol 3, Nr 1, pp 54-60 (USSR)

ABSTRACT:    The author investigates mathematically the influence of the
             connecting terms of differential equations of motion of the
             "Anschuetz" ("Anshyuts") gyrocompass on the accuracy of a
             number of parameter measurements when the compass works on a
             fixed base. The accuracy of the calculations of periods,
             balance inter-effects is determined. The article was re-
             commended by the Kafedra teoreticheskoy mekhaniki (Chair of
             Theoretical Mechanics). There are 5 references, of which 1
             is German and 4 Soviet.

ASSOCIATION: Leningradskaya ordena Lenina lesotekhnicheskaya akademiya
Card 1/2     imeni S.M. Kirova (Leningrad Forestry Academy of the Order

S/146/60/003/01/008/016
D002/D006

On the Accuracy of the Calculation of a Number of Gyroscope Compass Para-
meters

of Lenin imeni S.M. Kirov)

SUBMITTED:   December 1, 1959

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13,2520
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21336
S/040/61/025/006/002/021
D299/D304

AUTHOR:     Merkin, D.R. (Leningrad)

TITLE:      On the stability of motion of a gyroframe

PERIODICAL: Prikladnaya matematika i mekhanika, v. 25, no. 6,
1961, 983 - 991

TEXT:  The motion of a gyroframe is considered, with arbitrary dis-
placement of the support point. By the method of an earlier work
of the author, the equations for the precession of the whole sys-
tem are set up. It is shown that under certain conditions the equa-
tions of motion yield a first integral which can be used for con-
structing the Lyapunov function and for ascertaining the sufficient
conditions for system stability. As an example, the precession
equations for a gyrocompass are set up. The precession equations
can be derived by two methods. The second method is based on simpli-
fying the expression for the kinetic energy; i.e. the kinetic ener-
gy of gyroscope motion with respect to the trihedron $Ox_1^*x_2^*x_3^*$ can
be approximated by the kinetic energy which corresponds to rota-

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On the stability of motion of a ...

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tion with respect to the symmetry-axes, (with sufficiently large velocities of rotation). The approximate expression for the kinetic energy can be represented in the form

where

$$T = \frac{1}{2} \sum_{s=1}^{k} C_s \left( \dot{\varphi}_s + \sum_{j=1}^{n} a_{js} \dot{q}_j + \sum_{j=1}^{3} b_{js} \omega_{sj}^{\circ} \right)^2 + T_1 + T_0 \qquad (2.2)$$

$$T_1 = m\mathbf{v} \cdot (\omega_r \times \mathbf{r}_c'), \qquad T_0 = m\mathbf{v}\,(\omega_s \times \mathbf{r}_c') + \frac{1}{2} m v^2 \qquad (2.3)$$

It is noted that $T_1$ is a linear form of the generalized velocities $\dot{q}$, and that $T_0$ depends on the generalized coordinates q and the time t only. Using Rauss's function

where

$$R = R_1 + R_0 + T_1 + T_0 \qquad (2.5)$$

$$R_1 = \sum_{s=1}^{k} H_s \sum_{j=1}^{n} a_{js} \dot{q}_j, \quad R_0 = \sum_{s=1}^{k} H_s \sum_{j=1}^{3} b_{js} \omega_{sj}^{\circ} \qquad (2.6)$$

the precession equations of the complete system are expressed in

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the form:

$$\frac{d}{dt}\frac{\partial R_1}{\partial \dot{q}_j} - \frac{\partial R_1}{\partial q_j} - \frac{\partial R_0}{\partial q_j} = Q_j - \frac{d}{dt}\frac{\partial T_1}{\partial \dot{q}_j} + \frac{\partial T_1}{\partial q_j} + \frac{\partial T_0}{\partial q_j} \qquad (2.8)$$

where Q are the generalized forces. Assuming that the forces which act on the system are potential,

$$Q_j = - \frac{\partial \Pi}{\partial q_j} \qquad (j = 1, \ldots, n), \qquad (3.1)$$

where $\Pi$ is the potential energy, and that $R_0$, $T_1$ and $T_0$ do not depend explicitly on time, Eq. (2.8) yields a first integral:

$$V = \Pi - T_0 - R_0 = \text{const.} \qquad (3.2)$$

It is assumed that the motion $q_j = 0$ $(j = 1, 2, \ldots, n)$, can be realized. In this case (2.8) represents the disturbed motion; if, in addition, the function

$$W = V - V(0) \qquad (3.3)$$

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On the stability of motion of a ...

is of fixed sign. then the undisturbed precession $q_j = 0$ is stable according to Lyapunov. As an example, the equations of motion of a gyrocompass are derived and its stability considered. After computations, one obtains the equations of motion

$$\frac{d}{dt}(2H \cos \varepsilon) \sin \beta + 2H \cos \varepsilon \cdot \cos \beta \dot{\beta} + 2H \cos \varepsilon \frac{v}{R} \sin \alpha \cos \beta =$$

$$= -ml\frac{dv}{dt}(\sin \alpha \sin \gamma - \cos \alpha \cdot \sin \beta \cos \gamma) + ml\omega v (\cos \alpha \sin \gamma +$$

$$+ \sin \alpha \sin \beta \cos \gamma)$$

$$-2H \cos \varepsilon \left(\dot{\alpha} \cos \beta - \frac{v}{R} \cos \alpha \sin \beta + \omega \cos \beta \right) = ml\frac{dv}{dt} \sin \alpha \cos \beta \cos \gamma -$$

$$- ml\omega v \cos \alpha \cos \beta \cos \gamma - \left(F - m\frac{v^2}{R}\right) l \sin \beta \cos \gamma$$

$$\frac{d}{dt} 2H \cos \varepsilon = ml\frac{dv}{dt}(\cos \alpha \cos \gamma - \sin \alpha \sin \beta \sin \gamma) +$$

$$+ ml\omega v (\sin \alpha \cos \gamma + \cos \alpha \sin \beta \sin \gamma) - \left(F - m\frac{v^2}{R}\right) l \cos \beta \sin \gamma$$

$$2H \sin \varepsilon \left(\dot{\alpha} \sin \beta + \dot{\gamma} + \frac{v}{R} \cos \alpha \cos \beta + \omega \sin \beta \right) = -N(\varepsilon)$$

