KORSHUN, I.V.

Rural consulting service for children. Zdrav. Bel. 7 no. 4:21-22 Ap '61. (MIRA 14:4)

1. Nachal'nik Upravleniya lechprofpomoshchi detyam i materyam Ministerstva zdravookhraneniya BSSR.
(CHILDREN—CARE AND HYGIENE)

BELYATSKIY, D.P.; KORSHUN, I.V. (Minsk)

Some aspects of polyclinical services for the Russian children.
Sov.zdrav. 20 no.5:14-18 '61. (MIRA 14:5)
(WHITE RUSSIA--PEDIATRICS)

KORSHUN, I.V.

Current problems in health protection for children. Zdrav. Bel. 8 no.4:6-9 Ap '62. (MIRA 15:6)

1. Nachal'nik Upravleniya lechebnoy professional'noy pomoshchi materyam i detyam Ministerstva zdravookhraneniya BSSR.

(CHILDREN--CARE AND HYGIENE)

KORSHUN, L.I., inzh.

Approximate designing of statically indeterminate three-panel trussed beams. Sbor.nauch.trud.Bel.politekh.inst. no.76:35-44 '59. (MIRA 13:6)
(Girders)

KORSHUN, L.I.

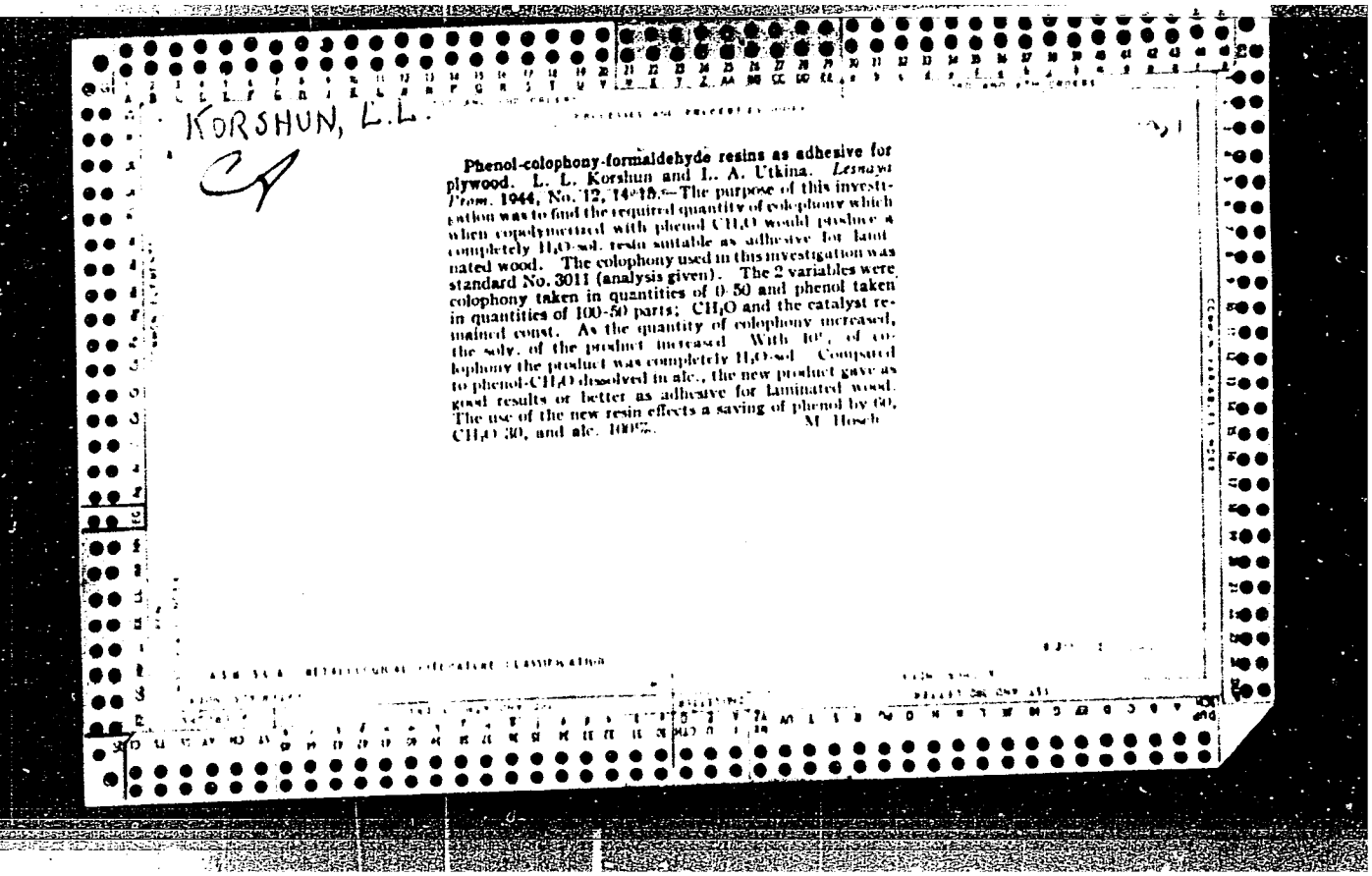
Applying a mixed problem in structural mechanics to the calculation of combined frameworks which were once statically indeterminate. Sbor.nauch.trud.Bel.politekh.inst. no.89:109-128 '60. (MIRA 14:8)

(Structural frames)

KORSHUN, L.I. (Minsk)

"The conditions of minimum volume of flexible elements in combined structures when designed by use of the mixed problem of structural mechanics".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.



KORSHUN, L.L.

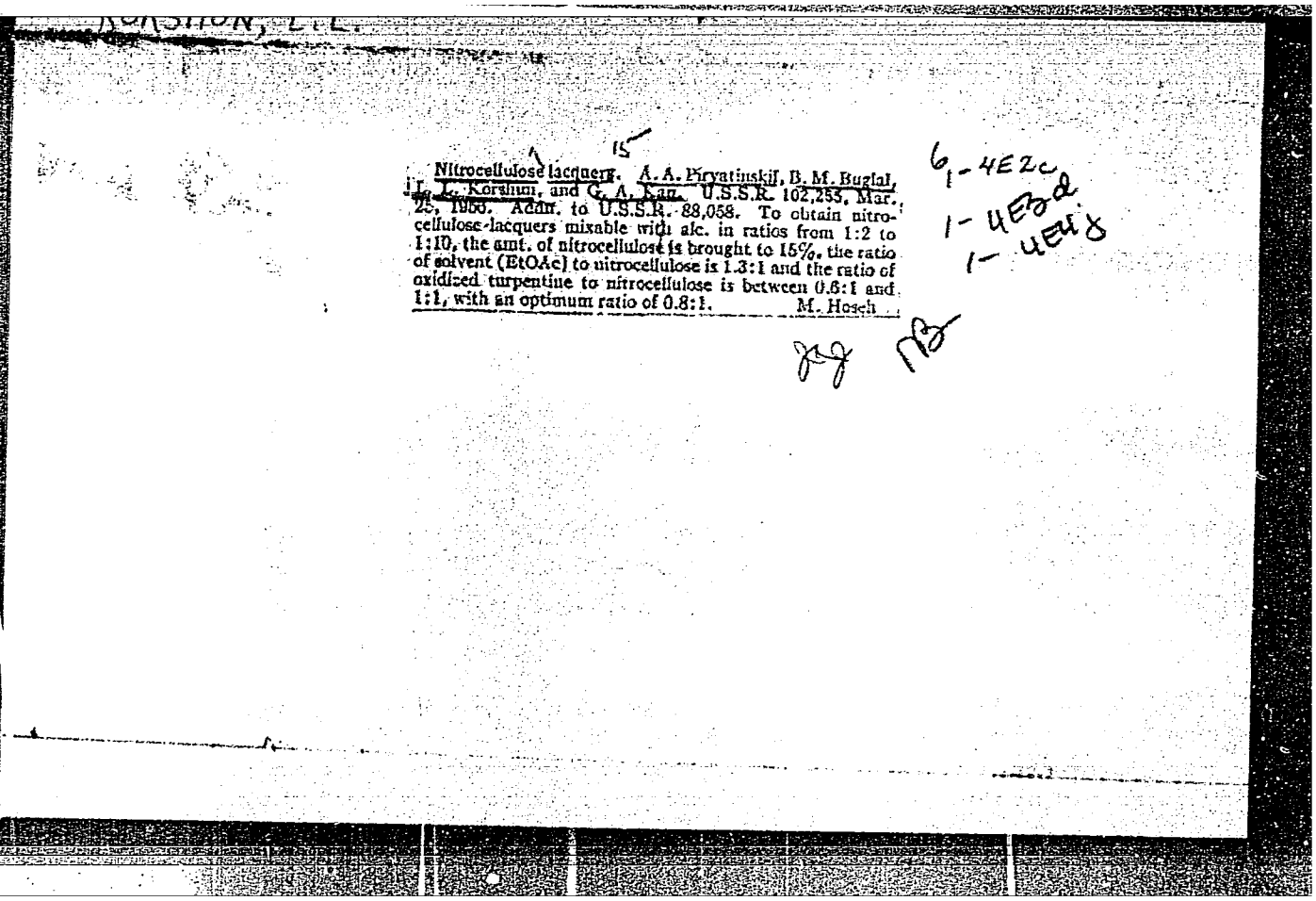
CA

Phenol-colophony-formaldehyde resins as adhesive for plywood. L. L. Korshun and L. A. Utkina. *Lesnaya Prom.* 1944, No. 12, 14–16.—The purpose of this investigation was to find the required quantity of colophony which when copolymerized with phenol CH_2O would produce a completely H_2O-sol. resin suitable as adhesive for laminated wood. The colophony used in this investigation was standard No. 3011 (analysis given). The 2 variables were, colophony taken in quantities of 0–50 and phenol taken in quantities of 100–50 parts; CH_2O and the catalyst remained const. As the quantity of colophony increased, the solv. of the product increased. With 10% of colophony the product was completely H_2O-sol. Compared to phenol-CH_2O dissolved in alc., the new product gave as good results or better as adhesive for laminated wood. The use of the new resin effects a saving of phenol by 50, CH_2O 30, and alc. 100%. M. Hosch

BUGLAY, B.M., kandidat tekhnicheskikh nauk; PIRYATINSKIY, A.L., kandidat tekhnicheskikh nauk; KORSHUN, L.L., inzhener.

