ACC NR: AP6034194

simultaneously. Recovery of the properties studied and of the average grain size was observed in both irradiated carbides after heat treatment at a temperature in the 400—1200C range. The recovery of properties with the exception of microbrittleness of both carbides occurred in several stages. Thermally activated glide of dislocations was seen as the primary cause of the recovery in the low-temperature (about 400C) stage, while diffusion which leads to coagulation of point defects and formation of precipitates was the predominant factor of the strengthening of materials at increasing temperature of heat treatment. Orig. art. has: 4 figures.

SUB CODE: 11, 18/ SUBM DATE: 04Apr66/ ORIG REF: 004/ OTH REF: 003/

Card 2/2

RYBAK, P.I., inzh.; KRAYNIY, A.I., inzh.; CHISTYAKOV, I.M., dotsent

Causes for the breakdown of the reloading crane. Bez.truda v prom. 6 no.1:12-13 Ja '62. (MIRA 15:1)
(Cranes, derricks, etc.--Safety measures)

KRAYNIY, A.I., inzh.; SEMENOV, A.S., inzh.; KALABINA, T.I., inzh.

Using plywood piling in hydraulic engineering. Transp. stroi. 14 no.9:51 S '64 (MIRA 18:1)

ANTONOV, N.I.

ORLOVSKIY, A.V., professor; LYUTER, R.A., doktor tekhnicheskikh nauk; KAZOVSKIY, Ye.Ya., kandidat tekhnicheskikh nauk; YAKOBSON, El'mar, inzhener; ANTOPOL'-SKIY, V.M., inzhener; PUKHOV, G.Ye., doktor tekhnicheskikh nauk; FYURSTEN-BERIN, A.I., inzhener; BERGER, A.Ya., professor (Leningrad); TSVERAVA, G.K., inzhener; KRAYNIY, K.I., inzhener (g.Kotovsk, Tambovskoy obl.); BELOV, V.N., inzhener (g.Ul'yanovsk).

Correspondence conference of readers of "Elektrichestvo." Elektrichestvo no.8:89-91 Ag '53. (MLRA 6:8)

1. Kiyevskiy politekhnicheskiy institut (for Orlovskiy). 2. Zavod "Elektro-sila" (for Lyuter and Kazovskiy). 3. Estonkommunenergo (for Yakobson). 4. Saratovskiy industrial'nyy tekhnikum (for Antopol'skiy). 5. Tomskiy politekhnicheskiy institut imeni Kirova (for Pukhov). 6. Tikhvinskiy glinozemnyy zavod (for TSverava). (Electric engineering--Periodicals)

86769
S/094/60/000/005/001/003
E073/E535

9.2540 (1020, 1048, 1138)

AUTHORS: Kravniy, K. I., Polyakov, V. T. and Trubachev, B. V.

TITLE: Automatic Maintenance of the Voltage of a d.c. Generator by Means of a Saturation Choke

PERIODICAL: Promyshlennaya energetika, 1960, No.5, pp. 23-25

TEXT: The authors applied a saturation choke for maintaining a given voltage on a 75 kW, 1500 r.p.m., 440 V d.c. generator driven by an asynchronous motor. The generator is operating with non-uniform loads between 0 and 200 A, i.e. there are short duration over-loads by 40%. This causes sharp voltage variations which lead to temporary disorganization of the technological process. Without the saturation choke, the external characteristic shows a drop from a no-load voltage of about 400 V to about 260 V for a load of 220 A. Automatic maintenance of the voltage is effected by connecting into the excitation circuit a saturation choke with a positive feedback and connecting a selenium rectifier in series with the excitation winding (see Fig.2). First the regulator is set at no-load for 420 V by means of the resistance R_1 of the excitation circuit. With increasing load, the current intensity in the control winding OY will increase, the reactance

Card 1/3

S/094/60/000/005/001/003
E073/E535

Automatic Maintenance of the Voltage of a d.c. Generator by Means of a Saturation Choke

of the a.c. windings OA will decrease and the voltage on the selenium rectifier BC will increase. Thus, change in the rectifier voltage will correspond to the change in the load current and since the voltage of the rectifier superimposes on the voltage of the excitation winding, the voltage of the generator remains constant. With decreasing load, the voltage of the rectifier will drop and the voltage of the generator will remain unchanged. Accurate adjustment of the voltage at various loads is effected by varying the resistance $R_{ш}$ and the resistance R_{OC}, which is connected in series with the feedback winding OC. The further part of the paper is devoted to calculating the voltage boosting circuit, particularly to determining the data of the saturation chokes. There are 5 figures.

Card 2/3

S/094/60/000/005/001/003
E073/E535

Automatic Maintenance of the Voltage of a d.c. Generator by Means of a Saturation Choke

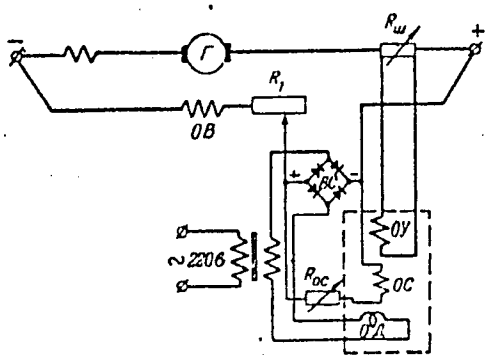


Рис. 2.

Card 3/3

KRAYNIY, O., inzh.

Utilizing low-grade natural stones for large foundation blocks.
Bud.mat.i konstr. 4 no.4:37-41 Jl-Ag '62. (MIRA 15:8)
(Building stones) (Foundations)

KRAYNIY, P. Ya., and MATVEYENKO, A. A.

"X-Ray Study of Microstructure of Chamber Superphosphate," Nauch. Trp. Odessk. politekhn. in-ta, 2, No 2, pp 65-70, 1954

Old and fresh specimens of superphosphates prepared by the chamber method were studied. No difference was observed in radiograms of old and fresh materials. (RZhFiz No 6, 1955)

Sum. No. 681, 7 Oct 55

GASYUK, G.N.; BOL'SHAKOV, A.G.; KORTNEV, A.V.; KRAYNIY, P.Ya.

Mass transfer coefficient in liquid phase. Zhur. prikl. khim, 31 no.7:1019-1025 Jl '58. (MIRA 11:9)

1. Odesskiy politekhnicheskiy institut.
(Mass transfer)

GASYUK, G.N.; KRAYNIY, P.Ya.; BOL'SHAKOV, A.G.; KORTNEV, A.V.

Effect of the partial pressure of influent carbon dioxide and temperature on carbonation. Zhur.prikl.khim. 31 no.12:1787-1792 D '58. (MIRA 12:2)

1. Odesskiy politekhnicheskiy institut.
(Sodium carbonates) (Carbon dioxide) (Gases--Absorption)

SOV/80-59-1-15/44

AUTHORS: Gasyuk, G.N., Bol'shakov, A.C., Kortnev, A.V. and Krayniy, P.M.

TITLE: Coefficients of Mass Transfer in Gaseous Phase (Koeffitsiyenty massoperedachi v gazovoy fazе) Second Communication (Soobshcheniye II)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Nr 1, pp 95-99 (USSR)

ABSTRACT: This investigation was performed for the purpose of calculating absorption processes in a gas-lift apparatus for various gas - liquid systems. In a previous paper [Ref. 1] the authors presented the results of studying the dependence of mass transfer coefficient on the velocity of liquids and the depth of immersion in the liquid phase. The present paper furnishes analogous information for the gaseous phase, obtained on a special experimental installation for the system sulfur dioxide - air - water. The authors established a relationship between the mass transfer coefficient in the gaseous phase and the volumetric velocity of the gas and the depth of immersion. The treatment of the experimental data was carried out by Bol'shakov's method [Ref. 6] with the application of the theory of similarity. The generalized equation expressing the relation found looks as follows:

$$Nu'_r = 0.032\, Re_r^{0.87} (Pr'_r)^{0.5} \left(\frac{h}{20}\right)^{0.906}$$

Card 1/2

Coefficients of Mass Transfer in Gaseous Phase SOV/80-5[illegible]-1-1[illegible]

Where Nu' is the Nusselt criterion of the Nusselt type, Re' is Reynolds criterion for the gas, Pr' is Prandtl's criterion for the gas, and h is immersion depth in per cent. There are 2 graphs and 6 Soviet references.

AUTHOR: Odesskiy politekhnicheskiy institut (Odessa Polytechnic Institute)

SUBMITTED: May 6, 1957

Card 2/2

5(2)

SOV/80-32-4-11/47

AUTHORS: Gasyuk, G.N., Bol'shakov, A.G., Kortnev, A.V., Krayniy, P.Ya.