(4.17)

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(Fig. 3). Eqs. (4.17) are equivalent to the equations obtained by A.Yu. Ishlinksiy by other methods, (Ref. 2: K teorii girogorizontkompasa (On the Theory of the Gyrocompass) PMM, 1956, v. 20, no.4). If the motion $\alpha = \beta = \gamma = 0$ can be realized, then Eq. (4.17) becomes

$$2H \cos \varepsilon \cdot \omega = ml\omega v, \quad 2H \sin \varepsilon \frac{v}{R} = - N(\varepsilon) \qquad (5.1)$$

(см. [²])

where

$$2H \cos \varepsilon = mlv = ml\sqrt{V_N{}^2 + (V_E + RU \cos \varphi)^2}$$

$$N(\varepsilon) = - \frac{4H^2}{mlR} \cos \varepsilon \sin \varepsilon$$

If these conditions hold also at the initial moment, then the gyroframe will be in equilibrium in the system $Ox^0y^0z^0$, indicating all the time the local vertical and the north. Further, system stability is analyzed on the assumption that $v$ and $\omega$ are constant. It is found that if condition

$$F - m \frac{v^2}{R} - mR\omega^2 > 0 \qquad (6.6)$$

(F - gravity) is satisfied, then the function $W = V - V(0)$ is positive

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tive definite for sufficiently small, $\alpha$, $\beta$, $\gamma$ and $\delta$. As its deriva-
tive equals zero ($W$ = const), (by virtue of Eq. (2.8)), the undis-
turbed motion of the gyrocompass $\alpha = \beta = \gamma = \delta = 0$ is stable (by
Lyapunov's theorem). Setting approximately

$$F - m \frac{V^2}{R} = mg,$$

inequality (6.6) becomes

$$\omega < \nu \, (\nu = \sqrt{\frac{g}{R}}). \tag{6.7}$$

Inequality (6.7) is not only the sufficient, but also the necessary
condition for the stability of gyrocompass motion. There are 3 fi-
gures, 1 table and 6 Soviet-bloc references.

SUBMITTED: June 27, 1961

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MERKIN, D.R.

Determining the tension in the binding and form of bundles. Nauch.
trudy LTA no.96:13-18 '61.                                    (MIRA 17:3)

MERKIN, David Rekhmil'yevich; BAYEVA, A.P., red.; PLAKSHE, L.Yu., tekhn.
red.

[Algebra of free and sliding vectors] Algebra svobodnykh i skol'-
ziashchikh vektorov. Moskva, Fizmatgiz, 1962. 163 p.
(MIRA 15:5)

(Vector analysis)

BUTENIN, Nikolay Vasil'yevich; PONYRKO, S.A., nauchnyy red.;
    MERKIN, D.R., doktor fiz.-matem.nauk, retsenzent; TROITSKIY,
    V.A., kand.fiz.-matem.nauk, retsenzent; SHAYKEVICH, I.A.,
    red.; TSAL, R.K., tekhn.red.

[Fundamentals of the theory of nonlinear vibrations] Elementy
teorii nelineinykh kolebanii. Leningrad, Sudpromgiz, 1962.
193 p.                                        (MIRA 15:5)
            (Vibration)

ANTONOVICH. Sergey Aleksandrovich; SHIFRIN, M.Sh., doktor tekhn.nauk, retsn.; MERKIN, D.R., doktor fiziko-mat. nauk, prof., retsn.; FEDORKO, P.P., red.; VOLCHOK, K.M., tekhn. red.

[Fundamentals of the theory of automatic control] Osnovy teorii avtomaticheskogo regulirovaniia.  Leningrad, Izd-vo "Rechnoi transport," 1962.  367 p.                    (MIRA 15:7)

(Automatic control)

S/040/65/027/002/002/019
D251/D308

AUTHOR:       Merkin, D. R. (Leningrad)

TITLE:        The effect of the compression of the earth on the action of a gyro-horizon compass

PERIODICAL:   Prikladnaya matematika i mekhanika, v. 27, no. 2, 1963, 203-210

TEXT:  The problem stated in the title is investigated on the basis of some results of A. Yu. Ishlinskiy. The earth is considered to be of geoidal form, and the true vertical is defined as the normal to its surface. The pseudo-vertical is the line joining a point of the surface to the center. The true and pseudo-horizontals are the planes perpendicular to these lines, respectively. The motion of a material point moving on the surface of the earth with respect to a geographically oriented moving coordinate system $O\xi\eta\zeta$ is considered, the surface of the earth now being taken as a Clairault ellipsoid. ($\xi\eta$ is truly horizontal, $\xi$ pointing east and $\eta$ north.) The theory of the gyroscope is then considered relative to a set

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The effect of the ...