Terpene-collodion lacquers for finishing furniture. Der.i lesokhim. prom .3 no.1:3-5 Ja '54. (MLRA 7:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny (for Buglay). 2. TsNILKhI (for Piryatinskiy and Korshun). (Lacquer and lacquering)



15

Nitrocellulose lacquers. A. A. Piryatinskii, B. M. Buglai, L. L. Korshun, and G. A. Kan. U.S.S.R. 102,253, Mar. 25, 1956. Addn. to U.S.S.R. 88,058. To obtain nitrocellulose-lacquers mixable with alc. in ratios from 1:2 to 1:10, the amt. of nitrocellulose is brought to 15%, the ratio of solvent (EtOAc) to nitrocellulose is 1.3:1 and the ratio of oxidized turpentine to nitrocellulose is between 0.6:1 and 1:1, with an optimum ratio of 0.8:1. M. Hosch

6 1-4E2c
1-4E3d
1-4E4d

BUGLAY, B.M., doktor tekhn.nauk; PIRYATINSKIY, A.L., kand.khim.nauk; SHUBINA, I.I., inzh.; KORSHUN, L.L., inzh.

New materials used for finishing furniture. Der.prom. 7 no.9:1-5 S '58. (MIRA 11:11)
(Wood finishing)

KORSHUN, L.L.; TRIFONOVA, T.V.; PIRYATINSKIY, A.L.; BUGLAY, B.M.; SHUBINA, I.I.

Fungicidal nitro varnishes based on oxyterpene resins. Der.prom. 7 no.11:1-2 N '58. (MIRA 11:11)
(Varnish and varnishing) (Fungicides)

KIMRYAKOV, N.A.; KORSHUN, L.L.; ZHUKOV, Ye.V.

Finishing round tables with nitro varnishes by coating with hot TK-11. Der. prom. 8 no.8:18-20 Ag '59. (MIRA 12:12)
(Varnish and varnishing) (Furniture industry)

PIRYATSINKIY, A.L.; BUGLAY, B.M.; KORSHUN, L.L.

New polishing and softening agents for the refining of nitro lacquer coatings.. Sbor.trud. TSNILKHI no.13:115-118 '59.
(MIRA 13:10)

(Lacquer and lacquering)

DRYNOVA, I.A.; KORSHUN, L.L.; SHEINA, L.A.; SHUBINA, I.I.

Use of flat lacquers for furniture finishing. Der.prom. 10 no.11:9-10 N '61. (MIRA 14:10)
(Lacquers and lacquering) (Furniture industry)

VINOGRADOVA, Ye.A.; KORSHUN, L.L.; NOTKIN, M.M.

Finishing of particle boards with the PE-219 polyester varnish.
Der.prom. 11, no.3:24-25 Mr '62. (MIRA 15:2)
(Hardboard)
(Varnish and varnishing)

KORSHUN, L.L.; NOTKIN, M.M.; NIKITINA, E.S.; SINELOBOV, M.A.; POSPELOVA, G.L., nauchn. red.; PETRENKO, V.M., tekhn. red.

[Finishing veneerless particle boards] Otdelka nefanerovannykh struzhechnykh plit. Moskva, TSentr. nauchno-issled. in-t informatsii i tekhniko-ekon. issledovanii po lesnoi tsellyulozno-bumazhnoi, derevoobrabatyvaiushchei promyshl. i lesnomu khoz. 1963. 22 p. (MIRA 16:11)
(Particle board) (Wood finishing)

ZHUKOV, V.S.; KORSHUN, L.L.; MOROZOVA, S.S.; NOTKIN, M.M.

Wall-covering mat finish of furniture. Der. prom. 12 no.12: 16-17 D '63. (MIRA 17:3)

KORSHUN, L.L.; NOTKIN, M.M.; STRADA, V.Yu.; TSVETKOVA, L.F.; KIMRYAKOV, N.A.; USANOVA, A.P., red.

[The "NK" nitrourea coating Nitrokarbamidnaia gruntovka "NK" Moskva. TSentr. nauchno-issl. in-t informatsii i tekhniko-ekon. issledovanii po lesnoi, tselliulozno-bumazhnoi, derevo-obrabatyvaiushchei promyshl. i lesnomu khoz., 1964. 15 p. (MIRA 17:12)

1. Vsesoyuznyy proyektno-konstruktorskiy i tekhnologicheskiy institut mebeli (for Korshun, Notkin, Strada, TSvetkova).
1. Mebel'naya fabrika No.7 Soveta narodnogo khozyaystva Moskovskogo gorodskogo ekonomicheskogo rayona (for Kimryakov).

DECEASED

BONDAREVSKAYA, Ye.A.; KORSHUN, M.O. [deceased]

Improvement of the method for the direct determination of oxygen in organic substances. Zhur. anal. khim. 18 no.5:644-649 My'63. (MIRA 17:2)

ZLODEYEVA, L.P., inzh.; KORSHUN, R.S., inzh.

Replacement of zinc coatings by AEL-20 paint. Sudostroenie 25 no.8: 55 Ag '59. (MIRA 13:2)
(Shipbuilding--Supplies) (Pipe--Corrosion)

KOBZEV, I.P.; KORSHUN, T.V.

Friction welding at the Chelyabinsk Tractor Plant. Avtom. svar. 15 no.1:64-72 Ja '62. (MIRA 14:12)

1. Chelyabinskiy ordenov Krasnoy Zvezdy i Kutuzova I stepeni traktornyy zavod.
(Chelyabinsk--Tractor industry)
(Cold welding)

KORSHUN, V. D.

KORSHUN, V. D. (Director, Chelyabinsk City Veterinary Polyclinic). Autochemotherapy in endometritis in mares, and endometritis and retention of placenta in cattle.

So: Veterinariya; 23; (12); December 1946; Incl.
TABCON

KORSHUN, V. P.

Dissertation: "Effect of the Feeding Regime on the Growth, Productivity, and Metabolism of Swine." Cand Agr Sci, Kiev Veterinary Inst, Khar'kov, 1954. (Referativnyy Zhurnal--Khimiya, Moscow, No 10, May 54)

SO: SUM 318, 23 Dec 1954

KORSHUN, V.P.

Effect of periodicity of feeding on metabolism in pigs. V. P. Korshun (Vet. Inst., Troitsk). *Fiziol. Zhur. S.S.S.R.* 42, 406–9(1956).—A 2-3-day rhythmic cycle of different foods given to pigs, in place of the monotonous feeding, appears to result in a more satisfactory assimilation of N and P of the foods.
G. M. Kosolapoff

1

GENADINNIK, I.S., kand. med. nauk; KORSHUN, Yu.V.

Absorption of colloidal contrast suspension from the gallbladder in obstructive jaundice. Khirurgiia 40 no.3:109-110 Mr '64.
(MIRA 17:9)

1. Kafedra rentgeno-radiologii (zav.- dotsent A.G. Suntsov) Chelyabinskogo meditsinskogo instituta.

KORSHUNOV, Cand Tech Sci -- "Establishing methods of regulation and automation of mining pump-dredge hydraulic conveying ~~equipment~~ units." Mos, 1961. (Min of Higher and Sec Spec Ed RSFSR. Mos Min Inst im V. i. Stalin) (KL, 8-61, 244)

KORSHUNOV, A.

How our factory committee helps the brigades. Sov.profsoiuzy 7 no.4:27-28 Fe '59. (MIRA 12:5)

1. Predsedatel' zavkoma profsoyuza Baltiyskogo zavoda.
(Shipbuilding workers)

KORSHUNOV, A.

Shock worker of communist labor. Avt.dor. 24 no.2:1-2 F '61 (MIRA 14:3)

(Rakipov, Ifran)

KORSHUNOV, A.A., gornyy inzh.; KRUGLOV, Ye.I., gornyy inzh.; ESAULOV, V.F., gornyy inzh.

Use of some new forms of timbering at the "Zolotushinskii" mine. Gor. zhur. no.7:77-78 Jl '65.

(MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'ski gornometallurgicheskiy institut tsvetnykh metallov (for Korshunov, Kruglov).
2. Zolotushinskiy polimetallicheskiy rudnik (for Esaulov).

VORONIN, V.S., gornyy inzh.; KORSHUNOV, A.A., gornyy inzh.; DAURENBEKOV, A.K., gornyy inzh.; NAURYZBAYEV, V.A., gornyy inzh.

