

Transient secondary emission ...

S/109/63/008/002/016/028
D413/0308

1000 ev. The neutral alkali atom beams were obtained by the technique of resonant overcharge of ions in a stream of the alkali metal vapor. A form of the double modulation method was used for making the measurements. All the results go to show that the secondary emission effects from the action of neutral atoms do not differ qualitatively from those produced by positive ions of the same element. There are 5 figures. The most important English-language reference reads as follows: R.M. Chaudry, A.W. Khan, Proc. Phys. Soc., London B., 61, 1948, 526.

SUBMITTED: March 19, 1962

Card 2/2

L 59016-65 EWT(1)/EPA(W)-2/EWA(M)-2 P1-4/Pz-6 IJP(c) AT

ACCESSION NR: AR5016006

UR/005/1/65/000/005/H081/H081

SOURCE: Ref. zh. Fizika, Abn. 5Zh542

AUTHORS: Arifov, U. A.; Flyants, N. N.; Rakhimov, R. R.

41
B

TITLE: Concerning the role of the ion charge in kinetic emission of the electrons

CITED SOURCE: Dokl. AN UzSSR, no. 10, 1964, 15-17

TOPIC TAGS: electron emission, kinetic emission, molybdenum, charge dependence, charge exchange

TRANSLATION: The authors investigated the electron emission of Mo bombarded with ions and atoms of Na and K in the energy region $E = 300--4500$ eV. The experiments were carried out with the aid of a vacuum instrument described previously (RZhFiz, 1963, 11Zh394) consisting of an ion source, a charge-exchange chamber with apparatus for the production of a jet of alkali-metal vapor, and a collector. The stream of atoms was obtained by the method of charge-exchange of ions in a jet of the parent vapor. Their intensity was determined from measurements of the current of slow ions and from the degree of attenuation of the ion beam passing through the jet of vapor. The independence of the coefficient of kinetic electronic emission

Card 1/2

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ACCESSION NO: AR5016006

of the charge of the bombarding particles is demonstrated. R. Rakhimov.

ENCL: 00

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1 59015-05 EWT(1)/EWT(m)/EPA(w)-2/EWT(t)/EWP(b)/EWA(z)-2/EWP(1) Pz-L/P1-L

ACCESSION NR. AB5016005

19/0089/1.5/000/005/0081/0081

SOURCE: Ref. zh. Fizika, Abs. 5Zh540

41
B

AUTHORS: Arifov, U. A.; Flyants, N. N.; Rakhimov, R. R.

TITLE: Emission of electrons and negative ions from potassium films under the influence of bombardment with ions and atoms of sodium

CITED SOURCE: Dokl. AN UzSSR, no. 10, 1964, 18-21

TOPIC TAGS: electron emission, ion emission, potassium film, work function, thermionic emission, secondary emission

TRANSLATION: A double-modulation oscillographic method was used to investigate the emission of electrons and of negative ions from films of K (on Mo) bombarded with Na ions and atoms of energy 150--4500 eV. The experiments were made with an instrument analogous to that described earlier (RZhFiz, 1963, 11'h394) in a vacuum of 1×10^{-5} mm Hg. The change in the work function of Mo following absorption of K was monitored by observing the thermionic emission. It is established that with increasing thickness of the film the coefficients of secondary electron emission, negative ion emission, and thermionic emission experience a characteristic maximum. At relatively small film thickness, when the work function of the surface is

Card 1/2

L 59015-65

ACCESSION NR: AR5016005

smallest, potential electronic emission is observed upon bombardment with sodium

ARIFOV, U.A., akademik; FLYANTS, N.N.; RAKHIMOV, R.R.