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of coordinates in which the plane $x^0y^0$ is horizontal, and the $y^0$ axis coincides with the horizontal component of the angular velocity of $\xi\eta\zeta$. $\theta$ is the angle between the $\eta$ and $y^0$ axes and is determined in terms of the principal radii of curvature. The projections of the velocity vector $V$ on the $x^0y^0z^0$ axes are given (to a higher accuracy than first order) by

$$V_{x^0} = V, \quad V_{y^0} = -\mu \frac{V_\xi V_\eta}{V}, \quad V_{z^0} = 0 \tag{3.3}$$

and hence the components of acceleration are

$$w_{x^0}^* = \dot{V} - \frac{V_\eta}{R_1 V}(V_\xi^2 - V_\xi^{*2})\,\mathrm{tg}\,\varphi + \mu \frac{V_\xi V_\eta}{V}\left(\dot{\theta}_0 + \frac{V_\xi}{R_1}\frac{V^{*2}}{V^2}\,\mathrm{tg}\,\varphi\right)$$

Card 2/3

The effect of the ...

$$w_y^{0*} = \left( \dot{\vartheta}_o + \frac{V_\varepsilon}{R_1} \frac{V^{*2}}{V^2} \, tg\,\varphi \right) V - \mu \frac{V_\varepsilon V_\eta}{V^2} \left[ \dot{V} - \frac{V_\eta}{R_1 V}(V_\varepsilon^2 - V_\varepsilon^{*2}) \, tg\,\varphi \right]$$

$$w_z^{0*} = -\frac{V^{*2}}{R_1} \left( 1 + \mu \frac{V_\eta^2}{V^{*2}} \right) \qquad (3.4)$$

It is shown that considering the earth as a sphere these equations
reduce to the usual forms. The components of the effective force
on the body are found, and the above results are used to obtain
the total acceleration, and to deduce the differential equations
of the processional motion of a gyrogram, which is then taken to
be a gyro-horizon compass, and the moments acting are found. There
are 2 figures.

SUBMITTED:  January 24, 1963

Card 3/3

BLEKHMAN, Il'ya Israilevich; DZHANELIDZE, Georgiy Yustinovich
    [deceased]; MERKIN, D.R.; red.

    [Vibratory motion] Vibratsionnoe peremeshchenie. Moskva,
    Nauka, 1964. 410 p.                    (MIRA 17:12)

SEREBRENNIKOV, Mendel' Girshevich; PERVOZVANSKIY, Anatoliy
      Arkad'yevich; Prinimal uchastiye ROMANOV, M.F.; MERKIN,
      D.R.,. red.

      [Discovery of hidden periodicities] Vyiavlenie skrytykh
      periodichnostei. Moskva, Nauka, 1965.  244 p.
                                          (MIRA 18:4)

ACC NR:  AR6036304          SOURCE CODE:  UR/0273/66/000/009/0004/0004

AUTHOR: Merkin, D. R. ; Kalinovich, M. L.

TITLE: Method of determining the frequencies of natural engine vibrations with consideration of elastic couplings

SOURCE: Ref. zh. Dvigateli vnutrennogo sgoraniya, Abs. 9.39.20

REF SOURCE: Tr. Leningr. in-ta vodn. transp., vyp. 87, 1966, 7-12

TOPIC TAGS: mechanical vibration, shock absorber, vibration, vibration analysis, natural vibration, engine vibration

ABSTRACT: A method is presented for determining frequencies of natural engine vibrations, taking the elastic connections into account. The engine is analyzed as a solid body, having six degrees of freedom, mounted on shock absorbers with vertical and horizontal elastic couplings which are designed for compression and decompression. For each vehicular engine, it is necessary to determine the range of changes in the natural frequencies for various permissible rigidity values and fastening points of elastic elements. The results of calculations have shown that

Card 1/2                       UDC: 621.432-752.001.24

ACC NR:    AR6036304

the parameters of shock absorbers and of elastic coupling can be selected in such a manner that the natural frequencies of the engine will be far from the resonance values.  [Translation of abstract]  [NT]

SUB CODE:  21/

Card   2/2

ACC NR: AP6034141                    (N)         SOURCE CODE: UR/0424/66/000/005/0026/0032

AUTHOR: Merkin, D. R. (Leningrad)

ORG: none

TITLE: On the motion stability of a gyroframe

SOURCE: Inzhenernyy zhurnal. Mekhanika tverdogo tela, no. 5, 1966, 26-32

TOPIC TAGS: gyrocompass, gyroscope, gyroscope motion equation, gyroscope system

ABSTRACT: A study is made on the stability conditions of the precessional motion of a gyroframe. Conditions originally stated by the author (Ob ustoychivosti dvizheniya giroramy. PMM, 1961, t. 25, 6) are generalized to the case in which the masses of casing and frame, and also the equatorial moments of inertia of gyroscopes, are considered distinct from precessional movement. Kinetic energy equations in Cartesian space are stated in terms of the individual moment of inertia and mass terms, and a single gyroscope system is expanded to include n-gyroscopes. The Rauss function for the n-gyroscope system is derived. The Jacobian energy integral is applied to the equations of motion for the entire system. The concepts derived are illustrated by an analysis of the work of a horizon gyrocompass. The analysis verifies the results obtained by V. F. Lyashenko (K teorii girogorizontkompass. PMM, 1963, t. 27, vyp. 1: O dostatochnykh usloviyakh ustoychivosti v teorii girogorizontkompasa. PMM, 1963, t. 27, vyp. 6). The author shows that for constant v and ω the nonlinear statement

Card 1/2

ACC NR: AP6034141

of the general theory of motion for a horizon gyrocompass introduces nothing new in
the computation of the basic parameters and stability criteria as established by
precession theory.  Orig. art. has: 47 equations and 1 figure.