TITLE: Dependence of the Process of Carbonization of Ammonia Brines in the Gas Lift Apparatus on Hydrodynamic Factors (Zavisimost' protsessa karbonizatsii ammiachnykh rassolov v gazliftnom apparate ot gidrodinamicheskikh faktorov). Communication 2 (Soobshcheniye 2)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4, pp 770-777 (USSR)

ABSTRACT: The effect of the consumption of liquid and gas on the carbonization of ammonia brines is investigated. The gas consumption varied from 5,650 m^3/m^2. hour to 5,800 m^3/m^2. hour, the concentration of the entering carbon dioxide from 36 to 38%, the consumption of liquid from 42 to 397 m^3/m^2. hour, the depth of immersion from 7 to 30%. It is shown that the increase of the liquid consumption raises the general absorption coefficient only slightly: a 9.5-fold increase of the former causes only a 1.5-fold increase of the latter. Figure 3 shows the dependence of the absorption coefficient on liquid consumption in brines with various ammonia contents and Figure 4 for brines

Card 1/2

Dependence of the Process of Carbonization of Ammonia Brines in the Gas Lift Apparatus on Hydrodynamic Factors. Communication 2

with various degrees of carbonization. The dependence of the degree of carbonization on the gas consumption was studied at a temperature of 30°C, a liquid consumption of 183 m^3/m^2 . hour, a carbon dioxide concentration of 37-38%. Gas consumption varied from 2,720 to 12,510 m^3/m^2. hour. The immersion depth varied from 10 to 25%.
There are 11 graphs and 2 Soviet references.

SUBMITTED: October 8, 1957

Card 2/2

ARISTOV, V.V.; KREYTER, D.S.; [illegible]
[illegible], V.A.; TROFIMOV, N.N., prepod. KREYTER, V.M., prof., retsenzent; AL'BOV, M.N., prof., retsenzent; LOZHECHKO, V.N., prof., retsenzent; KRAYNO, S.V., st. prepod., retsenzent; BELYAKOVA, Ye.V., red.

[Manual for laboratory work in the course on prospecting and exploration for mineral deposits] Rukovodstvo dlia prakticheskikh zaniatii po kursu poiskov i razvedki mestorozhdenii poleznykh iskopaemykh. Moskva, Vysshaia shkola, 1965. 253 p. (MIRA 18:9)

PETROV, I.; KRAYNOV, A.; USATENKO, V.

Acetone fires can be extinguished with water. Pozh.delo 6 no.2: 19 F '60. (MIRA 13:5)

1. Nachal'nik teplofizicheskoy laboratorii TSentral'nogo nauchno-issledovatel'skogo instituta protivopozharnoy oborony (for Petrov). 2. Direktor zavoda iskusstvennogo volokna TSentral'nogo nauchno-issledovatel'skogo instituta protivopozharnoy obornoy (for Kraynov). 3. Nachal'nik pozharnoy komandy zavoda iskusstvennogo volokna TSentral'nogo nauchno-issledovatel'skogo instituta protivopozharnoy oborony (for Usatenko).

(Acetone) (Fire extinction)

AGAPOV, D.S.; ARTIBILOV, B.M.; VIKTOROV, A.M.; GINTS, A.N.; GOR'KOV, A.V.; GUSYATINSKIY, M.A.; KARPOV, A.S.; KOLOT, I.I.; KOMAREVSKIY, V.T.; KORYAGIN, A.I.; KRIVSKIY, M.N.; KRAYNOV, A.G.; NESTEROVA, I.N.; OBES, I.S., kandidat tekhnicheskikh nauk; SOSNOVIKOV, K.S.; SUKHOTSKIY, S.F.; CHLENOV, G.O.; YUSOV, S.K.; ZHUK, S.Ya., akademik, glavnyy redaktor; KOSTROV, I.N., redaktor; BARONENKOV, A.V., professor, doktor tekhnicheskikh nauk, redaktor; KIRZHNER, D.M., professor, doktor tekhnicheskikh nauk, redaktor; SHESHKO, Ye.F., professor, doktor tekhnicheskikh nauk, redaktor; AVERIN, N.D., inzhener, redaktor [deceased]; GOR'KOV, A.V., inzhener, redaktor; KOMAREVSKIY, V.T., inzhener, redaktor; ROGOVSKIY, L.V., inzhener, redaktor; SHAPOVALOV, T.I., inzhener, redaktor; RUSSO, G.A., kandidat tekhnicheskikh nauk, redaktor; FILIMONOV, N.A., inzhener, redaktor; VOLKOV, L.N., inzhener, redaktor; GRISHIN, M.M., professor, doktor tekhnicheskikh nauk, redaktor; ZHURIN, V.D., professor, doktor tekhnicheskikh nauk, redaktor; LIKHACHEV, V.P., inzhener, redaktor; MEDVEDEV, V.M., kandidat tekhnicheskikh nauk, redaktor; MIKHAYLOV, A.V., kandidat tekhnicheskikh nauk, redaktor; PETROV, G.D., inzhener, redaktor; RAZIN, N.V., redaktor; SOBOLEV, V.P., inzhener, redaktor; FERINGER, B.P., inzhener, redaktor; TSYPLAKOV, V.D., inzhener, redaktor; ISAYEV, N.V., redaktor; TISTROVA, O.N., redaktor; SKVORTSOV, I.M., tekhnicheskiy redaktor

[The Volga-Don Canal; technical report on the construction of the Volga-Don Canal, the TSimlyanskaya hydro development and irrigation works (1949-1952); in five volumes] Volgo-Don; tekhnicheskii otchet

(continued on next card)

AGAPOV, D.S. --- (continued) Card 2.
o stroitel'stve Volgo-Donskogo sudokhodnogo kanala imeni V.I.Lenina. TSimlianskogo gidrouzla i orositel'nykh sooruzhenii (1949-1952) v piati tomakh. Glav.red. S.IA. Zhuk. Moskva, Gos.energ. izd-vo. Vol.5. [Quarry management] Kar'ernoe khoziaistvo. Red.toma I.N. Kostrov. 1956. 172 p. (MLRA 10:4)

1. Russia (1923- U.S.S.R.) Ministerstvo elektrostantsii. Byuro tekhnicheskogo otcheta o stroitel'stve Volgo-Dona. 2. Deystvitel'nyy cheln Akademii stroitel'stva, i arkhitektury SSSR (for Razin)
(Quarries and quarrying)

KRAYNOV, A.P.

~~15(4)~~

S/153/59/002/06/009/027
B004/B002

AUTHORS: Rogovin, Z. A., Sushkova, Yu. D., Kraynov, A. I.

TITLE: The Production of Triacetate-fibers From Solutions of Triacetyl-cellulose in the Acetylating Mixture

PERIODICAL: Khimicheskiy volokna, 1959, Nr 6, pp 27-30 (USSR)

ABSTRACT: The spinning of triacetate fibers direct from the acetylating mixture would mean a considerable shortening and simplification of production. The conditions for the realization of this method are 1) The production of a stable solution of triacetyl-cellulose (TAC) in the acetylating mixture. 2) Determination of the most suitable spinning method and of the composition of the spinning bath. 3) Development of a method for the regeneration of the solvent (this point is not dealt with by the authors). The stabilization of the TAC solution is carried out successfully by the addition of salts from strong bases and weak acids (sodium acetate), so that the mineral acids ($HClO_4$, H_2SO_4), which are used as catalysts, are neutralized.