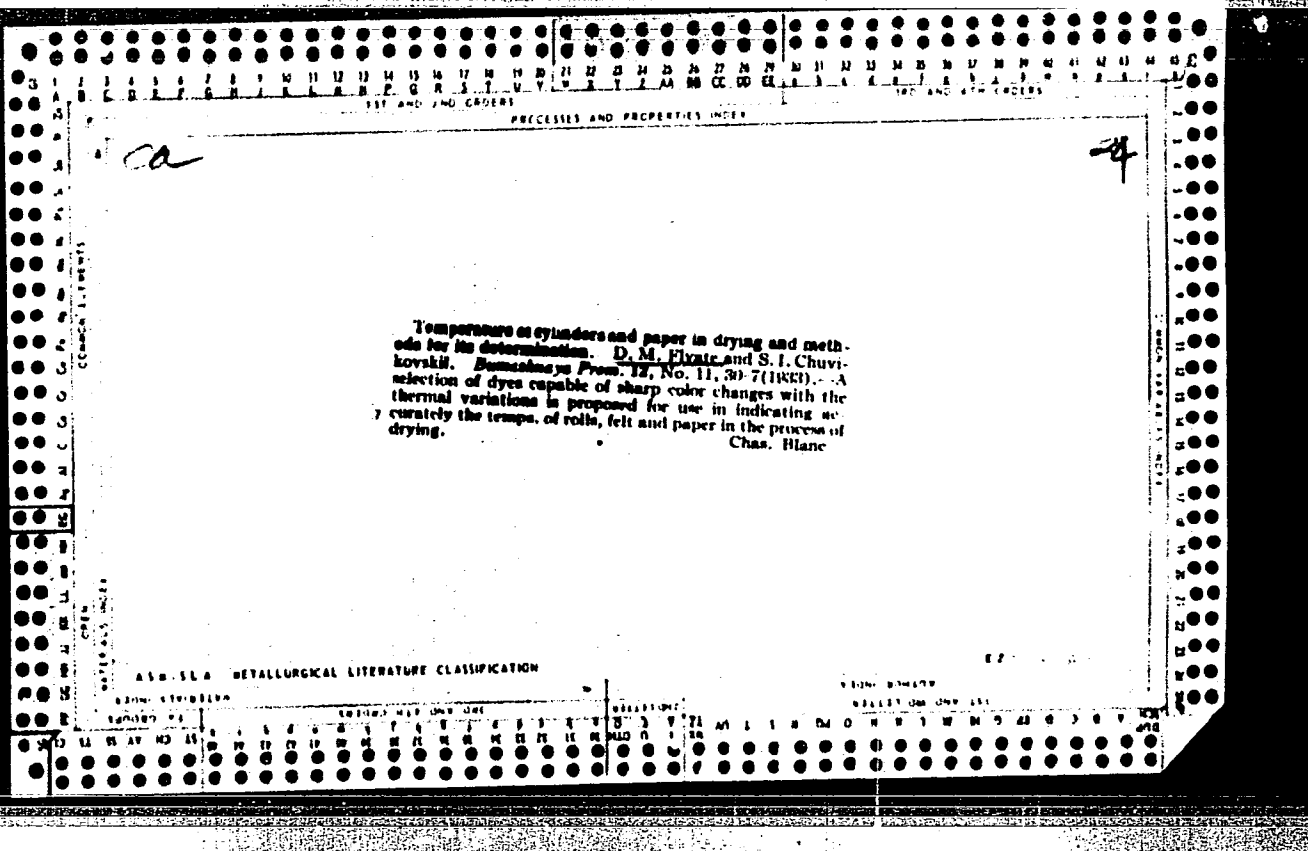
Role of the ionic charge in the kinetic emission of electrons.
Dokl. AN Uz.SSR 21 no. 10:15-17 '64 (MIRA 19:1)

Emission of electrons and negative ions from potassium films
during the bombardment with sodium ions and atoms. Ibid. 18-21

1. Fiziko-tehnicheskij institut AN UzSSR. 2. AN UzSSR (for
Arifov). Submitted August 19, 1964.

SOPIN, Yevgeniy Fedorovich; BOGACH, P.G., dotsent, otv.red.; FLYASHNIKOV,
B.N., red.; KHOKHANOVSKAYA, T.I., tekhn.red.

[Fundamentals of muscle biochemistry] Osnovy biokhimi myshts.
Kiev, Izd-vo Kievskogo univ., 1960. 181 p. (MIRA 13:9)
(MUSCLES) (PHYSIOLOGICAL CHEMISTRY)



PROCESSES AND PROPERTIES INDEX

73

CA

Metal corrosion in sulfate pulp. D. M. Flyate and N. P. Belkikh. *Tsvetn. Nauch.-Issled. Inst. Buzhskol Prom. Material* 1934, No. 2, 107-34. - Tabulated results show that the samples of low-C steels and cast iron contg. Cr and Mn in place of the deficient Ni gave a satisfactory resistance to acid corrosion when tested under various phases. An admn. of a little W and Si increased the acid resistance and that of Cu improved the mech. properties of steel. Chas. Blanc