Testing and introduction of the use of gunite supports in soft rock at the Tekeli Mine. Gor.zhur. no.1:41-43 Ja '65. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnoy metallurgii (for Voronin, Korshunov). 2. Tekeliyskiy kombinat (for Daurenbekov, Nauryzbayev).

L 41410-65 EWT(d)/T IJP(c)
ACCESSION NR: AR5009618 UR/0372/65/000/001/V037/1037

SOURCE: Ref. zh. Kibernetika. Sv. T., Abs. 1V206

AUTHOR: Korshunov, A. D.

TITLE: Concerning lower estimates of the complexity of contact networks realizing pairwise orthogonal functions of algebraic logic

CITED SOURCE: Sb. Diskretn. analiz. Vyp. 2, Novosibirsk, 1964, 42-27

TOPIC TAGS: algebraic logic, switching contact, contact network, orthogonal function, isolating multipole network

TRANSLATION: The author obtains a lower estimate for the number of contacts of a circuit consisting of switching contacts (a switching contact is defined as a three-pole circuit of the form $\langle x^{-}/x\rangle$ realizing an arbitrary system of k pairwise orthogonal functions of algebraic logic of n arguments, equal to $2k - 2$. As a corollary the author derives the following result: A contact tree with n layers and $2 \times 2^{n} - 2$ contacts is one of the minimal $(1, 2^{n})$-pole circuits of switching

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ACCESSION NR: AR5009618

contacts, realizing 2^n conjunctions of n variables. The author notes that by using the same method of proof it is easy to obtain an analogous result for isolating multipole networks made up of ordinary contacts. N. Karpova.

SUB CODE: MA, DP ENCL: 00

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Card 2/2

ACC NR: AR6026516 SOURCE CODE: UR/0372/66/000/004/V021/V021

AUTHOR: Korshunov, A. D.

TITLE: On asymptotic estimates of the complexity of contact networks of a given degree

SOURCE: Ref. zh. Kibernetika, Abs. 4V107

REF SOURCE: Sb. Diskretn. analiz. Vyp. 5. Novosibirsk, 1965, 35-67

TOPIC TAGS: communication network, algebraic logic, asymptotic solution, graph theory

ABSTRACT: The problem of realizing the functions of algebraic logic by means of contact networks is considered for the networks with structural constraints. The concept of degree of the contact network, coinciding with the degree of the graph of the network, is introduced. The following notation is introduced: Let $L_\lambda(f)$ and $L_\lambda^{II}(f)$ be the minimum number of contacts required to realize an algebraic-logic function f of n arguments by means of a contact network and by means of a series-parallel contact network of degrees no higher than λ, respectively; suppose that $L_\lambda(n) = \max L_\lambda(f)$, $L_\lambda^{II}(n) = \max L_\lambda^{II}(f)$, where the maximum is taken with respect to all functions of the arguments $x_1, x_2, \ldots, x_n$. The following statements are estab-

Card 1/2 UDC: 519.95

ACC NR: AR6026516

lished: Theorem 1. If $\lambda \geq 3$, then $L_\lambda(n) \sim \frac{\lambda}{\lambda-2} \cdot \frac{2^n}{n}$; then also for any $\epsilon > 0$ the proportion of the function f or arguments $x_1, x_2, \ldots, x_n$ for which $L_\lambda(f) \leq (1-\epsilon) \cdot \frac{\lambda}{\lambda-2} \cdot \frac{2^n}{n}$, tends toward zero with increasing n. Theorem 2. $L_3^{II}(n) \sim \frac{2^n}{\log_2 n}$, and for any $\epsilon > 0$ the proportion of functions f of arguments $x_1, x_2, \ldots, x_n$ for which $L_3^{II}(f) \leq (1-\epsilon) \cdot \frac{2n}{\log_2 n}$, tends toward zero with increase in n. It is pointed out that with the aid of contact networks of the degree $\lambda \leq 2$ it is not possible to realize all functions of algebraic logic, and hence condition $\lambda \geq 3$ in Theorem 1 is essential. Further, certain substantive consequences of the above theorems are pointed out: 1. From Theorem 1 and from the findings of O. B. Lupanov (Ref. Zh. Mat., 1961, 2A177; 1964, 7V280) it follows that in the class of arbitrary (i.e. non-plane) contact networks of an unlimited degree it is possible, for nearly all functions of algebraic logic, to construct networks $\frac{\lambda}{\lambda-2}$ times more simple than in the class of arbitrary contact networks with degrees λ no higher than 2. When constructing asymptotically optimal series-parallel networks for nearly all functions of algebraic logic it is sufficient to confine consideration to networks with $\lambda = 3$. 2. F. Ya. Vetukhnovskiy showed (Ref. Zh. Mat., 1962, 9V209) that in the class of plane contact networks of arbitrary degree $L^{pl}(n) \sim 2^n/\log_2 n$. Hence $L^{pl}(n) \sim L_3^{II}(n)$. V. Kudryavtsev. [Translation of abstract]

SUB CODE: 12, 09

Card 2/2

ACC NR: AR6024041 SOURCE CODE: UR/0044/66/000/004/V021/V021

AUTHOR: Korshunov, A. D.

TITLE: Asymptotic estimates of the complexity of contact schemes of a given power

SOURCE: Ref. zh. Matematika, Abs. 4V107

REF SOURCE: Sb. Diskretn. analiz. Vyp. 5. Novosibirsk, 1965, 35-67

TOPIC TAGS: algebraic logic, contact schemes, function theory

ABSTRACT: The problem of realization of functions of algebraic logic by contact schemes subjected to certain limitations has been investigated. The concept of the power of the contact scheme is being introduced, and it coincides with the degree of the graph of that scheme. The author introduced the following notation: Let $L_\lambda(f)$ and $L_\lambda^{\Pi}(f)$ be the minimum number of contacts necessary for the realization of that function of algebraic logic f of n arguments by a contact scheme and a parallel-series contact scheme of a power not greater than λ, respectively; let

$$L_\lambda(n) = \max L_\lambda(f), \quad L_\lambda^{\Pi}(n) = \max L_\lambda^{\Pi}(f),$$

where the maximum is taken over all functions or arguments $x_1, x_2, \ldots, x_n$. The following statements have been established. Theorem 1. If $\lambda \geq 3$, then

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$$L_\lambda(n) \sim \frac{\lambda}{\lambda-2}\cdot\frac{2^n}{n},$$

where for an arbitrary $\varepsilon > 0$ the part of functions f or arguments $x_1, x_2, \ldots, x_n$ for which

$$\overline{L_\lambda(f) < (1-\varepsilon)\cdot\frac{\lambda}{\lambda-2}\cdot\frac{2^n}{n}},$$

tends to zero with an increase in n. Theorem 2.

$$L_3^{\Pi}(n) \sim \frac{2^n}{\log_2 n},$$

where for an arbitrary $\varepsilon > 0$ the part of the functions f of arguments $x_1, x_2, \ldots, x_n$ for which

$$L_3^{\Pi}(f) < (1-\varepsilon)\cdot\frac{2^n}{\log_2 n},$$

tends to zero with an increase in n. It is noted that by means of contact schemes with power $\lambda < 2$, one cannot realize all the functions of algebraic logic, and consequently, the condition $\lambda \geq 3$ in Theorem 1 is essential. Furthermore, one notes certain essential consequences of the theorems presented: 1. From Theorem 1 and results of O. B. Lupanov (RZhMat, 1961, 2A177; 1964, 7V280) it follows that within the class of arbitrary (i.e., nonplanar) contact schemes with unbounded powers one can establish for almost all the functions of algebraic logic schemes which are $\lambda/(\lambda-2)$

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ACC NR: AR6024041

times simpler than within the class of arbitrary contact schemes with powers not higher than λ. 2. During the establishment of asymptotically best parallel-series schemes for almost all the functions of algebraic logic, it is sufficient to limit oneself by schemes with a power of 3. 3. F. Ya. Vetukhnovskiy showed (RZhMat, 1962, 9V209) that within the class of plane contact schemes of arbitrary power one has

$$L^{p\ell}(n) \sim \frac{2^n}{\log_2 n}.$$

Consequently,

$$L_3^{p\ell}(n) \sim L_3^{\Pi}(n).$$

[Translation of abstract] V. Kudryavtsev

SUB CODE: 12

L 54569-65 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l) Pf-4
ACCESSION NR: AP5012792 UR/0378/65/000/002/0018/0028
519.95

AUTHOR: Korshunov, A. D.

TITLE: Asymptotic complexity estimates of certain classes of contact circuits

SOURCE: Kibernetika, no. 2, 1965, 18-28

TOPIC TAGS: asymptotic complexity estimate, contact circuit, algebraic logic, logical function realization, control theory

ABSTRACT: Let L(f) be the minimum number of contacts needed for the realization by a contact circuit of the functions f of algebraic logic of n variables, and L(n) = max L(f) where the maximum is over all functions of n variables. O. B. Lupanov studied the behavior of these L functions as well as of L_{π} (n) representing the minimum number of contacts sufficient for the above-mentioned realization in the class of series-parallel circuits (O sinteze nekotorykh klassov upravlyayushchikh sistem, Sb. "Problemy kibernetiki, no. 10, M., 1963, 63-97). F. Ya. Velukhnovskiy likewise studied the behavior of the $L_{pl}(n)$ representing the minimum number of contacts in the case of plane circuit realizations (DAN SSSR, 142, 1, 1962, 50-53). In the first part of this paper, the author introduces the concept of a contact circuitry with limited topology and establishes the

Card 1/2

Card 2/2

KORSHUNOV, A.I., inzh.; KOMOLOV, V.G., inzh.; MAYOROV, A.I., inzh.