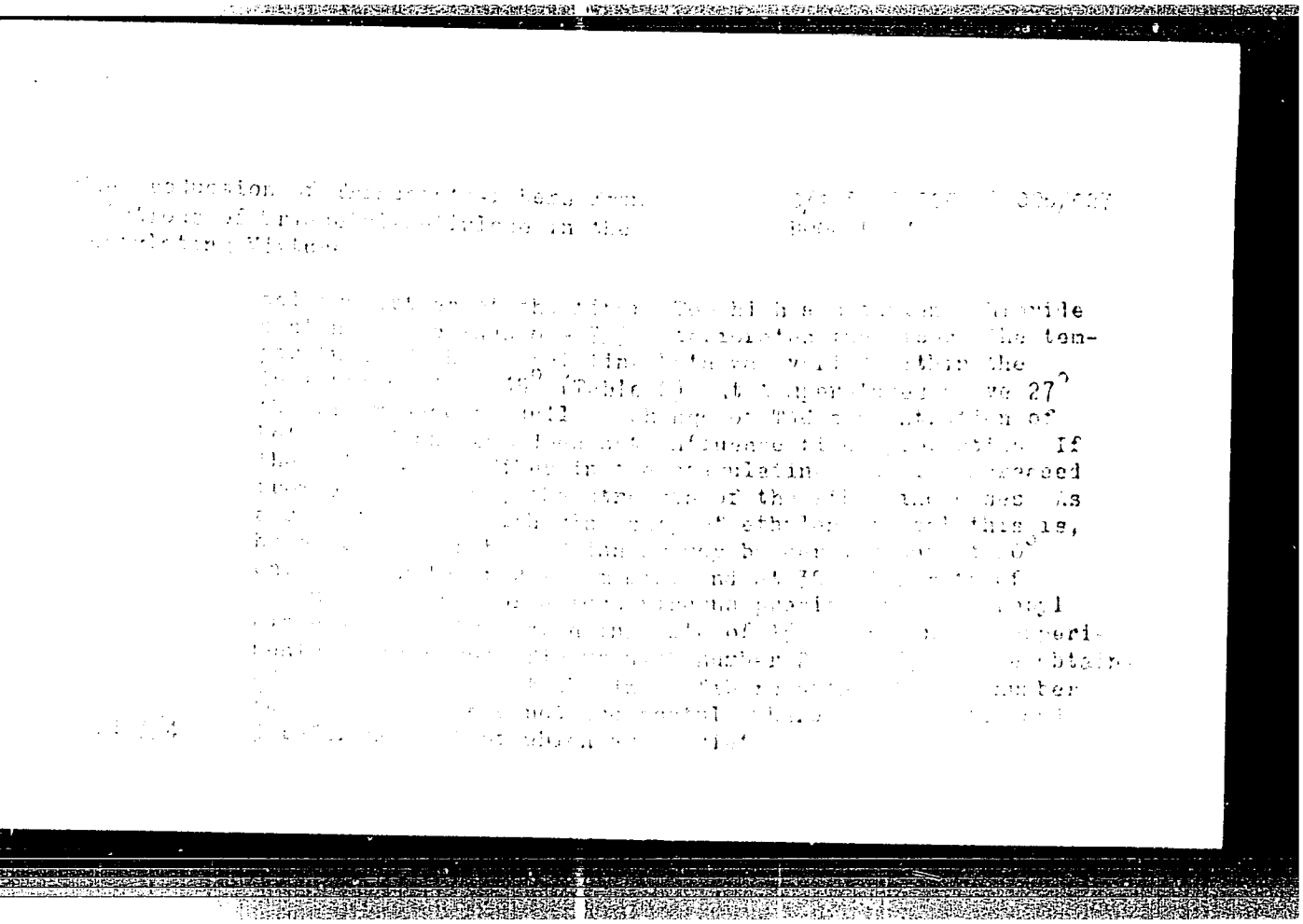
Card 1/4

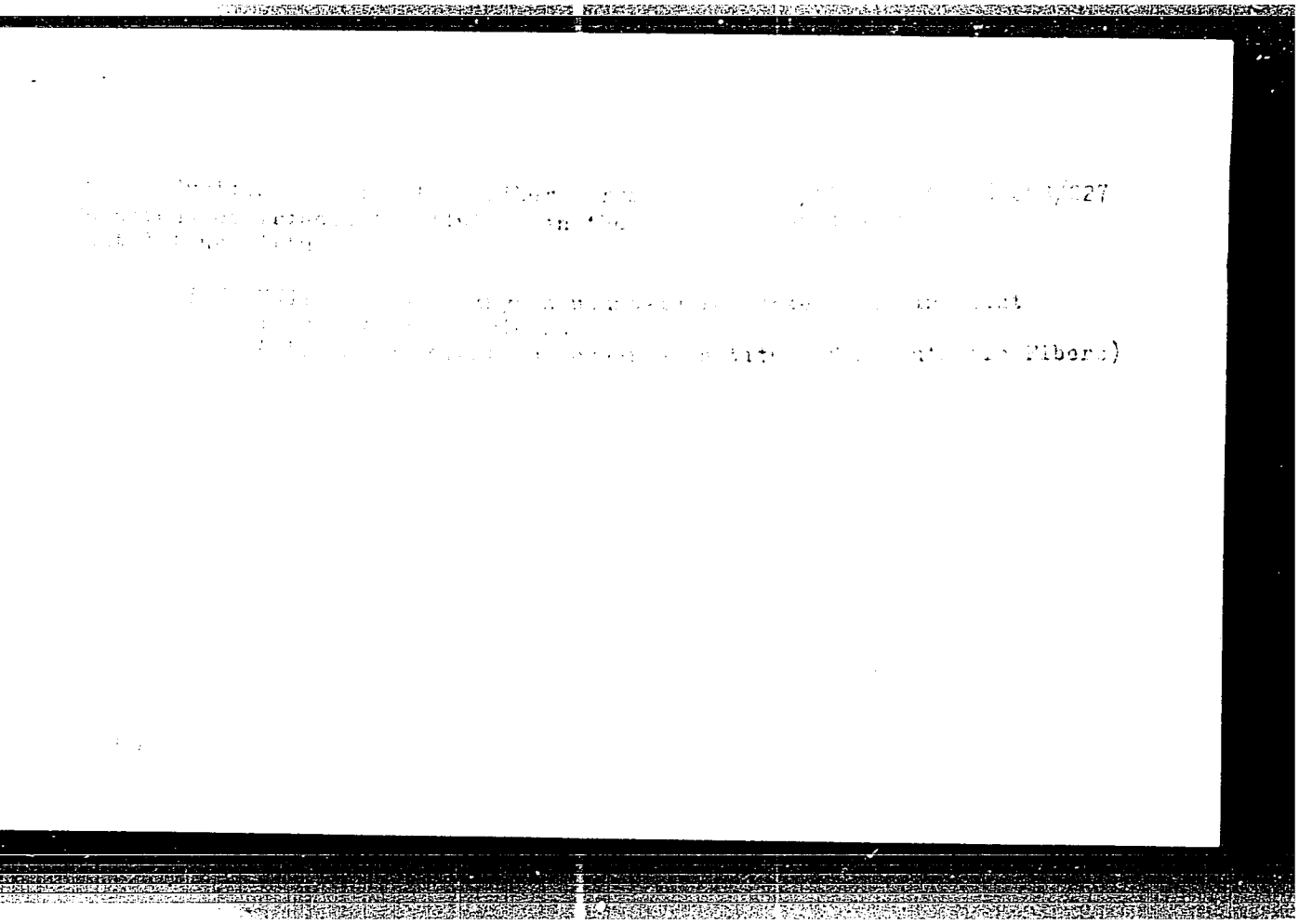
The Production of Triacetate-fibers From Solutions of Triacetyl-cellulose in the Acetylating Mixture

S/[illegible]/000/06/006/027
B004/B007

Such neutralized solutions (produced at the Vladimirskiy khimicheskiy zavod (Vladimir Chemical Factory)) in the course of 100 - 150 days showed no change of the molecular weight of the TAC and their viscosity. The following composition was investigated as spin-solution: TAC 22%, methylene chloride 51%, acetic acid 24%, water 3%. Dry spinning requires hermetically closing of the spinning machines because of the acetic acid vapors formed. The authors point out that this has already been done in other countries during the spinning of polyacrylonitril-fibers from solutions in toxic dimethyl formamide. As, however, no data are available, only experiments with wet spinning were carried out. As methylene chloride is not soluble in water, water could not be used as precipitant. The authors investigated precipitation by means of acetylene gylcol. Table 1 shows the influence exerted by the composition of the coagulating bath upon the mechani-

Card 2/4





KRAYNOV, B., RODE, V. YE., and VEDYAYEV, A.,

"Experimental Determination of Exchange Energies in Ferrites"

report presented at the Symposium on Ferroelectricity and Ferromagnetism, Leningrad, 30 May-5 June 63

L 10806-63 BDS/EPF(c)/EWT(1)/ES(w)-2--AFFTC/ASD/SSD--Pr-4/Pab-4--NW 67 66

ACCESSION NR: AP3002740 S/0120/63/000/003/0146/0147

AUTHOR: Rode, V. Ye.; Vedyayev, A. V.; Kraynov, B. N.; Taly*zin, V. M.

TITLE: Production of strong pulsed magnetic fields of long duration 21

SOURCE: Pribory i tekhnika eksperimenta, no. 3, 1963, 146-147

TOPIC TAGS: pulsed magnetic fields, long-duration transient fields, capacitor banks

ABSTRACT: An assembly is described for obtaining long-duration pulses with rectangular characteristics to produce transient (0.1 sec) magnetic fields of the order of 100 koe. The installation consists of a four-loop LC circuit, each loop containing 17 capacitors and one 400-turn coil, and a trigger circuit. At room temperature 120-koe fields were produced with a duration of 0.06 sec in a volume of 2 cm^3; with solenoids cooled by liquid nitrogen, fields of 200 koe and 0.032 sec were obtained. By eliminating the LC circuit, the same

Card 1/2

L 10806-63
ACCESSION NR: AP3002740

capacitor bank produced 350-koe fields, but the pulse duration was reduced to only 0.01 sec. Orig. art. has: 4 figures.

ASSOCIATION: Fizicheskiy fakul'tet MGU (Physics Faculty of MGU)

SUBMITTED: 26Jul62 DATE ACQ: 12Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 002 OTHER: 004

nh/Kal
Card 2/2

RODE, V.Ye.; VEDYAYEV, A.V.; KRAYNOV, B.N.

Magnetization intensity of copper-cadmium ferrite in pulsed fields up to 200 koer. Fiz. tver. tela 5 no.6: 1755-1756 Je '63. (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

ANIKIN, S.V.; KRAYNOV, B.P.; KHRAMOV, V.I.; SKRIPKIN, V.V., inzh., retsenzent; BRAYLOVSKIY, N.G., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Handbook for the mechanic of trains and multiple-unit cars with machine refrigeration] Spravochnik mekhanika poezdov i sektsii s mashinnym okhlazhdeniem. Moskva, Transzheldorizdat, 1963. 365 p. (MIRA 17:1)

KOLOKOLOV, A.A.; SHCHETININ, N.V.; MIRONOV, N.I., inzh., retsenzent; ZUYEV, Yu.F., inzh., retsenzent; KRAYNOV, B.P., inzh., retsenzent; BRAYLOVSKIY, N.G., inzh., red.; VOROTNIKOVA, L.V., tekhn. red.

[Internal combustion engines for refrigerator rolling stock] Dvigateli vnutrennego sgoraniia izotermicheskogo podvizhnogo sostava. Moskva, Transzheldorizdat, 1963. 219 p. (MIRA 16:7)

(Internal combustion engines)
(Refrigerator cars)

USSR/Farm Animals. General Problems Q-1

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 87991

Author : Kraynov D.A.
Inst :
Title : On the Problem of the Origin of Animal Husbandry in Southwestern Crimea During Postpaleolithic Time.