SUB CODE:  17, 20/  SUBM DATE:  04Mar66/  ORIG REF:  007

Card    2/2

KAN, Veniamin Lipmanovich; KEL'ZON, Anatoliy Saulovich. Prinimali
uchastiye: MINTSBERG, B.L.; USHAKOVA, G.N.; KORENEV, G.V.,
kand. fiz.-mat. nauk, retser~ent; MERKIN, D.R., doktor
fiz.-mat. nauk, retsenzent; ROZENGAUZ, N.M., red.

[Theory of proportional navigation] Teoriia proportsional'-
noi navigatsii. Leningrad, Sudostroenie, 1965. 423 p.
(MIRA 18:10)

MIRNITSKAYA, N.Ye.; OKITSKY, L.I.; ELESIN, I...; LARIN, D...,
prof., doktor fiz.-mat. nauk, red.

[Experience in the production of semiconductor devices]
proizvodstva s lentse tekcha. Moskva, Tsentr. in-t nauchno-
tekhn. informatsii pishchev i pisht...., 1961, 44 p.
(KIRA 15:7)

TROFIMOV, G.I.; FEL'DE ?, ...; LuKIN, D..., prof., ...
rat. nauk., rec.

[Kinematics; outline of the theory. Methodological
instructions and te...; Kinematika, kratkie svedeniia
teoril. Metodi........ ....... ..., Leningrad, Izd-vo "...  i transport," 1965.  80 p.
(MIRA 17:10)

BAYEV, I.P., inzhener;  MERKIN, E.I., inzhener.

More efficient transport of cement and building materials.  Zhel.
dor.transp. 37 no.6:54-58 Je '56.                           (MLRA 9:8)
                    (Building materials--Transportation)

ACC NR: AP7007206          $(N)$          SOURCE CODE: UR/0186/66/008/006/0705/0707

AUTHOR: Merkin, E. N.; Ivanovskiy, M. D.; Borbat, V. F.

ORG: none

TITLE: Study of the extraction of uranium, thorium and associated elements with monocarboxylic acids

SOURCE: Radiokhimiya, v. 8, no. 6, 1966, 705-707

TOPIC TAGS: uranium, thorium, aliphatic carboxylic acid, fatty acid, solvent extraction

ABSTRACT: The extraction of uranium, thorium and associated elements with fatty acids of the $C_7-C_9$ fraction was studied at $20\pm2°$. The dependence of the extraction on the equilibrium pH of the aqueous phase and IR spectra confirmed that the extraction consists of cation exchange reactions

$$Me^{n+} + nHR \rightleftharpoons MeR_n + nH^+,$$

where nHR and $MeR_n$ are the organic phase and HR is the fatty acid $C_nH_{2n+1}COOH$. The presence of cation exchange permits one to expect the separation of the elements studied in sulfate solutions. On the basis of data reported in the literature and their own results, the authors suggest the following extraction capacity series:

Card   1/2          UDC: 546.791'841'72'621:542.61:547.295

ACC NR: AP7007206

$$Sn^{4+} > Bi^{3+} > Fe^{3+} > UO_2^{2+} > Th^{4+} > Pb^{2+} > Al^{3+} > Cu^{2+} >$$
$$> Cd^{2+} > Zn^{2+} > Ni^{2+} > Co^{2+} > Fe^{2+} > Mn^{2+} > Mg^{2+} > Na^{+}.$$

Orig. art. has: 2 figures.

SUB CODE: 07/   SUBM DATE: 12Apr66/   ORIG REF: 006

Card    2/2

MERKIN, G.B.

Designing asynchronous capacitor motors. Izv. vys. ucheb. zav.:
elektromekh. 1 no.5:35-49 '58.                           (MIRA 11:8)
                    (Electric motors, Induction)

MERKIN, Grigoriy Borisovich, dotsent

Nonsymmetric steady conditions in three-phase synchro-ous generators.
Izv.vys.ucheb.zav.; elektromekh.  3  no.2:80-87  '60.  (MIRA 13:7)

1. Kafedra elektricheskikh mashin i  apparatov Severo-Zapadnogo
zaochnogo politekhnicheskogo instituta.
            (Electric generators)

ZHEZHERIN, Rostislav; MERKIN, G.B., kand. tekhn. nauk, retsenzent;
        BAMUNER, A.V., inzh., red.; ZHITNIKOVA, O.S., tekhn. red.

[Inductor alternators] Induktornye generatory. Moskva, Gos.
energ. izd-vo, 1961. 318 p.                    (MIRA 15:3)
                        (Electric generators)

MERKIN, Grigoriy Borisovich, kand. tekhn. nauk, dotsent

Asynchronous condenser-type frequency converter. Izv. vys.
ucheb. zav.; elektromekh. 5 no.7:739-746  '62.
                                    (MIRA 15:10)

1. Kafedra elektricheskikh mashin i apparatov Severo-Zapadnogo
zaochnogo politekhnicheskogo instituta.

    (Electric machinery)   (Frequency changers)

RYS'KOVA, Zinaida Alekseyevna; MERKIN, G.B., red.; ZHITNIKOVA, C.S ,
        tekhn. red.