Telescoping elevator for repairing converter linings. (MIRA 13:9)
Mekh.i avtom.proizv. 14 no.9:43-44 S '60.
(Converters--Maintenance and repair) (Elevators)

KORSHUNOV, A. I.

"Calculation of Beam and Rib Type Frames." Cand Tech Sci, Kazan' Aviation Inst, Min Higher Education USSR, Kazan', 1954 (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educationsl Institutions (12)
SO: Sum. No. 556, 24 Jun 55

KORSHUNOV, A.I.

KORSHUNOV, A.I.; MAKHOV, V.Ya.

Demonstration building of two 12-unit apartment houses. Transp. stroi. 7 no.5:7-10 My '57. (MIRA 10:11)

1. Nachal'nik Sverdlovskoy normativno-issledovatel'skoy stantsii Orgtransstroya (for Korshunov).
(Apartment houses) (Building)

KORSHUNOV, A.I.

Graphoanalytic method of designing beams of uniform strength considering natural weight. Trudy KAI 46:75-85 '59.
(MIRA 14:2)

(Girders—Graphic methods)

KORSHUNOV, A.I. (Kazan')

Graphoanalytic calculation of frames. Trudy KAI 38:203-218 '58. (MIRA 16:8)
(Structural frames)

KORSHUNOV, A.I.

Designing trusses taking the gravity into consideration. Trudy KAI no. 62:65-72 '61. (MIRA 17:2)

SAL'NIKOV, Ivan Stepanovich, dots.; LOMONOSOV, Nikolay Matveyevich, kand. tekhn. nauk, dots.; PODOL'SKIY, L.R., inzh., retsenzent; KORSHUNOV, A.M., inzh., retsenzent; PERSKIY, G.M., inzh., retsenzent; SIDOROV, N.I., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Organization of the management of electrified railroads]Organizatsiia khoziaistva elektrifitsirovannykh zheleznykh dorog. Moskva, Transzheldorizdat, 1962. 349 p. (MIRA 15:12)
(Railroads—Electrification)
(Electric railroads—Management)

KORSHUNOV, Aleksandr Nikitich, MAYDANYUK, Nikolay Mikhaylovich,[deceased],; IVANITSKIY, P., otv. red.; PROSHINA, L., red. izd-va,; TELEGINA, T., tekhn. red.

[Analysis of the report on the execution of a district's budget] Analiz otcheta ob ispolnenii biudzheta raiona. Moskva, Gosfinizdat, 1958. 143 p. (MIRA 11:11)

(Budget)

KORSHUNOV, A.N.

MOROZOV, N.A., kandidat tekhnicheskikh nauk; KALITEYEVSKIY, R.Ye., inshener; KORSHUNOV, A.N., inzhener.

Automatic machine for sharpening wood cutters. Der.i lesokhim.prom. 3 no.3:8-10 Mr '54. (MLRA 7:3)

1. Leningradskaya ordena Lenina lesotekhnicheskaya akademiya im. S.M.Kirova. (Woodworking machinery)

KORSHUNOV, A. N.

KORSHUNOV, A. N. -- "Investigation of the Process of Cutting Lumber with Various Cutting Instruments Perpendicular to the Fibers." Min Higher Education USSR. Leningrad Order of Lenin Forestry Engineering Academy imeni S. M. Kirov. Leningrad, 1955. (Dissertation for the Degree of Candidate of Technical Sciences.)

SO: Knizhnaya Letopis', No 5, Moscow, Feb 1956

KORSHUNOV, A.N.

Coal crushing under the dynamic effect of mining machine cutters. Nauch. trudy MGI no.21:137-155 '57. (MIRA 11:9)
(Coal mining machinery)

KORSHUNOV, A.N.

KORSHUNOV, A.N., Cand Tech Sci --(diss) "On the problem of the crushing of Moscow coal by the dynamic action of a mining machine tool." 14 pp (Min of Higher Education USSR. Mos Mining Inst im I.V.Stalin. Chair of Mining Machines). 120 copies (KL,20-58,97)

KORSHUNOV, A.N., kand.tekhn.nauk

Study of the dynamic loads on truck halves of cars. Izv. vys. ucheb. zav.; gor. zhur. no.8:154-157 '61. (MIRA 15:5)

1. Kemerovskiy gornyy institut. Rekomendovana kafedroy gornykh mashin i rudnichnogo transporta Kemerovskogo gornogo instituta.

(Mine railroads--Cars)

KNYAZEV, Sergey Aleksandrovich, kand. tekhn.nauk; MALYSHEV, V.V., dots., kand. tekhn.nauk, retsenzent; KORSHUNOV, A.N., kand. tekhn. nauk, retsenzent; LAUTNER, E.M., dots., kand. tekhn.nauk, otv. red.; BEZGODOVA, L.V., red.; URITSKAYA, A.D., tekhn. red.

[Machines and instruments for mechanical processing of wood; general problems in the theory of cutting] Stanki i instrumenty po mekhanicheskoi obrabotke drevesiny; obshchie voprosy teorii rezaniia. Lektsiia dlia studentov fakul'teta mekhanicheskoi tekhnologii drevesiny. Leningrad, Vses. zaochnyi lesotekhn. in-t, 1963. 37 p. (MIRA 16:7)
(Woodworking machinery)

SVYATKOV, Sergey Nikolayevich, dots., kand. tekhn. nauk; KORSHUNOV, A.N., dots., kand. tekhn. nauk, retsenzent; PAUSTOVSKIY, G.A., otv. red.; BEZGODOVA, L.V., red.; URITSKAYA, A.D., tekhn. red.

[Intrafactory transportation; textbook for term and diploma projects (for students of the faculty of woodworking technology)] Vnutrizavodskii transport; uchebnoe posobie k kursovomu i diplomnomu proektirovaniiu (dlia studentov fakul'teta mekhanicheskoi tekhnologii drevesiny). Leningrad, Vses. zaochnyi lesotekhnich. in-t, 1963. 164 p.
(MIRA 17:1)

1. Starshiy prepodavatel' kafedry soprotivleniya materialov i detaley mashin Vsesoyuznogo zaochnogo lesotekhnicheskogo instituta (for Paustovskiy).

NEKHAMKIN, Natan Osipovich, dots., kand. tekhn. nauk; VLASOV, G.D., prof., doktor tekhn. nauk, retsenzent; KORSHUNOV, A.N., kand. tekhn. nauk, retsenzent; PESOTSKIY, A.N., prof., doktor tekhn. nauk, otv. red.; FILONENKO, K.D., red.

[Planning wood processing enterprises; introductory lecture for students of the Faculty of Mechanical Wood Processing specializing in the technology of wood processing enterprises] Proektirovanie derevoobrabatyvaiushchikh predpriiatii; vstupitel'naia lektsiia dlia studentov fakul'teta mekhanicheskoi tekhnologii drevesiny po spetsializatsii - tekhnologiia derevoobrabatyvaiushchikh predpriiatii. Leningrad, Vses. zaochnyi lesotekhn. in-t, 1963. 23 p. (MIRA 17:5)

KORSHUNOV, A.N., kand. tekhn. nauk, dotsent; SAFOKHIN, M.S., dotsent

Review of the book by A.V. Evnevich "Mine haulage machinery."
Ugol' 39 no.7:75-76 Jl '64. (MIRA 17:10)

1. Kemerovskiy gornyy institut.

KORSHUNOV, A.N., dotsent, kand. tekhn. nauk

Study of the strength of winch drums. Sbor. nauch. trud. Kem. gor. inst. no.5:133-138 '64. (MIRA 18:3)

1. Gorno-elektromekhanicheskiy fakul'tet Kemerovskogo gornogo instituta.

KORSHUNOV, A.P.; KUZ'MIN, V.M.

Results of the study of piezometric wells. Nauch.-tekh. sbor. po dob. nefti no.15:82-86 '61. (MIRA 15:9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.
(Oil reservoir engineering)

SPIVAKOVSKIY, Aleksandr Onisimovich; MUCHNIK, Vladimir Semenovich, doktor tekhn. nauk; YUFIN, Andrey Pavlovich, doktor tekhn. nauk; SMOLDYREV, Anatoliy Yevtikheyevich, kand. tekhn. nauk; OFENGENDEN, Naum Yefimovich, kand. tekhn. nauk; BORISENKO, Lev Dmitriyevich, kand. tekhn. nauk; TRAYNIS, Viulen Vladimirovich, kand. tekhn. nauk; Prinimali uchastiye: KURBATOV, A.K., inzh.; MARKOV, Yu.A., inzh.; KORSHUNOV, A.P., inzh.; EKBER, B.Ya., otv. red.; KOVAL', I.V., red.izd-va; IL'INSKAYA, G.M., tekhn. red.

[Hydraulic and pneumatic transportation in mining enterprises]Gidravlicheskii i pnevmaticheskii transport na gornykh predpriiatiiakh. Moskva, Gosgortekhizdat, 1962. 250 p. (MIRA 16:3)

1. Chlen-korrespondent Akademii nauk SSSR (for Spivakovskiy). 2. Institut gornogo dela im. A.A.Skochinskogo (for Smoldyrev). 3. Vsesoyuznyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut po gidrodobyche uglya (for Muchnik). 4. Donetskiy nauchno-issledovatel'skiy ugol'nyy institut (for Ofengenden). 5. Moskovskiy inzhenerno-stroitel'nyy institut im. V.V.Kuybysheva (for Yufin).