Orig Pub : Sov. Arkheologiya, 1957, No 2, 3-25

Abstract : The Kash-Air I cave, excavated in the years 1937-1940 in Crimea, yielded ten consecutive cultural strata, beginning with the end of the Upper Paleolithic age and ending with the Late Middle Age. The remains of the bones of a dog found in stratum Va, Late Neolithic Age, nearly do not differ at all from the bones of a wolf, being merely of somewhat smaller dimensions. Remains of boars' bones are met with in all strata, but in differeing quantity and quality: a notable increase in growth is noted for stratum Va, which the author attributes to changes in the conditions of body volume upon transition to domestication. Bones of smaller

Card :1/3

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 87991

livestock (sheep or goats) are met with beginning from stratum VIII (Azilian age), and the completely domesticated type appears beginning from the Early Neolithic age. Bones of cattle were found as early as in stratum VII (Tardenoisian age), but in insignificant quantity. The succeeding strata revealed a steep increase in that quantity and in individuals; the beginning of taming dates from the Tardenoisian age, and the beginning of domestication, from the Early Neolithic stratum, and increased in quantity only as late as during the Early Middle Age. It is pointed out that the data on the appearance of nearly all kinds of livestock (except for the horse and donkey) in the Mesolithic age requires a reexamination of the question of the menage of the Mesolithic man in Crimea, because a growth in animal husbandry, with the predomination of hunting and gathering, occurred during that age already. Near the Early Neolithic era, the ratio of the wild to the domesticated animals changed sharply in favor of the latter. A particular increase

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 87991

is noted in the number of cattle, and also of hogs. Near the Bronze Age, the domestication of animals was further perfected. The role of hogs gradually decreased, while the importance of horned cattle, represented in two forms - very small and large - is a leading one. -- P.F. Rokitskiy.

MAYNOV, F. P.

Looms

Surveying technological conditions in shuttle bobbin holders. Tekst. prom. 12, No. 9, '52.

Monthly List of Russian Accessions, Library of Congress
December 1952. UNCLASSIFIED.

KRAYNOV, F.P.

Improving the construction of a feeler. Tekst.prom. 14 no.2:17-19 F '54.
(MLRA 7:5)

1. Zaveduyushchiy tkatskoy fabrikoy Chimkentskogo kombinata.
(Looms)

MEANOV, I. B.

Sheep Breeding

Winter lambing and its significance. Sov. zootekh. 7, No. 10, 1952.

Monthly List of Russian Accessions, Library of Congress
December 1952. UNCLASSIFIED.

COUNTRY : USSR
CATEGORY : Farm Animals. Sheep Q

ABS. JOUR. : RZBiol., No. 13, 1958, No. 59554

AUTHOR : Kraynov, I. D.
INST. : -
TITLE : Preparation of Sheep-Dams for Insemination in Connection with a Shift to Winter Lambing

ORIG. PUB. : Peredov. opyt. s.-kh. proiz-va Stavropol'ya, 1957, iyul'-avg., 31-34

ABSTRACT : No abstract.

CARD: 1/1

Q - 46

KRAYNOV, I. I., dorozhnyy master; MAMONTOV, V. G., inzh.

Fastenings with dowel bolts for reinforced concrete ties. Put' i put. khoz. 6 no.9:15-17 '62. (MIRA 15:10)

(Railroads--Rails--Fastenings)

AGAFONOV, S.L.; ALEKSEYEVA, A.N.; BELLYUSTINA, L.N.; GOLOV, I.I.; GUSEV, O.V.; DMITRIYEVA, V.I.; YEVLAMPIYEVA, F.A.; YELISEYEV, A.I.; ZHAVORONKOV, N.A.; ZHARKOV, S.A.; KIR'YANOV, I.A.; KRAYNOV, L.A.; KUSTOV, K.L.; LBOV, F.A.; LIPATOV, N.A.; LIPOVETSKIY, I.A.; MALYUGIN, V.N.; MARINOV, N.N.[deceased]; MIKHAYLOV, A.N.; POTAPOVA,Ye.D.; TRUKHMANOV, G.A.; UKHIN, V.A.; FILIPPOV, V.A.; CHEBURASHKIN, A.M.; SHKOTOV, A.T.; GARANINA, L.F., kand. fil. nauk

[The city of Gorkiy; a guidebook] Gorod Gor'kii, Volgo-Viatskoe knizhnoe izd-vo, 1964. 374 p. (MIRA 17:12)

KRAYNOV, N.

Trade in the Tatar A.S.S.R. Sov.torg. 33 no.6:45-47 Je '60.
(MIRA 13:7)

1. Zaveduyushchiy otdelom Tatarskogo obkoma Kommunisticheskoy Partii Sovetskogo Soyuza.
(Tatar A.S.S.R.--Retail trade)

KUAYNOV, P.

Korea, Women in

Labor class of Korea in the fight for freedom and independence of the motherland. V pom. profaktivu 13, No. 12, '52.

Monthly List of Russian Accessions, Library of Congress August 1952. UNCLASSIFIED.

ZHMYKHOV, I.N.; KOROL'KOV, V.A.; KRAYNOV, P.A.; ZHELEZNOVA, L.M., redaktor; RAKOV, S.I., tekhnicheskiy redaktor

[History of the trade union movement in foreign countries; in the first stage of the general crisis of capitalism] Istoriia profsoiuznogo dvizheniia za rubezhom; na pervom etape obshchego krizisa kapitalizma. [Moskva] Izd-vo VTsSPS Profizdat. Pt. 2. 1955. 167 p. (MLRA 9:10)

1. Moscow. Vysshaya shkola profdvizheniya.
(Trade unions)

ARKADAKSIY, Yu.A.; BAKASHEVA, L.I.; ZHMYKHOV, I.N.; VOYTENKO, Ye.S.; BOSHCHENKOV, K.P.; ILYAKHIN, M.I.; KOROL'KOV, V.A.; KRAYNOV, P.A.; LOBANOV, V.I.; MAMEDOV, A.; MARZBAN BAHEK; RODIONOV, S.R.; ROSTOVSKIY, S.N.; SAKOVICH, V.P.; PIMENOV, P.T.; ZHELEZNOVA, L.M., red.; ZABOROV, M.A., red.; RAKOV, S.I., tekhn.red.

[History of the trade-union movement in foreign countries, 1939-1957] Istoriia profdvizheniia za rubezhom; 1939-1957 gody. Izd-vo VTsSPS Profizdat, No.3. 1958. 669 p. (MIRA 12:2)

1. Moscow. Moskovskaya vysshaya shkola profdvizheniya. 2. Kafedra istorii profsoyuznogo dvizheniya za rubezhom Moskovskoy vysshey shkoly profdvizheniya (for all except Zheleznova, Zaborov, Rakov). (Trade unions)

KRAYKOV, S.R.

Use of hydrochemical method for the exploration of metals. S. R. Krajkov. *Razvedka i Okhrana Nedr* 22, 40-56(1956).—Analysis of water of streams in a hilly well-watered region which has galena and sphalerite ores in stratified deposits and in which ore bodies were clearly exposed from the bare rock showed that water content of Cu and Pb in streams close and distant from ore deposits was the same. However, the proximity to deposits increased the sulfate content. In a region where the waters bear Cu and Pb the probability of a given lithological complex to ore carrier can be indicated by this change in the sulfate content.

J. Th. Cat

MT

KRAYNOV. S. R. Cand Geol-Min Sci -- (diss) "~~Experiment~~ Exploration of the study of the geochemistry of underground waters in the ore-~~deposits area~~ deposit area of the Lori ~~uplands~~ highlands in Armenia for the purpose of ~~finding a solution to~~ solving certain geological-prospecting problems." Mos, 1957. 32 pp (Min of Geology and Mineral Conservation USSR. All-Union Sci Res Inst of Hydrogeology and Engineering Geology VSEGINGEO). (KL, 13-58, 94)

KRAYNOV, S.R.

Possible use of hydrochemical investigations in solving certain metallogenetic problems. Geokhimiia no.5:392-400 '57. (MIRA 12:3)

1. All-Union Scientific Research Institute of Hydrogeology and Engineering Geology, Moscow.
(Armenia--Water, Underground--Composition)
(Ore deposits)

KRAYNOV, S.R.

AUTHOR: Kraynov, S.R.

132-58-4-10/17

TITLE: Utilization of Surface Spring-fed Streams in Hydro-Chemical Prospecting for Mineral Deposits (Ispol'zovaniye poverkhnostnykh potokov rodnikovogo pitaniya pri gidrokhimicheskikh poiskakh rudnykh mestorozhdeniy)

PERIODICAL: Razvedka i Okhrana Nedr, 1958, Nr 4, pp 42-45 (USSR)

ABSTRACT: Extensive tests were carried out over a two year period to determine the changes in the chemical composition of the water in the streams of Armenia. All streams were divided into two groups: autonomous streams, which collect their waters in a region composed of rocks of a single stratigraphic complex; and main streams, collecting their water from a large area with several complexes. The autonomous streams were usually brooks of little importance, which - during the dry period, were fed mainly by the underground sources. During this period, their chemical composition corresponded to the chemical composition of the sources. The main streams were again divided in two groups: those collecting their water above the erosive base and those - below this base. Extensive tests showed that: 1) the influence of oxidizing ores appears in the chemical composition of main and autonomous streams collecting

Card 1/2

Utilization of Surface Spring-fed Streams in Hydro-Chemical Prospecting for Mineral Deposits

their water above the erosive base; the chemical composition of the stream formed below this base does not change; 2) the intensity of chemical changes in the autonomous streams depends on the mineralogical composition of the deposits; 3) Chemical changes in the main streams could indicate the presence of the ore deposits in the region, but do not properly reflect their mineralogical composition; 4) The most distinct indication of ore-bearing regions by the chemical composition of surface water is made during periods of normal water level.