    [Electric transformers for contact-type electric welding
    machines] Transformatory dlia kontaktnykh elektrosva.och-
    nykh mashin.  Moskva, Gosenergoizdat. 1963.  242 p.
                                            (MIRA 16:11)
      (Electric transformers)  (Electric welding)

YEVSEYEV, M.Ye.; LAMAGIN, K.A.; MERKIN, G.B.; MOROZOVA, I.A.;
     ORANSKIY, M.I.; PARAMONKOVA, V.I.; KAZARNOVSKIY, D.M.,
     prof., retsenzent; GOL'DIN, O.Ye., dots., retsenzent;
     PINES, G.Ya., dots., retsenzent; VOL'PE, L., red.

[Alternating current theory; manual on the solution of
problems in the theoretical principles of electrical
engineering] Teoriia peremennykh tokov; posobie k re-
sheniiu zadach po teoreticheskim osnovam elektro-
tekhniki. [By] M.E.Evseev i dr. Leningrad, Severo-
Zapadnyi zaochnyi politekhn. in-t. Pt.2. 1964. 337 p.
                              (MIRA 18:7)
1. Kafedra "Teoreticheskiye osnovy elektrotekhniki"
Leningradskogo elektrotekhnicheskogo instituta svyazi
im. Bonch-Bruyevich (for Gol'din, Pines).

L 33115-66

ACC NR:   AP6024083                          SOURCE CODE:   UR/0144/66/000/002/0235/0236

AUTHOR:  Zav'yalov, A. S.; Got'man, A. A.; Molchanov, V. D.; Krasyuk, N. P.;
Agranovskiy, K. Yu.; Berger, A. Ya.; Greyer, L. K.; Yesakov, V. P.; Miller, Ye. V.;
Pyatman, K. I.; Abryutin, V. N.; Gubanov, V. V.; Oranskiy, M. I.; Yevseyev, N. Yo.;
Morkin, G. B.; Sinol'nikov, Yo. M.; Avilov-Karnaukhov, B. N.; Bogush, A. G.;
Bolyayov, I. P.; Fokker, I. I.; Chernynvskiy, F. I.

ORG:  none

TITLE:  O. B. Bron (on his 70th birthday)

SOURCE:  IVUZ.  Elektromekhanika, no. 2, 1966, 235-236

TOPIC TAGS:  electric engineering personnel, circuit breaker

ABSTRACT:  Osip Borisovich Bron was born in 1896 in Klintsi.  In 1920, he graduated
from the physics-math faculty of Khar'kov Technological Institute.  He became a pro-
fessor in 1930.  He defended his doctor's thesis in 1940.  During the second world
war, he was in the navy.  After demobilization in 1950, Engineer Colonel Bron went to
work teaching at the Leningrad Industrial Correspondence School.  He became the head
of the Chair of Theoretical Bases of Electrical Technology in 1958.  He is closely
associated with scientific and development work, and has cooperated closely in this
area with the Leningrad "Elektrosila" plant since 1946.  His work has been in the
areas of spark-damping and high-power circuit breakers.  He has published over 140
scientific works and 19 inventions.  [JPRS]

SUB CODE:  05, 09  /  SUBM DATE:  none

Card 1/1

VISHNEVSKIY, Nikolay Yevgen'yevich; GLUKHANOV, Nikolay Parmenovich;
    KOVALEV, Ivan Sidorovich; STOLYAROV, V.I., retsenzent; MERKIN,
    G.I., kandidat tekhnicheskikh nauk, redaktor; CHERNOUSOV, N.P.,
    Inzhener, redaktor; GOFMAN, Ye.K., redaktor izdatel'stva;
    SOKOLOVA, L.V., tekhnicheskiy redaktor

[High pressure apparatus with hermetically sealed electric motors]
Apparatura vysokogo davleniia s ekranirovannym elektrodvigatelem.
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956.
178 p.                                                    (MIRA 9:8)
        (Electric motors)    (Machinery industry)

MERKIN, I.B., inzhener.

Processing machine-picked raw cotton in the United States. Tekst.
prom.16 no.10:58-63  O '56.                              (MIRA 10:1)
(United States--Cotton gins and ginning)

RODICHEV, S.D.; MERKIN, I.B.; MILOKHOV, N.I.; POPELLO, A.P.; SOLOV'YEV,
N.D.; SHEMSHURIN, N.A.; SORKIN, N.B., retsenzent; SMIRNOV, I.I.,
retsenzent; ANDREYEV, Yu.I., retsenzent; BRAVYY, Z.A., retsenzent;
SOKOLOVA, V.Ya., red.; MEDVEDEV, L.Ya., tekhn.red.

[Handbook on the primary processing of cotton] Spravochnik po
pervichnoi obrabotke khlopka. Moskva, Gos.nauchno-tekhn.izd-vo
lit-ry po legkoi promyshl., 1959.  687 p.         (MIRA 13:4)
         (Cotton gins and ginning)

MERKIN, I.B.

Prospects in the development of cottonseed delinting processes.
Tekst.prom. 20  no.2:18-21  F  '60.          (MIRA 13:6)
(Cottonseed)  (Linter)

MERKIN, Isaak Bentsianovich; SOLOV'YEV, Nikolay Dmitriyevich; KHOKHLOV, Igor' Ivanovich [deceased]; IVANOV, S.P., kand. tekhn. nauk, retsenzent; SOKOLOVA, V.Ye., red.; TRISHINA, L.A., tekhn. red.