(Pneumatic conveying) (Hydraulic conveying)

KORSHUNOV, A.P., inzh.

Principles of the calculation of systems for liberating from water corrosion-active gases of nitrogen desorption under pressure. Teploenergetika 11 no.10:81 O '64.

(MIRA 18:3)

1. Magnitogorskiy metallurgicheskiy kombinat.

KORSHUNOV, A.P.

Method of making punches with slots. Stan. i instr. 24 no.5:34 My '53.
(MLRA 6:6)
(Punching machinery)

KORSHUNOV, A.P.

AUTHOR: Korshunov, A.P., Engineer 133-58-3-4/29

TITLE: Utilisation of the Waste Nitrogen from Oxygen Plants in Blast Furnace Departments (Ispol'zovaniye otbrosnogo azota kislorodnykh ustanovok v domennykh tsekhakh)

PERIODICAL: Stal', 1958, Nr 3, p 208 (USSR)

ABSTRACT: The use of waste nitrogen from oxygen plants instead of blast furnace gas for equalising pressure in the space between the large and small bells of blast furnaces is proposed. There are 3 references, 2 of which are Soviet and 1 English.

ASSOCIATION: Magnitogorskiy metallurgicheskiy kombinat (Magnitogorsk Metallurgical Combine)

AVAILABLE: Library of Congress

Card 1/1

5(1) SOV/67-58-6-7/22

AUTHOR: Korshunov, A. P., Engineer

TITLE: Experiment on the Drying of Industrial Oxygen (Opyt osushki tekhnicheskogo kisloroda)

PERIODICAL: Kislorod, 1958, Nr 6, pp 28 - 30 (USSR)

ABSTRACT: Distilled water is used as a lubricant for the cylinders of compressors at the Magnitogorsk Metallurgical Kombinat. Thus, oxygen is saturated with steam in compression. Every compressor is equipped with a moisture separator at the rear. However, this is not sufficient to remove steam completely from the oxygen. An additional adsorbing device is therefore required, which is connected to the oxygen main pipe in front of the drying block. The "adsorber" consists of a cylinder with a capacity of $\sim$ 1.5 m^3. Its interior is divided into two sections filled with silica gel of the KSK (GOST 3956-54) type and shut off at the bottom by two grids. The silica gel is regenerated by blowing through hot air or nitrogen. The drying block ensures drying of 2000 nm^3 of oxygen per hour under normal conditions. Reliable drying is obtained by complying with all operation requirements.

Card 1/2

Experiment on the Drying of Industrial Oxygen

SOV/67-58-6-7/22

The application of the adsorption block for oxygen drying permits the elimination of the otherwise necessary tubing insulation, nor is there any danger of freezing, and a continuous oxygen feeding of the required quality is made possible. There are 3 figures and 1 table.

Card 2/2

SOV/67-58-4-6/29

AUTHOR: Korshunov, A. P.

TITLE: Improvement of the Operation of the Air Compressor ZR-7/220 (Uluchsheniye raboty vozdushnogo kompressora ZR-7/220)

PERIODICAL: Kislorod, 1958, Nr 4, pp. 30-32 (USSR)

ABSTRACT: The vertical four-stage high-pressure air compressor ZR-7/220 is being produced by the Central-Asiatic Plant for the Construction of Chemical Apparatus (at Chirchik) and is used in an oxygen plant KG-300-2D. The compressor is provided with devices for cooling (after each stage) and with devices for the extraction of oil and moisture (after the I. and IV. stage). Its data are: Output 7 m^3/min; suction pressure 760 torr; compression according to stages (expressed in atmospheres in excess of atmospheric pressure): stage I.-4, II.-13-15; III.-50-60; IV. up to 220; travel of piston 200 mm; number of revs. per minute: 375; electromotor for 130-140 kW. The following faults were found with the operation of the compressor: The valves gave the greatest amount of trouble. During the I. stage deposits of coked oil formed on the valves and valve-seats, so that valve ducts frequently were completely stopped up. At the same time temperature rises and the oil vapors are ignited, which causes this stage to become overheated. The same kinds of deposits later

Card 1/2

Improvement of the Operation of the Air Compressor SOV/67-58-4-6/29
ZR-7/220

also stopped up supply pipes (to the cooler of the I.stage), so that their inner diameter was reduced, which, in turn, leads to an increase of pressure in the I. stage and to a reduction of pressure in the II. stage as well as to overheating, by which the forming of deposits and sooting increased. Particles of soot also penetrated into the following compression stages, blocked up piston rings, and disturbed the functioning of the cooling apparatus as well as of the lubrication system etc. For this reason additional oil- and moisture extractors as well as spiral-tube coolers were fitted. Finally, the plant producing these devices is advised to carry out the necessary constructional improvements. In the comment made to this paper it is said that instead of the compressor mentioned, a similar compressor KD -8/5-220, which will be produced by the Kazan compressor plant in the course of this year, will be introduced. There are 3 figures.

Card 2/2 1. Air compressors--Performance 2. Air compressors--Equipment

KORSHUNOV, A.P., inzh.

Drying industrial oxygen. Kislorod 11 no.6:28-30 '58. (MIRA 12:3)

(Oxygen)

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.; GRICHEVSKIY, E.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; LOBANOV, V.N., dotsent; LITVINENKO, A.F., inzh.; MERKELOV, G.F., inzh.; PIRKHAVKA, P.Ya., kand.tekhn.nauk; PRONNIKOVA, M.I., kand.tekhn.nauk; SMIRNOV, B.V., kand.tekhn.nauk; FATYUSHENKO, 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)

SOV/67-59-3-6/27

25(2) 14(1)

AUTHOR: Korshunov, A. P., Engineer

TITLE: Ways for Removing Leaks in the Automatic Valves of Oxygen Regenerators (Sposoby ustraneniya neplotnostey v avtomaticheskikh klapanakh kislorodnykh regeneratorov)

PERIODICAL: Kislorod, 1959, Nr 3, pp 32 - 33 (USSR)

ABSTRACT: Owing to disturbances in the automatic and non-automatic valves of the oxygen generators impurities of oxygen may occur. In the case of a leakness of the non-automatic valves they may easily be exchanged. Also no further fouling occurs because in this case the oxygen leaves the regenerator. A disturbance of the automatic valves is much more difficult because these valves are situated at the cold end of the generator. A leaky attachment of the valves to the valve seat may form due to solid carbon dioxide or ice which has penetrated the valves. By this way air may then penetrate into the oxygen. Such a leakage may be detected by comparative analysis of oxygen before and behind the automatic valves. In order to eliminate this disturbance the valves are heated when the generator is shut off and the foreign

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substances are melted. A more exact description of the heating process for eliminating this disturbance is given. There is 1 figure.

SOV/105-59-5-10/29

8(3), 8(6)

AUTHOR: Korshunov, A. P., Engineer (Moscow)

TITLE: Calculating Short-circuit Currents in Consideration of the Characteristics of Rural Electric Power Plants (Raschet tokov korotkogo zamykaniya s uchetom osobennostey sel'skikh elektrostantsiy)

PERIODICAL: Elektrichestvo, 1959, Nr 5, pp 42-49 (USSR)

ABSTRACT: A method of calculating the short-circuit currents for the relay protection is described here in consideration of the characteristics of rural electric power plants. The investigation was carried out by the author under the direction of V. N. Andrianov. The method described is applied to hydroelectric power stations. The single operation of a power station which is most unfavorable for the relay protection is investigated. The characteristics of rural power plants affecting the short-circuit process are pointed out. The present paper is based on the equations by Gorev-Park. These permit most of the factors affecting the transition process to be considered. The assumptions made in setting up the equations by Gorev-Park are pointed out. A solution of these equations in a general form is not possible.

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Calculating Short-circuit Currents in Consideration of the Characteristics of Rural Electric Power Plants

Therefore, they were simplified. The equations are then used for the calculation of the short-circuit currents, and formula (14) for the slip s is derived. It applies to a generator moment invariable with time in case of short-circuit. To consider its variation with time, the method of continuous intervals can be used. According to the method described here, short-circuit currents were calculated under different conditions. The calculation referred to generators of rural power plants (Ref 10) with axial-flow turbines. The slip $s = f(t)$ was determined in a graphic-analytical way. A full opening of the distributor of the turbine corresponded to 90% of the nominal capacity of the generator. The ratio r_a/z_a (external resistances in the stator circuit) was assumed to be 0.9, and $E'_d = 1.136$ (nominal excitation, $\cos\varphi = 0.8$).- The investigation showed the following: 1) With the distributor fully open, and an amplification of the generator excitation, the number of revolutions of the unit at short circuit can decrease by 30-40%, and with the distributor not fully open and without speed governor, by 47% or even more.