There are three graphs, two tables and three Soviet references.

ASSOCIATION: VSEGINGEO

AVAILABLE: Library of Congress

Card 2/2 1. Minerals-Sources 2. Water-Chemical analysis 3. Chemicals-Applications

KRAYKOV, S.N.; KOROL'KOVA, M.Kh.

Basic principles of utilizing trace elements of carbonated waters in geochemical prospecting for ore deposits as revealed by the prospecting operations in the central part of the Lesser Caucasus. Geokhimiia no.5:453-463 '62. (MIRA 15:7)

1. All-Union Scientific Research Institute of Hydrology and Geological Engineering, Moscow.
(Caucasus—Mineral waters—Composition)
(Caucasus—Trace elements)

KRAYNOV, S.R.; KAPRANOV, S.D.

Using the hydrochemical method of prospecting for boron deposits.
Sov.geol. 5 no.8:92-103 Ag '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii.
(Boron) (Prospecting)

KRAYNOV, S.R.; KOROL'KOVA, M.Kh.

Characteristics of the distribution of some microelements in carbonated waters of Armenia. Izv. AN Arm. SSR. Geol.i geog. nauki 15 no.2:43-58 '62. (MIRA 15:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii, Moskva.
(Armenia--Trace elements) (Armenia--Mineral waters)

KRAYNOV, S. R.

Role of geochemical landforms in hydrochemical prospecting for ore deposits as revealed by ore deposits in northern Armenia. Vop. gidrogeol. i inzh. geol. no.20:111-116 '62. (MIRA 16:4)

(Armenia—Geochemical prospecting)
(Ore deposits)

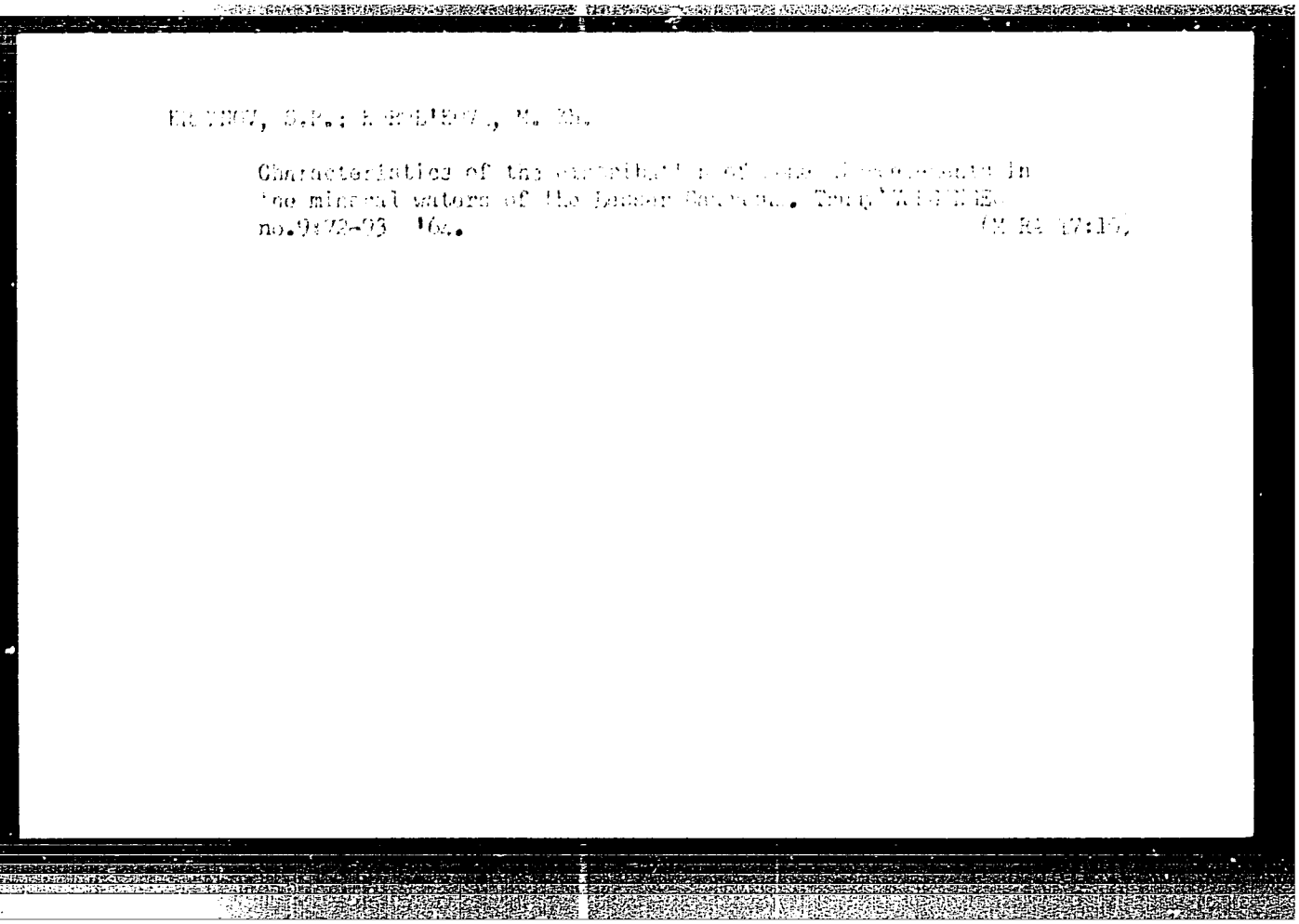
KRAYNOV, S.R.; PETROVA, N.G.

Trace elements in mineral waters of the Pamirs. Geokhimiia no.4: 356-366 '62. (MIRA 16:7)

1. All-Union Scientific Research Institute of Hydrogeology and Geological Engineering, Moscow.
(Pamirs--Mineral waters) (Trace elements)

AL'TOVSKIY, M. Ye.; GOLEVA, G.A.; KRAYNOV, S.R.; SLAVYANOVA, L.V.; TOKAREV, A.N.; FROLOV, N.M.; SHVETS, V.M.

Development of V.I.Vernadskii's concept in present-day hydrogeology. Trudy VSEGINGEO no.9:5-20 '64. (MIRA 17:10)



KRAYNOV, S.R.

Geochemistry of fluorine, tungsten, and germanium in nitrogen thermal waters of crystalline rocks. Geokhimiia no.11:1335-1345 N '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrogeologii i inzhenernoy geologii, Moskva. Submitted March 15, 1965.

L 10289-67 EWT(1) GW
ACC NR: AP7003095 SOURCE CODE: UR/0007/66/000/007/0846/0853

KRAYNOV, S. R., RUBEYKIN, V. Z., KAPRANOV, S. D., KOLOTOV, B. A., PETROVA, N. G., and KISELEVA, All-Union Scientific Research Institute of Hydrogeology and Engineering Geology, Moscow (Vsesoyuznyy nauchno-issledovatel'skiy gidrogeologii i inzhenernoy geologii)

"Some Peculiarities of Beryllium Geochemistry in Underground Waters"

Moscow, Geokhimiya, No 7, Jul 66, pp 846-853
TOPIC TAGS: underground water, geochemistry, beryllium compound
ABSTRACT: On the basis of beryllium distribution study in various types of underground waters (subsoil, carbonated) it has been established that the beryllium may be rather widely spread in these waters. Maximum beryllium contents are established in subsoil aureole waters of pneumatolytic deposits as well as noncarbonated waters of crystalline rocks. The main forms of beryllium migration in underground waters are the oxide and fluorine-and-carbonate-beryllates.

G. A. Volkov and A. K. Lisitsyn served as consultants in determining the forms of beryllium migration in water. Orig. art. has: 6 figures and 5 tables. [JPRS: 37,428]

SUB CODE: 08, 07 / SUBM DATE: 29Jul65 / ORIG REF: 011 / OTH REF: 005

Card 1/1

UDC: 550.42:546.45-551.49

ILLARIONOVA, T.M.; KIRSANOV, A.I.; KRAYNOV, S.V., red.

[New developments in air drilling techniques abroad] Novoe v zarubezhnoi tekhnike dlia bureniia s produvkoi vozdukhom. Moskva, Izd-vo "Nedra," 1964. 52 p. (MIRA 17:5)

VOLKOV, A.S.; SAVGIN, Yu.S., otv. red.; KRAYNOV, S.V., nauchn. red.

[Collection of the best efficiency suggestions] Sbornik luchshikh ratsionalizatorskikh predlozhenii. Moskva, Gosgeoltekhizdat, Pt.1. [Boring] Burovye raboty. 1963. 65 p. (MIRA 18:2)

1. Russia (1923- U.S.S.R.) Geologicheskiy komitet. Otdel nauchno-tekhnicheskoy informatsii.

VYDRIN, V.N.; KRAYNOV, V.I.