[Linting of cottonseeds] Linterovanie khlopkovykh semian. Moskva, Gizlegprom, 1963.  268 p.               (MIRA 16:9)
       (Linters)  (Cottonseed)

MERKIN, I.B., inzr.; TRUKER, M.M., inzh..

Purification of dusted air in casting houses by water atomization.
Mashinostroenie no.3:43-44 My-Je '64.                    (MIRA 17:11)

MERKIN, I.KH.; RYZHOV, A.I.

Equioment for sawing grooves in blanks for bent and sawed-through
parts. Der. prom. 7 no. 5:1-4 My '58.                    (MIRA 11:7)

1. Giprodrevprom.
                    (Woodworking machinery)

MERKIN, I.Kh.; AMALITSKIY, V.V.

      Chambers used in finishing skis.  Der.prom.  8  no.1:22-23
                                   (MIRA 12:1)
      Ja '59.

      1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy
    derevoobrabatyvayushchey promyshlennosti.
           (Wood finishing)        (Skis and skiing)

MERKIN, I.Kh., inzh.

Modernizing the belt grinding machine. Der. prom. 8 no.7:4-5
Jl '59.                                                    (MIRA 12:9)
                    (Grinding machines)

KATS, A.Ye.; MERKIN, I.Kh.; BASKIN, V.Ya.

      Belt sander with a wide belt.  Der.prom.  8  no.12:19-21
      D  '59.                   (MIRA 13:5)

      1. Giprodrevprom.
                 (Sanding machines)

MERKIN, I.Kh.; BONDAREV, Yu.P.

    Automatic compartment-type drying chamber.  F  '60.
                                  (MIRA 13:6)

   1. Giprodrevprom.
                (Lumber—Drying)  (Furniture)

ACC NR: AP7000350                         SOURCE CODE:   UR/0413/66/000/022/0115/0116

INVENTOR: Goron, I. Ye.; Baranov, Yu. A.; Dembinskiy, V. F.; Merkin, I. Kh.;
Pankov, G. A.; Penchuk, N. V.; Smolyanitskiy, V. Z.; Volkov, Yu. D.

ORG: none

TITLE: Electromagnetic flaw detector. Class 42, No. 188737

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 115-116

TOPIC TAGS: flaw detector, magnetic flaw detector, magnetic field configuration,
magnetic field recording device, flaw detection, electromeasuring device,
electromagnetic device

ABSTRACT: This Author Certificate introduces an electromagnetic flaw detector con-
taining 1) a primary magnetic flux conductor for magnetizing the inspected article,
2) a secondary magnetic flux conductor for duplicating the magnetic field configura-
tion of the article surface,  3) generators with alternating magnetic field ensuring
hysteresis-free transfer of the magnetic field configuration, and  4) magnetic re-
cording heads.  To inspect shaped articles, the conductor is clamped to the article
with elastic rings stretched over the article.  To maintain its cylindrical shape, the
secondary conductor is enclosed in a vacuum shell.  Orig. art. has:  1 figure.

SUB CODE:     14,09/SUBM DATE:  11Aug65/

UDC:  620.179.14.08

Card 1/1

BAYEV, I'.P., inzhener; MERKIN, L.I.

     For continued increase in the river transportation of cement and
building materials. Rech.transp. 14 no.4:9-11 Ap '56. (MLRA 9:8)
                     (Inland water transportation)
                     (Cement--Transportation)
                     (Building marerials--Transportation)

MERKIN, L.I., inzh.

Utilize all reserves for developing inland water transportation
of cement. Rech.transp. 17 no.11:11-13 N '58. (MIRA 11:12)
    (Inland water transportation) (Cement--Transportation)

MERKIN, N.; RODRIGES, Kh.

Influence of technological progress upon the professional structures, nature and contents of workers' labor in machinery manufacturing. Biul.nauch.inform.: trud i zar.plata   4  no.5:3-9  '61.

(MIRA 14:5)

(Machinery industry)

RODRIGES, Kh.; MERKIN, N.

Changes in the job ratios at machinery manufacturing plants. Prof.-
tekh. obr. 18 no.1:7-9 Ja '61.                                   (MIRA 14:2)
                    (Machinery industry)

MERKIN, N.; LOZNEVAYA, M.

Training workers with several skills in machinery manufacturing.
Sots. trud 7 no.10:47-56  O '62.          (MIRA 15:10)

(Machinery industry workers—Education and training)

IVASENKO, Pavel Ivanovich; MERKIN, Nikolay Konstantinovich;
MOROZOVA, E.T., red.

[Collective organization and wages in industry and
construction] Kollektivnaia organizatsiia i oplata tru-
da v promyshlennosti i stroitel'stve. Moskva, Ekonomika,
1965. 149 p.                              (MIRA 18:7)

MERKIN, R.,. inzh.

Stard for hydraulic testing of stop valves. Na stroi. Mosk. 2 no.9:
18-19 S '59.                                        (MIRA 13:2)
                        (Valves--Testing)

MERKIN, R., inzh.

Locking motor-crane jib control.  Avt.transp.  4C  no.2:51  F '62.
(MIRA 15:2)

(Cranes, derricks, etc.--Safety appliances)

MERKIN, Roal'd Mikhaylovich; SVISTUNOVA, Galina Mikhaylovna;
PROFERANSOV, D.P., nauchnyy red.; BOGINA, S.L., red.
izd-va; RODIONOVA, V.M., tekhn. red.