Calculating Short-circuit Currents in Consideration of the Characteristics of Rural Electric Power Plants

2) The amplification of the excitation at the beginning short circuit results in a positive effect, namely an increase in the current intensity and the voltage, but this effect is about half as big as at synchronous speed, and keeps on for 1.0-1.6 sec after the short circuit. After this time, the amplification of the excitation has a negative effect. The greater the inertia constant of the unit is, the greater and longer-lasting will be the positive effect of the excitation amplification, and vice versa. 3) The residual voltages rather vary like the short-circuit current. 4) The errors due to a disregard of speed variations depend on the time. 5) The duration of the transition processes is mainly determined by the inertia constant of the unit and not by the decay constant of the electromagnetic processes. In most generators, the stabilization of operation occurs 2.5-3.5 sec after the short circuit. 6) Remote short circuits are also accompanied - if there is no amplification of the excitation - by a reduction of the number of revolutions, but this reduction is unimportant. 7) Due to their great inertia, the speed governors exert nearly no influence on the transition

Calculating Short-circuit Currents in Consideration of the Characteristics of Rural Electric Power Plants

process for a time corresponding to the running time of the relay protection.- The results of the theoretical investigations were confirmed by tests. The experiments were carried out at the Gorbovskaya GES (Gorbovo Hydroelectric Power Station), Moscow oblast', with a capacity of twice 250 kva, and at the Moskovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva (Moscow Institute of the Mechanization and Electrification of Agriculture). There are 8 figures and 11 Soviet references.

SUBMITTED: May 26, 1958

Card 4/4

KORSHUNOV, A.P., inzh.

Protecting electric motors by reducing starting current.
Mekh.i elek.sots.sel'khoz. 17 no.5:45 '59.
(MIRA 12:12)

1. Giprosel'elektro.
(Electric motors)

KORSHUNOV, A.P., inzh.

Calculating the suction capacity of a hydraulic transporation unit. Nauch.soob.Inst.gor.dela 5:39-44 '60. (MIRA 15:1)
(Hydraulic conveying)

FEYERMARK, M.M., inzh.; EBIN, L.Ye., doktor tekhn.nauk, LEVIN, M.S., kand. tekhn.nauk, ZUL', N.M., kand.tekhn.nauk, SOLNTSEV, V.M., inzh., KORSHUNOV, A.P., inzh.

Grounding of the neutral line in 6 and 10 kv. overhead networks. Energetik 8 no.11:12-16 N '60. (MIRA 13:12)

1. UGPI "Tyazhpromelektroproyekt" (for Feyermark). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii sel'skogo khozyaystva (for Ebin, Levin, Zul'). 3. Giprosel'elektro (for Solntsev, Korshunov).

(Electric power distribution)
(Electric currents--Grounding)

KORSHUNOV, A.P., inzh.; SOLNTSEV, V.M., inzh.

Designing of efficient power lines with 6 to 10 kilovolt rating for the electrification of villages. Elek.sta. 31 no.4:71-76 Ap '60. (MIRA 13:7)
(Electric lines--Overhead)
(Rural electrification)

KORSHUNOV, A. P.

Cand Tech Sci - (diss) "Design of short-circuit currents taking into considerations features of rural electric stations." Moscow, 1961. 17 pp; (Moscow Order of Lenin Agricultural Academy imeni K. A. Timiryazev); 200 copies; price not given; (KL, 7-61 sup, 238)

KORSHUNOV, A.P., inzh.

Calculation of the suction qualities of a hydraulic transportation unit. Trudy Inst. gor. dela 5:39-44 '60. (MIRA 14:5)
(Hydraulic conveying)

KORSHUNOV, A.P., inzh.

My answer to I.I.Tunkevichus. Elek.sta. 32 no.4:95 Ap '61. (MIRA 14:7)

(Electric power distribution)

KORSHUNOV, A.P., inzh.; KIRILLOV, M.I., inzh.; BULITKO, A.D., inzh.; DERYUGIN, F.F., inzh.

Concerning A.D.Bulitko and F.F.Deriugin's article "Exposed fuses in the high-voltage section of step-down substations." Elek.sta. 32 no.6:91-95 Je '61. (MIRA 14:8)
(Electric substations) (Bulitko, A.D.) (Deriugin, F.F.)

KORSHUNOV, A.P., kand.tekhn.nauk

Design of efficient grounding devices for rural electric power distribution networks. Elek. sta. 33 no.8:54-58 Ag '62. (MIRA 15:8)

(Rural electrification) (Electric power distribution)

KORSHUNOV, A.P.; TKACHENKO, F.F.

Method for equalizing pressures in the interconical space of cupola furnaces. Prom. energ. 17 no.9:8 S '62. (MIRA 15:8)
(Cupola furnaces)

KORSHUNOV, A.P., kand.tekhn.nauk

Some shortcomings of grounding the neutral line in rural electric power distribution networks. Mekh.i elek.sots.sel'khoz. 20 no.4:45-47 '62. (MIRA 15:8)

1. Vsesoyuznyy gosudarstvennyy institut po proyektirovaniyu elektrifikatsii sel'skogo khozyaystva.
(Rural electrification)

KORSHUNOV, , A.P., kand. tekhn. nauk

X-ray properties of finely dispersed hydraulic mixtures of some ores. Nauch. soob. IGD 20:129-136 '63. (MIRA 16:10)

(Hydraulic conveying) (Particle size determination)

KORSHUNOV, A.P., kand. tekhn. nauk

Use of aluminum wires in rural 35 kv. power distribution networks with wooden poles. Energetik 11 no.3:4-5 Mr '63. (MIRA 16:4)

(Rural electrification)
(Electric lines—Overhead)

KORSHUNOV, A.P., kand. tekhn. nauk

Calculation of the haulage capacity of a hydraulic conveying system. Gor. zhur. no.10:36-39 O '63. (MIRA 16:11)

1. Institut gornogo dela im. Skochinskogo, Moskva.

KORSHUNOV, A.P., kand.tekhn.nauk

Author 's reply. Elek. sta. 34 no.8:88-89 Ag '63. (MIRA 16:11)

SMOLDYREV, A.Ye.; KORSHUNOV, A.P.

Hydraulic conveying of ores and concentrates. Gor.zhur. no.12:49-51 D '64. (MIRA 18:1)

1. Institut gornogo dela im. A.A.Skochinskogo.

SUDOPLATOV, A.P., prof., doktor tekhn.nauk; NILOVSKIY, V.A., inzh.;
KOVACHEVICH, P.M., prof.; KORSHUNOV, A.P., dotsent, kand.tekhn.nauk

Review of the book "Coal extracting aggregates and complexes."
Ugol' 39 no.11:79 N '64. (MIRA 18:2)

KORSHUNOV, A.P., kand. tekhn. nauk

Problems in the hydraulic pressure transportation of finely comminuted coal. Ugol' 40 no.8:42-43 Ag '65. (MIRA 18:8)

1. Institut gornogo dela im. A.A. Skochinskogo.

KORSHUNOV, A. [illegible]

[illegible] of an economical size for grounding devices. Energetik 13 no.10:4 O '65. (MIRA 18:10)

SMOLDYREV, A.Ye.; KORSHUNOV, A.P.

Hydraulic methods for the recovery of minerals from below lake and sea bottoms. Fiz.-tekh. probl. razrab. pol. iskop. no.4:112-117 '65. (MIRA 19:1)

1. Institut gornogo dela imeni Skochinskogo, Moskva. Submitted April 3, 1965.

L 27951-66

ACC NR: AP6017705 SOURCE CODE: UR/0105/66/000/001/0010/0012

AUTHOR: Korshunov, A. P. (Candidate of technical sciences; Moscow)

ORG: none

TITLE: Prospective system of voltages for electrical supply of rural regions

SOURCE: Elektrichestvo, no. 1, 1966, 10-12

TOPIC TAGS: electric power transmission, power supply

ABSTRACT: In order to calculate a system of supply voltages for rural area electric transmission systems without the assumptions and limitations usually placed upon such idealized calculation systems, the author selected six zones of the USSR, differing in load and number of transformer points per unit area and in each area sought out a characteristic territory encompassing four-six 35-to-10kv substations and planned three variants of electrical supply systems, based on: 110/35/10/0.4 kv; 110/35/0.4 kv and 110/20/0.4 kv. In the various areas, different systems were found to be most economical. In one area, all three systems were equally expensive, considering initial data. In consideration of re-construction costs, the 20/0.4 kv system was most economical in all areas. The 35/0.4 kv system was never the most economical variant, although it was second most economical in one region. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 10 / SUBM DATE: 18May65

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ACC NR: AP6016785 (N) SOURCE CODE: UR/0415/65/000/004/0112/0117

14
13

AUTHOR: Smoldyrev, A. Ye.; Korshunov, A. P.

ORG: Mining Institute im. A. A. Skochinskiy, Moscow (Institut gornogo dela)

TITLE: Hydraulic systems for mining minerals from lake and ocean bottoms

SOURCE: Fiziko-tekhnicheskiye problemy razrabotki poleznykh iskopayemykh, no. 4, 1965, 112-117

TOPIC TAGS: hydraulic equipment, mining machinery

ABSTRACT: Data are given on the rich mineral deposits of the Pacific Ocean and other large bodies of water. The authors recommend that a series of important physico-technical and technological problems be solved before effective methods can be developed for utilizing ocean, sea and lake mineral deposits. These are: determining the physical and mechanical properties of loose sapropel; determining the technological parameters of specific mining machines in breaking up the deposits at various depths; determining the technological parameters of hydraulic transport for various raw materials with respect to economy; the solution of operational and technical requirements ensuring reliable function of floating equipment, underwater pipelines, booster pumping stations and other equipment; maintaining mining operations at extreme depths and under stormy conditions. Lake and off-shore organic and mineral deposits should be

Card 1/2 UDC: 622.275.5

L 05811-67

ACC NR: AP6016785

the first to be considered with respect to the above problems. The most promising mining and transporting systems for raw products from underwater deposits are hydraulic and combination hydraulic units along with powerful scrapers and mechanical dredges equipped with pumping units. Orig. art. has: 3 figures, 4 tables.