Investigating operating conditions of continuous cold rolling sheet mills in connection with automatic control problems. Izv. vys. ucheb. zav.; chern. met. 6 no.12:112-117 '63. (MIRA 17:1)

1. Chelyabinskiy politekhnicheskiy institut.

VYDRIN, V.N.; AMOSOV, P.N.; FEDOSIYENKO, A.S., KRAYNOV, V.I.

Measuring irregularities of angular velocity in rolls. Izm. tekh. no.11:31-34 N '64. (MIRA 18:3)

VYDRIN, V.N.; KRAYNOV, V.I.

Investigating the process of continuous rolling of large sections. Izv. vys. ucheb. zav.; chern. met. 8 no.5:90-97 '65.
(MIRA 18:5)

1. Chelyabinskiy politekhnicheskiy institut.

BROVMAN, M.Ya.; VYDRIN, V.N.; YERMOKHIN, F.K.; KISLYUK, V.A.; KRAYNOV, V.I.; LEVINTOV, S.D.; RIMEN, V.Kh.; SEREBRYAKOV, A.N.; SHEYDER, B.E.

Method of controlling the tension in continuous rilling mills. Stal' 25 no.7:629-631 Jl '65. (MIRA 18:7)

AUTHORS: Kraynov, V. N., Seleznev, A. G. SOV/64-58-5-12/21

TITLE: The Measurement of the Flow Rate of an Aggressive Liquid by Means of a Flowmeter With Special Separation Vessels (Izmereniye raskhoda agressivnoy zhidkosti tipovym raskhodomerom so spetsial'nymi razdelitel'nymi sosudami)

PERIODICAL: Khimicheskaya promyshlennost', 1958, Nr 5, pp. 312 - 312 (USSR)

ABSTRACT: In the construction of flowmeters used hitherto in the measurements of the flow rate of such liquids as dilute nitric acid the measuring apparatus was destroyed after some time since the acid, because of its capillary force, penetrated through the separating liquid at the walls of the separation vessel and the impulse tubes. A continuous measuring in the case of nitric acid and similar liquids has not been carried out since nitric acid reacts with the explosive mercury mixtures of the nitrogen oxides hydrogen. The Laboratory for Automation of the State Institute of Nitrogen Industry (Laboratoriya avtomatiki Gosudarstvennogo instituta azotnoy promyshlennosti) together with the KIP and Automation Section of the Chernorechenskiy Chemical Plant (Chernorechenskiy khimicheskiy zavod) investigated the possibility of

Card 1/2

The Measurement of the Flow Rate of an Aggressive Liquid by Means of a Flowmeter With Special Separation Vessels

SOV/64-58-5-12/21

the above mentioned continuous measurements with standard flowmeters of the type DP -410. For this purpose a special separation vessel was constructed. A diagram of this vessel is given; an organo-fluorine compound was used as separating liquid. The vessel is supplied with a fluoroplast-4 (ftoroplast-4) shell which is longer or shorter, depending on the specific weight of the liquid. Experiments carried out with these separation vessels in practical operation for a longer period of time made the authors assume that they can also be used in the case of other aggressive liquids besides weak nitric acid. There is 1 figure.

1. Nitric acids 2. Fluid flow--Measurement 3. Flowmeters--Performance 4. Separators--Applications 5. Fluorine compounds (Organic)--Applications 6. Mercury compounds--Chemical effects

Card 2/2

KRAYNOV, V. N., Cand of Tech Sci -- (diss) "Automatic Regulation of the Process in a Column of Concentrated M Nitric Acid," Moscow, 1959, 14 pp (Moscow Institute Chemical Machine Building) (KL, 1960, 122)

5 (1), 25 (5)

AUTHOR: Kraynov, V. N., Engineer SOV/119-59-4-2/18

TITLE: Automatic Process Control in a Column for the Concentration of Nitric Acid (Avtomaticheskoye regulirovaniye protsessa v kolonne kontsentrirovaniya azotnoy kisloty)

PERIODICAL: Priborostroyeniye, 1959, Nr 4, pp 3 - 7 (USSR)

ABSTRACT: In a figure the principal scheme of the automatic control apparatus is presented. The concentration column is of the bubbling type with cupped disks. The nitric acid evaporates in it from a ternary mixture: nitric acid - sulphuric acid - water. The vapors are cooled in a condenser cooler and are then ejected in the upper section of the tower. The introduction of the diluted nitric acid and of the concentrated sulphurous acid into the tower is described. When sulphurous acid mixes with nitric acid a ternary mixture is produced from which the nitric acid vapor is then distilled. In normal operation of the tower a concentration of the concentrated nitric acid and of the used sulphurous acid keeping within stipulated limits must be ensured. This process is controlled by indirect parameters, that is to say the

Card 1/3

temperature in the upper and in the lower part of the tower. The automatic control unit is equipped with pneumatic temperature controllers of the type EMD-232. During the development of this automation project the predominant disturbances occurring in this process were investigated. The analysis diagram of the automatic control system and the distillation curves in the main ducts of the tower after accounting for disturbances are given in two figures. In accordance with these distillation curves the system is described by differential equations of a high order. A way is shown of reducing the order of the differential equations. The transition functions were treated according to the method of M. P. Simoyu, Engineer. In this way sufficiently accurate approximate differential equations describing the operation of a nitric acid concentration tower are obtained. The conversion processes in the tower are essentially aperiodic. Under heavy disturbances, however, there occur distinctively discernible oscillations. The amplitude-phase characteristics were determined from the differential equations and experimentally, the results from both methods showing good agreement. The process is controlled by an astatic two-para-

meter controller, which ensures a quality of control satisfactory from a technological process standpoint. By the transition from a manual control of the tower to an automatic one the quality of the process was greatly increased, which also resulted in a better utilization of the tower. In the Chemical Works in Chernorechye (where the research discussed in this paper has been carried out) this system of control has already been introduced into production. A saving in cost of several hundred thousand Roubles per year is expected. There are 10 figures, and 10 references, 4 of which are Soviet.

S/081/62/000/009/036/075
B168/B101

AUTHOR: Kraynov, V. N.

TITLE: Automatic regulation of a nitric acid concentration column

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 9, 1962, 346, abstract 9I108 (Tr. Mosk. in-ta khim. mashinostr., v. 12, 1959, 43-64)

TEXT: Analysis of results obtained from investigations in a production unit of the Chernorech'ye chemical works led to the following variables in the process of concentrating nitric acid being selected for automatic regulation: (1) Temperature of the 7th plate, by controlling the input of live steam fed to the vat of the column; (2) Temperature of the 17th plate, by controlling the input of commercial sulfuric acid fed to the column; (3) Input of weak nitric acid (automatic temperature regulation of nitric acid condensate after the cooler condenser by controlling the input of refrigerant). An experimental investigation into the dynamic characteristics of the process by way of distillation curves, and curves of amplitude-phase characteristics furnished numerical values for the coefficients in the linear differential equations for the process. The

Card 1/2

Optimum setting of the regulators was determined from the extended amplitude-phase characteristics of the system corresponding to the degree of attenuation ψ 0.75. Analysis of the regulating processes showed that astatic regulators with two setting parameters were the most efficient as basic regulators. Practical trials of the scheme at the Chernorech'ye chemical works showed it to be operationally efficient. [Abstracter's note: Complete translation.]

LEONOV, A.L.; KRAYNOV, V.N.

Problems of automation at the First International Congress on Chemical Engineering Techniques, Chemical Machinery Manufacture, and Automation. Khim.prom. no.10:777-778 O '62. (MIRA 15:12)
(Chemical engineering--Equipment and supplies)
(Automation--Congresses)

L 38589-65 EWT(d)/EPF(n)-2/EWP(1) Pc-4/Pq-4/Pg-4/Pae-2/Pu-4/Pk-4/Pl-4 IJP(c)
ACCESSION NR: AP5005932 WW/BQ S/0119/65/000/002/0001/0003

AUTHOR: Gluzman, S. S. (Engineer); Kraynov, V. N. (Candidate of technical sciences); Martyushin, Ye. I. (Engineer)

54
53
B

TITLE: Selecting the number of digits for output devices of a multichannel digital controller

SOURCE: Priborostroyeniye, no. 2, 1965, 1-3

TOPIC TAGS: digital controller, digital process control, automatic control, automatic control design, automatic control system, automatic control theory

ABSTRACT: Using a model which simulated a digital process control, the effect of level quantization of the controlling signal upon the control process was evaluated; also, a minimum number of digits in the control-computer output which still did not impair the quality of control was determined. The investigation was performed on a "Kataliz" analog computer to which a set of delay lines was

Card 1/2

L 38589-65
ACCESSION NR: AP5005932

added; the signal was level-quantized by a nonlinear NB-5 unit, and the number of stops at its output showed the number of digits. To reduce the amplitude of sustained cycling that accompanied a few-digit system, the control-parameter algorithm was changed; instead of calculating the control-organ position, its speed was calculated; a stepping motor was used as an actuating device. A linear nonisometric-digit code conversion of the control signal (greater control action for greater errors) made possible a high-static-accuracy system with a few digits in the output devices. "O. G. Druzhinin took part in the simulation of digital automatic-control systems." Orig. art. has: 5 figures, 5 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: DP, IE

NO REF SOV: 001 OTHER: 002

Card 2/2

ACC NR: AP7011375

SOURCE CODE: UR/0367/66/004/005/0928/0935

AUTHOR: Kraynov, V. P.; Mikulinskiy, M. A.