[Estimated cost of construction] Smetnaia stoimost' stroitel'-
stva. Moskva, Gosstroiizdat, 1962. 41 p.        (MIRA 15:7)
           (Construction industry--Costs)

GEORGIYEVSKAYA, Nadezhda Aleksandrovna; MERKIN, Roal'd Mikhaylovich;
    BASILOV, D.P., nauchnyy red.; BOGINA, S.B., red. izd-va;
    OSENKO, L.M., tekhn. red.

[Capital assets in construction and ways to improve their use]
Osnovnye fondy v stroitel'stve i puti uluchsheniia ikh ispol'-
zovaniia. Moskva, Gosstroiizdat, 1962. 158 p.   (MIRA 15:7)
                    (Construction industry)

ANDREYEV, V.P.; BUTKOVSKIY, N.I.; KOMAROV, L.A.; KUDINOV, V.S.;
MASHANSKIY, G.S.; MERKIN, R.M.; MERKULOV, V.A.;
ZEMLYANIKIN, S.A.; SOLOMIN, V.V.; SHOLOKHOV, Ye.I.;
PEREPELITSKAIA, A.G., red.; AVDEYEVA, V.A., tekhn. red.

[Toward the new achievements; the Russian Federation in
1963, concise handbook] K novym rubezham; Rossiiskaia
Federatsiia v 1963. godu.  Kratkii spravochnik.  Moskva,
Sovetskaia Rossiia, 1963.  284 p.          (MIRA 16:10)
    (Russia--Economic policy--Handbooks, manuals, etc.)

MERKIN, S., inzhener-podpolkovnik

Workshop for repairing and calibrating dosimetric apparatus.
Voen. vest. 42 no.7:111-114 Jl '62.                    (MIRA 15:6)
                              (Radiation—Dosage)

L 22829-66   ENT(m)/EWA(h)

ACC NR: AP6009043    (A)      SOURCE CODE:   UR/0018/65/000/011/0111/0113

AUTHOR:  Merkin, S. (Engineer, Colonel)

ORG:  Saratov Chemical Troops School (Saratovskoye uchilishhhe khimicheskikh voysk)

TITLE:  Training device "Roentgenmeter DP-3"

SOURCE:  Voyennyy vestnik, no. 11, 1965, 111-113

TOPIC TAGS:  radioactivity measurement, radioactive contamination, specialized training, circuit design, semiconductor device

ABSTRACT:  The author describes a special device used by the Saratov Chemical Troops School for radioprospecting training. The device represents a 75 x 55 x 15 cm box containing various electric circuit elements and carrying a switch panel mounted on its front side.  A descriptive photo of the front panel and a wiring circuit diagram were presented.  The "DP-3 roentgenmeter" model consisted of measuring, regulating and light-signal circuits.  The latter was composed of a relaxation thyratron of MTKh-90 type fed from a 1.6-PMTs-8 cell via a P-3B(P-201A) semiconductor triode.  A micro-ammeter included between the measuring and regulating circuits was used for measurements.  The

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ACC NR: AP6009043

selection of resistors was made by the step-by-step switch of ShI-8 x 25 type. This switch, in connection with a relay system, was used for fixing the assigned problems and for coding answers. The front panel was equipped with a problem board, two windows signaling right and wrong answers, control lights, answer switches, correction factor chart, connection, push-buttons for fixing DP-3 device readings, current feeding plug, etc. The arrangement and operation of the circuit was explained. A problem dealing with the determination of radioactivity in the area contaminated by a nuclear explosion was cited as an example. Orig. art. has: 2 figures.

SUB CODE:15, 09, 18/SUBM DATE: None / ORIG REF: 000 / OTH REF: 000

Card 2/2

AUTHOR:          Merkin, V.G.                                    SOV/71-59-2-11/26

TITLE:           Improvement of the Work of the Control Apparatus (Uluchsheniye raboty kontrol'nogo snaryada)

PERIODICAL:      Spirtovaya promyshlennost', 1959, Nr 2, pp 33-34 (USSR)

ABSTRACT:        To insure correct recordings of the control apparatus KS-35, it is important to prevent impurities from entering the apparatus, and to maintain a constant flow and even temperature. The Distillery in Lipetsk (Lipetskiy spirtovoy zavod) has designed and adopted a so-called "Thermo-Filter-Compensator", which in accordance with diagram consists of 2 compartments. One serves to cool the alcohol in a coil pipe passing through cold water, kept at even temperature by a thermoregulator 04-TG-410. The second compartment is intended for filtering the alcohol by means of 4 screens (2 brass ones for rough

Card 1/2          filtering and 2 silk ones for fine filtering. Its capacity

Improvement of the Work of the Control Apparatus          SOV/71-59-2-11/26

            amounts to 120 dkl/hr of alcohol.
            There is one diagram.

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MERKIN, V.G.

Automatic liquid level indicator in steam boilers.  Spirt.prom.
26  no.2:26-27  '60.                                         (MIRA 13:6)
                    (Lipetsk--Boilers)
                    (Liquid level indicators)

GRYAZNOV, V.P.; BOGDANOV, Yu.P.; RZHECHITSKAYA, G.V.; TERNOVSKIY, N.S.;
GRACHEV, B.K. [deceased] MERKIN, V.G.; POLEVAYA, K.G.;
AKIMENKO, I.S.

Double-flow beer rectification apparatus.  Spirt. prom. 28
no.7:35-37  '62.                                          (MIRA 17:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut spirtovoy i
likero-vodochnoy promyshlennosti (for Gryaznov, Bogdanov,
Rzhechitskaya, Ternovskiy).  2. Lipetskiy spirtovoy zavod (for
Grachev, Merkin, Polevaya, Akimenko).