SUB CODE: 13, 08/ SUBM DATE: 03Apr65/ ORIG REF: 006/ OTH REF: 003

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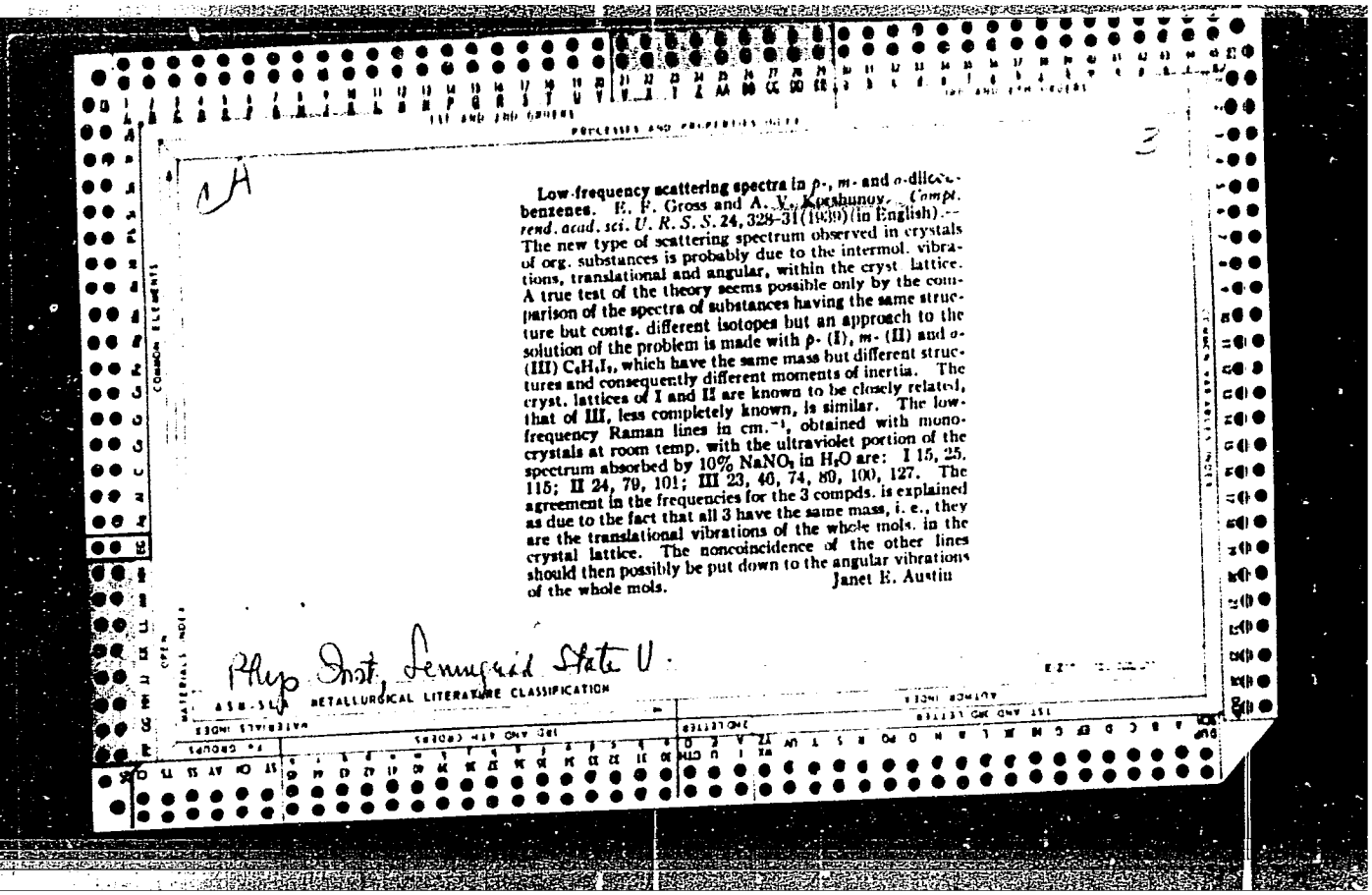
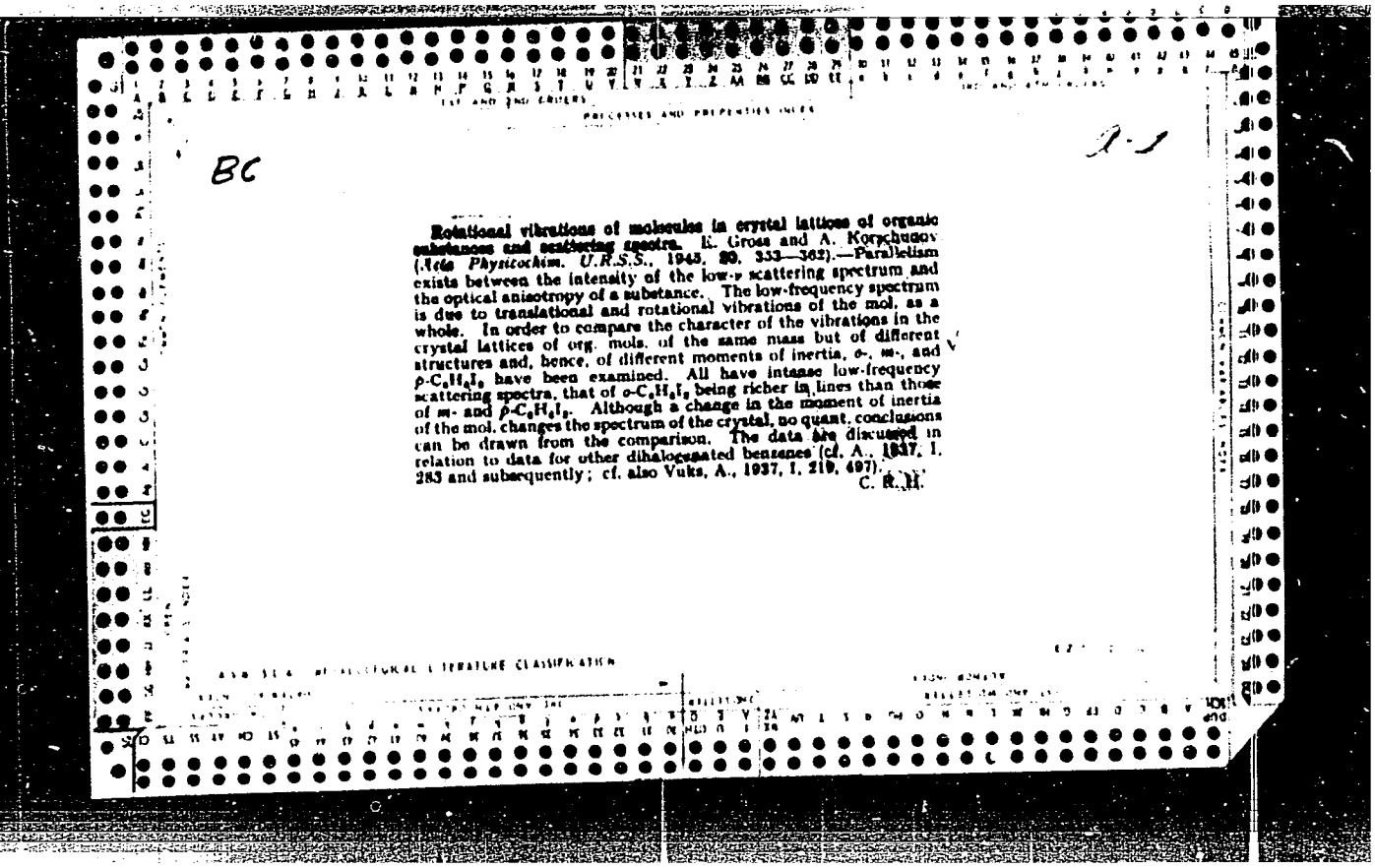


Low-frequency scattering spectra in *p*-, *m*- and *o*-dichlorobenzenes. E. F. Gross and A. V. Kopshunov. *Compt. rend. acad. sci. U. R. S. S.* 24, 328–31 (1939) (in English).—The new type of scattering spectrum observed in crystals of org. substances is probably due to the intermol. vibrations, translational and angular, within the cryst. lattice. A true test of the theory seems possible only by the comparison of the spectra of substances having the same structure but contg. different isotopes but an approach to the solution of the problem is made with *p*- (I), *m*- (II) and *o*- (III) $C_6H_4I_2$, which have the same mass but different structures and consequently different moments of inertia. The cryst. lattices of I and II are known to be closely related, that of III, less completely known, is similar. The low-frequency Raman lines in cm.$^{-1}$, obtained with monocrystals at room temp. with the ultraviolet portion of the spectrum absorbed by 10% $NaNO_2$ in H_2O are: I 15, 25, 115; II 24, 79, 101; III 23, 40, 74, 89, 100, 127. The agreement in the frequencies for the 3 compds. is explained as due to the fact that all 3 have the same mass, i. e., they are the translational vibrations of the whole mols. in the crystal lattice. The noncoincidence of the other lines should then possibly be put down to the angular vibrations of the whole mols.

Janet E. Austin

Phys Inst, Leningrad State U.