ORG: none

TITLE: Quasi-classical calculation of isotopic shift

SOURCE: Yadernaya fizika, v. 4, no. 5, 1966, 928-935

TOPIC TAGS: nuclear isomer, isotopic shift, particle interaction, nuclear structure, excited nucleus

SUB CODE: 20

ABSTRACT: A quasiclassical method of calculating the isotopic shift on the basis of the finite Fermi system theory is suggested. The analysis confirms the conclusion that it is necessary to introduce an interaction between quasiparticles, changing its magnitude and sign at the nuclear surface. The region of interaction constants satisfying the experimental data is determined. The condition is obtained under which finite Fermi systems are stable with respect to monopole excitations. An analytical formula is obtained for the change of the mean square radius when neutrons are added, taking the nuclear shell structure into account. The results are in good agreement with the experimental data on the isotopic shift of lines in the optical and x-ray region.

Card 1/2

0631 1248

ACC NR: AP7011375

The isomer shift is calculated for several nuclei. A rule is suggested determining the sign of the mean square radius change in the isomeric excitation of nuclei. The authors thank A. B. Migdal, V. A. Belyakov, A. F. Golovin, V. M. Osadchiyev, A. P. Striganov, and M. A. Troitskoy for useful discussions. Orig. art. has: 2 figures, 9 formulas and 2 tables. [Based on Authors' Eng. Abst.] [JPRS: 40,393]

Card 2/2

KRAYNOV, V.P.

Calculation of the energy levels of weakly deformed nuclei.
IAd. fiz. 2 no.4:596-597 O '65. (MIRA 18:11)

KOGAN, A.M. (Moskva); KOMPANEYETS, A.S. (Moskva); KRAYNOV, V.P. (Moskva)

Propagation of a strong explosion in an inhomogeneous medium. PMTF no.6:3-7 N-D '62. (MIRA 16:6)

1. Institut khimicheskoy fiziki AN SSSR.
(Explosions)

L 23713-66 EWT(1)/EWT(m) DIAAP GG

ACC NR: AP6014816 SOURCE CODE: UR/0367/65/001/004/0573/0580

AUTHOR: Gaponov, Yu. V.; Kraynov, V. P.

ORG: none

TITLE: Separation of angular variables in equations for the effective field in spherical nuclei

SOURCE: Yadernaya fizika, v. 1, no. 4, 1965, 573-580

TOPIC TAGS: forbidden transition, spheric nucleus

ABSTRACT: Equations for the radial part of the effective field in spherical nuclei are obtained and discussed for the case of electromagnetic transitions. The effective field is found for electrical and magnetic allowed and l-forbidden gamma-transitions and for beta-decay. The authors thank A. B. Migdal for his interest in this work. Orig. art. has: 6 formulas and 6 tables. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 20 / SUBM DATE: 29Aug64 / ORIG REF: 005 / OTH REF: 001

Card 1/1

L 3679-66 EWT(m) DIAAP

ACCESSION NR: AT5022127 UR/3136/65/000/811/0001/0005

AUTHOR: Kraynov, V. P.

TITLE: Calculation of the energy levels of slightly deformed nuclei

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-811, 1965. Raschet energeticheskikh urovney slabodeformirovannykh yader, 1-5

TOPIC TAGS: nuclear energy level, deformed nucleus, Schroedinger equation

ABSTRACT: The Schrödinger equation is used to derive a formula for the energy levels of slightly deformed nuclei, and calculations are made on the basis of this formula. The expression

$$\Delta E_{n\ell jm} = \beta a_{n\ell j}\left[\frac{m^2}{j(j+1)} - \frac{1}{3}\right]$$

was used to calculate values of $a_{n\ell j}$ (MeV) with the radial wave functions for $A \sim 200$ and $A \sim 150$. The results are in satisfactory agreement with the exact calculations of P. E. Nemirovskii and V. Chepurnov in the domain of small deformation parameters β. The obtained expression can also be written as

Card 1/2

L 3679-66

ACCESSION NR: AT5022127

4

$$\Delta E_{n\ell jm} = \beta \varepsilon_{n\ell j} \left[\frac{m^2}{j(j+1)} - \frac{1}{3} \right] \left(1 - \frac{c_1}{A^{1/3}} \right)$$

The author thanks A. B. Migdal for attention given to the work. Orig. art. has: 11 formulas and 2 tables.

ASSOCIATION: none [illegible] Institute of Atomic Energy, [illegible]

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NO REF SOV: 000 OTHER: 000

KC

Card 2/2

PRIKHOT'KO, A F

24(7) PHASE I BOOK EXPLOITATION SOV/1365

L'vov. Universytet

Materialy X Vsesoyuznogo soveshchaniya po spektroskopii. t. 1: Molekulyarnaya spektroskopiya (Papers of the 10th All-Union Conference on Spectroscopy. Vol. 1: Molecular Spectroscopy) [L'vov] Izd-vo L'vovskogo univ-ta, 1957. 499 p. 4,000 copies printed. (Series: Its: Fizychnyy zbirnyk, vyp. 3/8/)

Additional Sponsoring Agency: Akademiya nauk SSSR. Komissiya po spektroskopii. Ed.: Jazer, S.L.; Tech. Ed.: Saranyuk, T.V.; Editorial Board: Lavisberg, G.S., Academician (Resp. Ed., Deceased), Neporent, B.S., Doctor of Physical and Mathematical Sciences, Fabelinskiy, I.L., Doctor of Physical and Mathematical Sciences, Fabrikant, V.A., Doctor of Physical and Mathematical Sciences, Kornitskiy, V.G., Candidate of Technical Sciences, Candidate of Physical and Mathematical Sciences, Rayskiy, S.M., Candidate of Physical and Mathematical Sciences, Klimovskiy, L.K., Candidate of Physical and Mathematical Sciences, Miliyanchuk, V.S., Candidate of Physical and Mathematical Sciences, and Olauberman, A. Ye., Candidate of Physical and Mathematical Sciences.

Card 1/30

Card 19/30

51-1-7/18

AUTHORS: Sverdlov, L. M. and Kraynov, Ya. P.

TITLE: Calculation and Interpretation of Vibrational Spectra of Naphthenes. (Raschet i interpretatsiya kolebatel'nykh spektrov naftenov.) I. Cyclopropane and hexadeutero-cyclopropane. (I. Tsiklopropan i geksadeyterotsiklo-propan.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.1, pp.54-60. (USSR)

ABSTRACT: Baker and Lord (Ref.3) give interpretation of cyclopropane spectrum by analysis of the band types, their intensities and degree of polarization of infrared absorption and Raman scattering of molecules C_3H_6 and C_3D_6. The authors use this interpretation as their starting point. Frequencies and forms of the normal vibrations of molecules of cyclopropane and hexadeuterocyclopropane are calculated using the method described in Ref.5. The results of these calculations are given in Tables 3 and 4. The potential energy constants of cyclopropane (force constants in Table 2 and induction coefficients in Table 5)

Card 1/2

Calculation and Interpretation of Vibrational Spectra of Naphthenes. 51-1-7/18
I. Cyclopropane and hexadeuterocyclopropane.

are also calculated. The peculiarities of the force field of cyclopropane are discussed. It was found that electron-cloud distribution in cyclopropane is similar to that in ethylene. The C-C bond in cyclopropane is 6% stronger than the corresponding bond in ethane. The strength of the angle CCH in cyclopropane is 25% lower than that in ethane. The strength of the angle CCC in cyclopropane is of the same order as the C-C bond strength, and interaction between elements of the ring is also very strong. There is 1 figure, 5 tables and 7 references, 3 of which are Slavic.

ASSOCIATION: Saratov Motor-highway Institute. (Saratovskiy avtodorozhnyy institut.)

SUBMITTED: November 6, 1956.

AVAILABLE:
Card 2/2

AUTHORS: Sverdlov, L. M., Borisov, M. G., SOV 48-22-9-5/36
Klochkovskiy, Yu. V., Kra[illegible]nov, Ye[illegible], Kukina, V. S.,
Terasova, N. V.

TITLE: Theory of the Vibration Spectra of Unsaturated Compounds
(Teoriya kolebatel'nykh spektrov nepredel'nykh soyedineniy)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958,
Vol 22, Nr 9, pp 1023 - 1025 (USSR)

ABSTRACT: On the basis of abundant experimental information on unsaturated compounds the authors tried to generalize the conclusions drawn from it in two directions. The determination of the characteristic frequencies of some structural groups with a double bond and the observation of the mutual influence of the structural elements. To solve these problems, normal oscillations and the constants of the potential energy were computed by means of the theory of the small vibrations of polyatomic molecules (Refs 1-2). Partial results of these computations have been published already before (Ref 3). The basic results of the present paper can be summarized

Card 1/4

as follows: The substitution of the hydrogen atoms by alkyl radicals in ethylene leaves the field of the remaining ethylene groups as well as the field of the alkyl radicals almost unchanged. The geometrical distribution of the alkyl radicals with respect to the double bond plays an essential role with regard to the spectrum. The calculations show that in the case of two double bonds that are separated by at least two single bonds the former ones exert almost no influence on each other. On the basis of the computation of the oscillation frequency of cyclopentene the spectrum of the molecule combination dispersion was for the first time interpreted with success. The frequencies and the force constants of some bromine-, chlorine,- and fluorine-substituents of ethylene were computed theoretically. Because of comprehensive data on the spectra of the deutero-substituted molecules it was possible to carry out an exact computation of the force constants. The good agreement between the computed and the observed frequencies proves the correctness of the whole system of constants. Compared with the halogen

substituents of saturated hydrocarbons the stability of the C-Br-, C-Cl-, and C-F-bonds in unsaturated compounds is somewhat higher. For the first time $\frac{\partial P_i}{\partial Q_j}$ was computed in the first approximation of the optical valence scheme. On this occasion μ_{CH} and μ'_{CH} had, as expected, the same values for the oscillations of all types of symmetry. Thus the calculation has shown that the optical valence scheme only in first approximation is applicable to the computation of the intensities in infrared spectra. There are 4 references, 3 of which are Soviet.