IVANOV, A.I.; AKIMENKO, I.S.; MERKIN, V.G.; SMOTRICH, B.A.

Washing of fusel oil by means of hydrodynamic mixing. Ferm. i
spirt. prom. 31 no.4:23-24  '65.                                (MIRA 18:5)

1. Sovet narodnogo khozyaystva TSentral'no-Chernozemnogo ekonomi-
cheskogo rayona (for Ivanov) 2. Lipetskiy spirtozavod (for Akimen-
ko, Merkin, Smotrich).

AKIMENKO, I.S.; KOLOS, T.K.; MERKIN, V.G.; SMOTRICH, B.A.; YASENSKAYA, N.P.

Method of water-and-heat treatment of corn. Ferm. i spirt.prom.
31 no.3:36-37 '65.                                           (MIRA)

1. Lipetskiy spirtozavod.

AKIMENKO, I.S.; MERKIN, V.G.; POLEVAYA, K.G.; SMOTRICH, R.A.

Some experiences of the Lipetsk Distillery in the operation of the
unit for the heat treatment of alcohol. Ferm. i spirt.prom. 31
no.5:27-28  '65.                                            (MIRA 18:8)

L 18316-65   EWG(j)/EWT(l)/EWP(e)/EWG(k)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EEC(b)-2/EWP(b)
             Pz-6/Pr-4/Ps-4/Pu-4   IJP(c)/AFWL/SSD   WW/AT/WH
                                              S/0089/64/017/005/0329/0335

ACCESSION NR:  AP4049532

AUTHOR:  Millionshchikov, M. D.; Gverdtsiteli, I. G.; Abramov,
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Nechayev, Yu. A.; Pozdnyakov, B. S.; Ponomarev-Stepnoy, N. N.;
Samarin, Ye. N.; Serov, V. Ya.; Usov, V. A.; Fedin, V. G.; Yakovlev,
V. V.; Yakutovich, M. V.; Khodakov, V. A.; Kompaniyets, G. V.

TITLE:  The "Romashka" high-temperature reactor-converter

SOURCE:  Atomnaya energiya, v. 17, no. 5, 1964, 329-335

TOPIC TAGS:  nuclear power reactor, reactor feasibility study, re-
search reactor, thermoelectric converter/Romashka

ABSTRACT:  The authors briefly describe the construction, parameters,
test results, and operating experience of the "Romashka" reactor-

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ACCESSION NR:    AP4049532

converter unit, which has been in operation at the Kurchatov Atomic
Energy Institute since August 1964.  The fuel used is uranium di-
carbide enriched to 90% $U^{235}$.  Graphite and beryllium are used as
reflectors.  Electricity is generated by silicon-germanium semicon-
ductor thermocouples distributed on the outer surface of the reflec-
tor and connected in four groups which can be connected in series
or in parallel.  The temperatures of the active zone and outer sur-
face are 1770 and 1000C, respectively.  The power ratings are 0.50—
0.80 kW electric and 40 kW thermal, the maximum current (parallel
connection) is 88 A, the neutron flux is $10^{13}$ neut/$cm^2$ sec in the
center of the active zone and 7 x $10^{12}$ on its boundary.  The reactor
has . negative temperature reactivity coefficient.  The equipment
has high inherent stability and requires no external regulator, and
little change was observed in the thermocouple properties after 2500
hours of operation.  Tests on the equipment parameters are continu-
ing, and the results are being analyzed for use in future designs.
Orig. art. has: 8 figures and 1 formula.

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MERKIN, Yu.B., inzh.(Leningrad)

Promising a.c.electric locomotives. Zhel.dor.transp. 40  no.4:
10-13  Ap  '58.                           (MIRA 13:4)
          (Electric locomotives)

KOZLOVSKIY, V.N.; MERKINA, L.G.

Comparative rating for determining prothrombin Quick-Kudriashov's
and Borovskaia's methods.  Lab.delo no.4:14-15 Jy-Ag '55.(MLRA 8:8)

1. Iz 2-y kafedry terapii (zav.prof. B.E. Votchal) i kafedry
laboratornoy diagnostiki (zav.prof. Ye.A.Kost) Tsentral'nogo
instituta usovershenstvovaniya vrachey, Moskva.
            (PROTHROMBIN TIME, determination,
                  Quick & Borovskaia's methods, comparison)

MERKINA L G.

KOZLOVSKIY, V.N., podpolkovnik med.sluzhby,kand.med.nauk, MERKINA, L.G.

Borovskii's drip method for determining prothrombin in blood.
Voen.med.zhur. no.12:66-68 D'57                                    (MIRA 11:5)
          (PROTHROMBIN, determination,
              Borovskii's drip method (Rus))

LEONOVA, S.; PARKHOMENKO, A.; BRUSSER, I.; MERKINA, N.; MARTUNENKO, G.;
YEGOROV, Yu. (Leningrad); NUTSKIY, Ya.; ARTEMOV, N.; ZHMUDSKIY, Yu.

We can learn from the practices applied in Leningrad. Mest.prom.
i khud.promys. 3 no.5:13-20 My '62.                    (MIRA 15:6)

1. Zamestitel' predsedatelyu Gosudarstvennogo komitota Soveta
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9.  Zamestitel' direktora fabriki "Trud", g. Leningrad (for
Zhmudskiy).
        (Leningrad--Salvage (Waste, etc))