METALLURGICAL LITERATURE CLASSIFICATION



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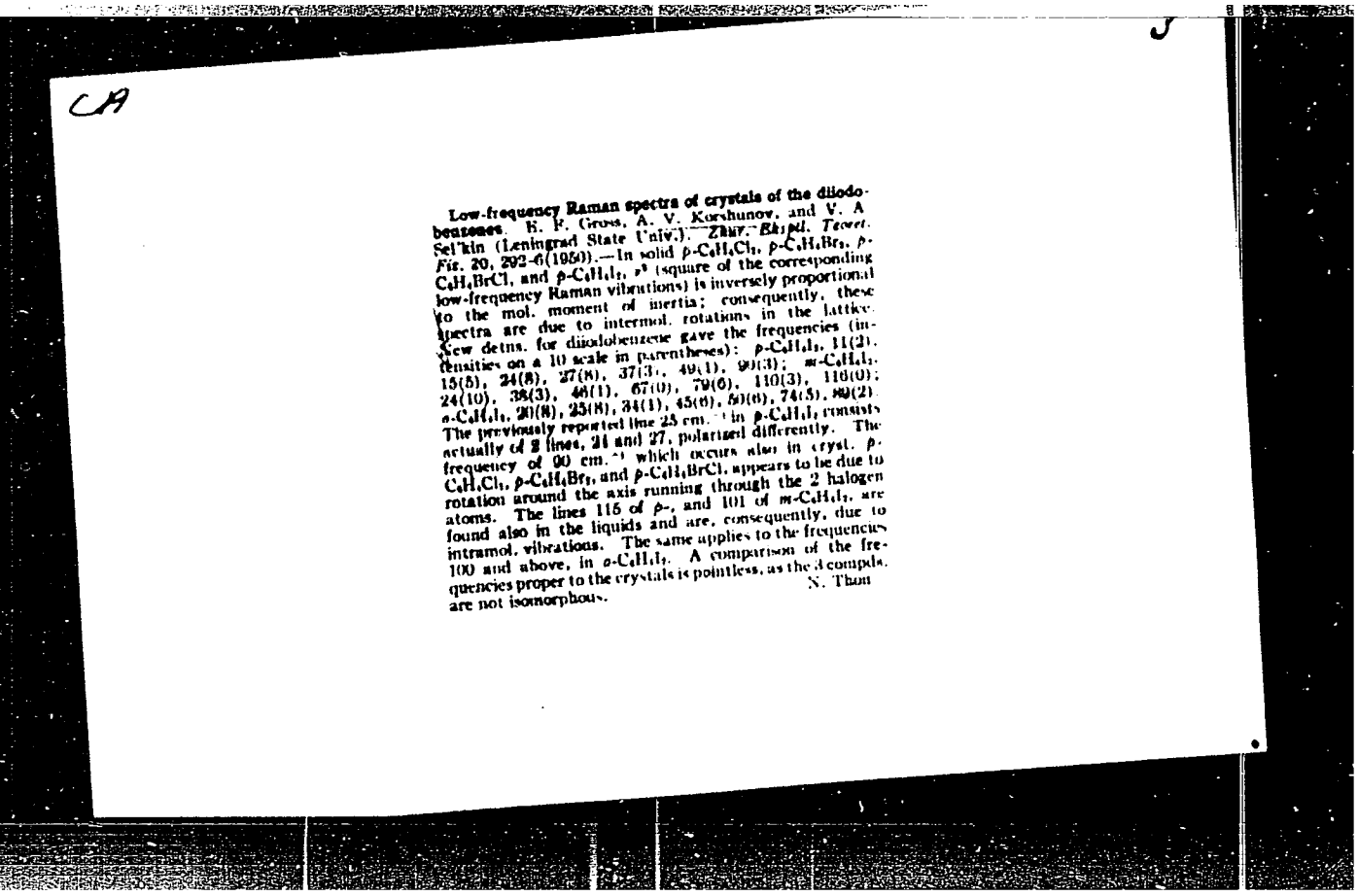
Rotational vibrations of molecules in crystal lattices of organic substances and scattering spectra. K. Gross and A. Korchunov (*Acta Physicochim. U.R.S.S.*, 1943, **20**, 353—362).—Parallelism exists between the intensity of the low-ν scattering spectrum and the optical anisotropy of a substance. The low-frequency spectrum is due to translational and rotational vibrations of the mol. as a whole. In order to compare the character of the vibrations in the crystal lattices of org. mols. of the same mass but of different structures and, hence, of different moments of inertia, *o*-, *m*-, and *p*-$C_6H_4I_2$ have been examined. All have intense low-frequency scattering spectra, that of *o*-$C_6H_4I_2$ being richer in lines than those of *m*- and *p*-$C_6H_4I_2$. Although a change in the moment of inertia of the mol. changes the spectrum of the crystal, no quant. conclusions can be drawn from the comparison. The data are discussed in relation to data for other dihalogenated benzenes (cf. A., 1937, I. 283 and subsequently; cf. also Vuks, A., 1937, I, 219, 497).

C. R. H.



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Low-frequency Raman spectra of crystals of the diiodobenzenes. B. P. Gross, A. V. Korshunov, and V. A. Sel'kin (Leningrad State Univ.). *Zhur. Eksptl. Teoret. Fiz.* 20, 292-6(1950).—In solid *p*-$C_6H_4Cl_2$, *p*-$C_6H_4Br_2$, *p*-C_6H_4BrCl, and *p*-$C_6H_4I_2$, ν^2 (square of the corresponding low-frequency Raman vibrations) is inversely proportional to the mol. moment of inertia; consequently, these spectra are due to intermol. rotations in the lattice. New detns. for diiodobenzene gave the frequencies (intensities on a 10 scale in parentheses): *p*-$C_6H_4I_2$, 11(2), 15(5), 24(8), 27(8), 37(3), 49(1), 90(3); *m*-$C_6H_4I_2$, 24(10), 38(3), 46(1), 67(0), 79(6), 110(3), 119(0); *o*-$C_6H_4I_2$, 20(8), 25(8), 34(1), 45(6), 59(6), 74(5), 89(2). The previously reported line 25 cm.$^{-1}$ in *p*-$C_6H_4I_2$ consists actually of 2 lines, 24 and 27, polarized differently. The frequency of 90 cm.$^{-1}$ which occurs also in cryst. *p*-$C_6H_4Cl_2$, *p*-$C_6H_4Br_2$, and *p*-C_6H_4BrCl, appears to be due to rotation around the axis running through the 2 halogen atoms. The lines 115 of *p*-, and 101 of *m*-$C_6H_4I_2$, are found also in the liquids and are, consequently, due to intramol. vibrations. The same applies to the frequencies 100 and above, in *o*-$C_6H_4I_2$. A comparison of the frequencies proper to the crystals is pointless, as the 3 compds. are not isomorphous.

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KORSHUNOV, A. V.

USSR/Physics - Combination Scattering Spectra Apr 50

"Spectra of Combination Scattering of Small Frequencies in Para-, Meta-, and Ortho-Diiodobenzene Crystals," Ye. F. Gross, A. V. Korshunov, V. A. Sel'kin, Leningrad State U, 4 pp

"Zhur Eksper i Teoret Fiz" Vol XX, No 4

Problems encountered in dynamics of molecular crystallic lattices are considered best studied by method of combination spectra. Introduces experimental results in study of subject spectra. Table gives frequency (in cm^{-1}) versus intensity of line for subject chemicals. Submitted 15 Dec 49.

PA 159T99

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Raman spectra and lattice symmetry of some crystals with the space group C_{2h}^5. A. V. Korshunov (Leningrad State Univ.). *Doklady Akad. Nauk S.S.S.R.* 74, 691–4(1950).—Careful redetn. revealed 9 lines in the low-frequency range of Raman spectra of each of the following isomorphous crystals of space group C_{2h}^5, 2 mols. per elementary cell: p-$C_6H_4Cl_2$ (a modification), 8(2), 17(2), 27.5(10), 35(2), 47.5(10), 48.7(10), 56(10), 72(1), 93(6); p-C_6H_4BrCl, 7(2), 13(2), 22.4(10), 29(2), 43.2(10), 41(10), 44.7(10), 70(1), 94(6); p-$C_6H_4Br_2$, 6(2), 12(2), 20.1(10), 25(2), 40(10), 37.4(10), 39.4(10), 68(1), 93(6). The 9 lines are the max. no. of lines possible according to Born's theory. The same agreement is found in the low-frequency Raman spectrum of C_6H_6 (isomorphous with the foregoing), which shows the lines 10(2), 19(2), 29(3), 40(7), 47(5), 72(10), 78(10), 107(7), 122(6). In analogy with the assignment of the line 93 cm.$^{-1}$ (*C.A.* 40, 2073^g), the weaker but equally broad line around 70 cm.$^{-1}$, which repeats itself in all of these spectra, is ascribed to rotational oscillation of mols. around an axis passing through the halogen atoms. One of these 2 lines is due to oscillations in one phase, the other in the opposite phase. Thus, 6 out of the 9 frequencies are due to rotational oscillations of the mols. in the lattice. The remaining 3 lines, of lower intensity, corresponding to translational oscillations, and forbidden by the selection rules established for this space group by Bhagavantam (*C.A.* 36, 359) and also derived by Rousset (*C.A.* 38, 3198^1), must represent an infraction of the selection rules due to the non-ideality of the crystal lattices.

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