ASSOCIATION: Saratovskiy avtodorozhnyy institut (Saratov Highway Institute); Vsesoyuznyy avtodorozhnyy zaochnyy institut (All-Union Highway Institute for Correspondence Courses)

SOV/51-6-3-9/28

AUTHORS: Sverdlov, L.M. and Ye.P. Kraynov

TITLE: Vibrational Spectra of Unsaturated Hydrocarbons. VII. Calculation and Interpretation of the Vibrational Spectrum of Cyclopentene (Kolebatel'nyye spektry nepredel'nykh uglevodorodov. VII. Raschet i interpretatsiya kolebatel'nogo spektra tsiklopentena)

PERIODICAL: Optika i Spektroskopiya, 1959, Vol 6, Nr 3, pp 334-342, (USSR)

ABSTRACT: The authors used the available experimental material (Refs.4-10) on the vibrational spectra of cyclopentene to calculate its vibrational frequencies. The calculation is based on an assumption that the carbon ring of the molecule lies in one plane and that the molecule therefore belongs to the C_{2v} point-group of symmetry. The following molecular parameters were used: $r(C=C) = 1.353$ Å, $r(C-C) = 1.54$ Å, $\angle(C-C-C) = 105^{\circ}58'$, $\angle(C=C-C) = 111^{\circ}03'$, $r(=C-H) = 1.07$ Å, $r(C-H) = 1.09$ Å, $\angle HCH = 109^{\circ}28'$, $\angle CCH = 111^{\circ}21'$. Yel'yashevich and Stepanov's method (Ref.11) was employed to find the vibrational frequencies.

Card 1/2

Vibrational Spectra of Unsaturated Hydrocarbons. VII

The calculated (col.3) and observed (col.4) Raman frequencies are given in Table 1 which also includes the interpretation of the Raman spectrum of cyclopentene. Table 1 shows that good agreement was obtained between the calculated and observed Raman frequencies (mean error was 13.6 cm^{-1}). Agreement between the calculated and observed frequencies confirms that the choice of the force constants and the geometrical model of the molecule was correct. The authors discuss difficulties in interpretation of polarisation of certain lines. The calculated vibration frequencies of cyclopentene were used to interpret vibrational spectra and to find characteristic frequencies of nine alkyl-derivatives of this molecule (Tables 4-5). There are 6 tables, 1 figure and 12 references, of which 7 are Soviet, 1 translation of English into Russian, 2 French, 1 German and 1 English.

SUBMITTED: April 7, 1958

SOV/51-7-4-4/32

AUTHORS: Sverdlov, L.M. and Kraynov, Ye.P.

TITLE: Calculation and Interpretation of Vibrational Spectra of Naphthenes. II. Methylcyclopropane and 1,1-Dimethylcyclopropane

PERIODICAL: Optika i spektroskopiya, 1959, Vol 7, Nr 4, pp 460-466 (USSR)

ABSTRACT: In the preceding paper of this series (Ref 1) the authors reported calculation of vibrational frequencies and potential energy constants of cyclopropane. The results of that paper can be used to calculate vibrational spectra of simplest alkyl derivatives of cyclopropane. This is done in the present paper which reports calculation of vibrational frequencies and interpretation of vibrational (Raman and infrared) spectra of methylcyclopropane and 1,1-dimethylcyclopropane. Yel'yashevich and Stepanov's technique (Ref 2) was employed. Vibrational coordinates used in calculations are shown in Figs 1 and 2. The results of calculations and interpretation of infrared and Raman spectra are given in Tables 1 and 2 for methylcyclopropane and 1,1-dimethylcyclopropane respectively. Good agreement between the calculated and observed frequencies (mean difference 14 cm^{-1}, maximum difference 39 cm^{-1}) confirms the correctness of the proposed interpretation. The interpretation

Card 1/2

of fundamental frequencies was next used to classify harmonics and combination frequencies; these are given in Tables 3 and 4. Comparison of the cyclopropane, methylcyclopropane and 1,1-dimethylcyclopropane spectra (Table 5) shows that the type of alkyl substitution affects strongly the nature of the spectrum. The authors calculated also the characteristic frequencies of mono- and di-substituted cyclopropanes and they interpreted the Raman and infrared absorption spectra of ethylcyclopropane (Table 6). Acknowledgment is made to A.N. Bogomolov who solved some of the equations using an electronic computer. There are 2 figures, 6 tables and 9 references, 3 of which are Soviet, 4 English, 1 German and 1 French.

SUBMITTED: January 12, 1959

SVERDLOV, L.M.; KRAYNOV, Ye.P.

Vibration spectra of unsaturated hydrocarbons. Part 10. Calculation and interpretation of the vibration spectra of cyclobutene and deuterocyclobutene. Opt.i spektr. 13 no.2:169-173 Ag '62. (MIRA 15:11)

(Cyclobutene--Spectra) (Deuterium compounds--Spectra)

KOVNER, M.A.; KRAYNOV, Ye.P.

Vibrational analysis of the fluorescence spectra of a frozen solution of naphthalene in pentane and naphthalene vapors. Opt. i spektr. 15 no.4:565-568 O '63. (MIRA 16:11)

L 49764-65 EPF(c)/EWT(m)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AR5012235 UR/0058/65/000/003/D015/D015

SOURCE: Ref. zh. Fizika, Abs. 3D101

AUTHORS: Kovner, M. A.; Kraynov, Ye. P.; Davydova, N. I. 20 B

TITLE: Theory of vibrational and electron-vibrational spectra of some polycyclic aromatic hydrocarbons

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 114-119

TOPIC TAGS: vibrational spectrum, electron vibrational spectrum, aromatic hydrocarbon, influence function, force constant

TRANSLATION: The vibrational spectra of naphthalene and deuteronaphthalenes, anthracene, anthracene-α_{10}, and pyrene are interpreted on the basis of a calculation of the frequencies and forms of the vibrations, and also of the force constants and influence coefficients of these molecules; the distinguishing features of the force field of these molecules are indicated. The established system of fundamental frequencies can be used for a vibrational analysis of the luminescence spectra of naphthalene, anthracene, and pyrene.

SUB CODE: OP, OC ENCL: 00

Card 1/1

L 49780-65 EPF(c)/EPR/EWP(j)/EWA(c)/EWT(l)/EWT(m) Pc-4/Pr-4/Ps-4
IJP(c)/RPL WW/RM

ACCESSION NR: AR5012234 UR/0058/65/000/003/D015/D015

SOURCE: Ref. zh. Fizika, Abs. 3D100

AUTHORS: Bolotina, E. N.; Kapshtal', V. N.; Kraynov, Ye. P.; Klochkovskiy, Yu. V.; Kikina, V. S.; Sverdlov, L. M.

TITLE: Calculation and interpretation of vibrational spectra of molecules of various classes

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 120-124

TOPIC TAGS: vibrational spectrum, organic molecule, isotopic substitute, force field, double bond

TRANSLATION: A calculation was made of the normal vibrations, and a complete interpretation is presented for the vibrational spectra of 25 molecules: cyclobutane, spiropentane, thiphane, cis-trans-dimethyldiborane, trimethylborane, C_2F_4, C_2Cl_4, C_2Br_4, Fe_2C-CHF, ClFC-CH_2, F_2C-CHCl, cis-trans-$C_2H_2F_2$, cis-trans-$C_2H_2Br_2$, and certain isotopic substitutes. The features of the force field of these mole-

Card 1/2

L 49780-65

ACCESSION NR: AR5012234

cules are clarified. In particular, the strength of the C-C double bond increases upon successive substitution of the H atoms in ethylene by F atoms.

SUB CODE: MP, OP ENCL: 00

Card 2/2

KRAYNOV, Ye.P.; PROKOF'YEVA, N.I.; SVERDLOV, L.M.

Calculation and interpretation of the vibrational spectra of naphthenes. Opt. i spektr. 16 no. 4:567-571 Ap '64.
(MIRA 17:5)

K[illegible]AY[illegible]OV, Ye.P.

Vibrational spectra of aromatic compounds. Part [illegible] [illegible]
16 no.5:[illegible] My [illegible]. (MIRA [illegible])

KRAYNOV, Ye.I.

Vibration spectra of aromatic compounds. Part 20. [illegible]
spektr. 16 no.6:984-986 Je '64. (MIRA 17:9)

BEREZIN, V.I.; KRAYNOV, Ye.P.

Use of extension factors in calculating molecular [illegible]
Opt. i spektr. 17 no.6:950-952 D '64.

(MIRA 18:3)