A S T M - S I A METALLURGICAL LITERATURE CLASSIFICATION

1934 97-107

971111 QK QW 151

23

PROCESSES AND PROPERTIES

Selection of materials for equipment for (parchmentized) fiber production. D. M. Elrats. *Tsentral. Nauch.-Issledovatel. Inst. Buzashnoi Prom. Materiali* 1935, Nos. 3-4, 200-39.—The recommendations for the use of materials, capable of resisting the corrosive action of ZnCl₂ solutions, in the construction of equipment for the production of parchmentized fiber paper are based on literature, American practice and preliminary expts. ZnCl₂ solns. free from even small amts. of free acids and Fe should be used. Thermastite is highly stable to the action of ZnCl₂ solns. and should be used in the construction of pumps. Faalite and bakelite are equally resistant to ZnCl₂ solns. and should be used for the surface protection of all the mech. parts that are not exposed to shocks and friction. The use of Cu should be confined to electrolytic 99.95% Cu for the evap. app. and other equipment. Rubber and elumite as surface protecting materials, and glazed tiles and Dialase for ZnCl₂ bath, diffusers, etc., are satisfactory materials. For valves, plugs and other small parts jet is an excellent material. Economics of the use of various materials resistant to the action of zinc chloride solutions in the construction of apparatus in the production of (parchmentized) fiber. M. Ya. Marshak. *Ibid.* 239-52.—The economic discussion is based on the results of the above expt. study. Ches. Blanc

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION

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COMMON ELEMENTS

OPEN

MATERIALS INDEX

PROCESSING AND PROPERTIES INDEX

AS - 51A METALLURGICAL LITERATURE CLASSIFICATION

9

The action of solutions of chloride of lime on acid-resisting cast irons. D. M. Flyte. *Zavodskaya Lab.* 14, No. 6, 54-8(1935). Of the various types of cast Fe and Pb exposed to the action of solns. of Ca(ClO)₂ for 254 hrs., Pb, thermacillite and Cr cast Fe showed the greatest resistance. Chas. Blanc

APPROVED FOR RELEASE: 06/13/2000

PROCESSES AND PROTECTIVE COATINGS

23

Materials for the construction and protective coating of equipment for production of pulp by the chloro-alkaline process. D. M. Flyate. *Central. Nauch.-Issledovatel. Inst. Khimich. Prom. Materialy* 1937, No. 25, 90-115; *J. C. A.* 29, 7280; 30, 7320. The resistance to corrosion of various metals, ceramic materials and rubber, ebonite, Facilit and Bakelite to the repeated alternate action of Cl gas and aq. HCl was substantially the same as previously reported. The high resistance of chlorinated rubber and divinylacetylene coating to Cl and HCl under actual pulping conditions is confirmed. Polymerized divinylacetylene showed good resistance to mech friction. Forty references. Chas. Mann

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133 AND THE DEPT. OF THE ARMY AND THE AIR FORCE
 PROCESSES AND PROPERTIES INDEX

CA 23

Methods against corrosion in the production of sulfite pulp. D. M. Ulyak. *Proizvodstvo Drevn. Tselluloz* 1939, 173-01; *Khim. Referat. Zhur.* 1940, No. 3, 133. The Soviet alloy steels EYa 1, EYa 2 and EYa 1-Ti can be used to replace the imported steels of the VIA and Avya types. In a no. of cases stainless steel can be replaced by ordinary Fe metals protected with anticorrosive lining. Fused diabase can be used to line the H₂SO₄ bath and vats for ZnCl₂, Al₂O₃, HCl, etc. W. R. Hunt.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS
 MATERIALS INDEX
 VARIANTS INDEX

GROUPS
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

1ST AND 2ND ORDERS PROCESSES AND PROPERTIES INDEX 3RD AND 4TH ORDERS

CA 23

COMMON ELEMENTS

COMMON VARIABLES INDEX

MATERIALS INDEX

OPTIC INDEX

Some problems in the theory of drying paper on cylinders. *L. M. Elvate. Bumashaya Prom.* 21, No. 3/4, 37-46(1946).--A study was made of the progress of drying paper on drying drums kept at temps. of 65-130°. The results were plotted in a series of curves giving the number of drum revolutions (1 revolution = 5.5 sec. of drying time) vs. quantity of H₂O in kg. evapd. per kg. of abs. dry paper final relative dryness and abs. moisture content. The curves showed clearly 2 drying periods, the 1st of these presented by a straight line and the 2nd by a line bent toward the axis. 25 references.

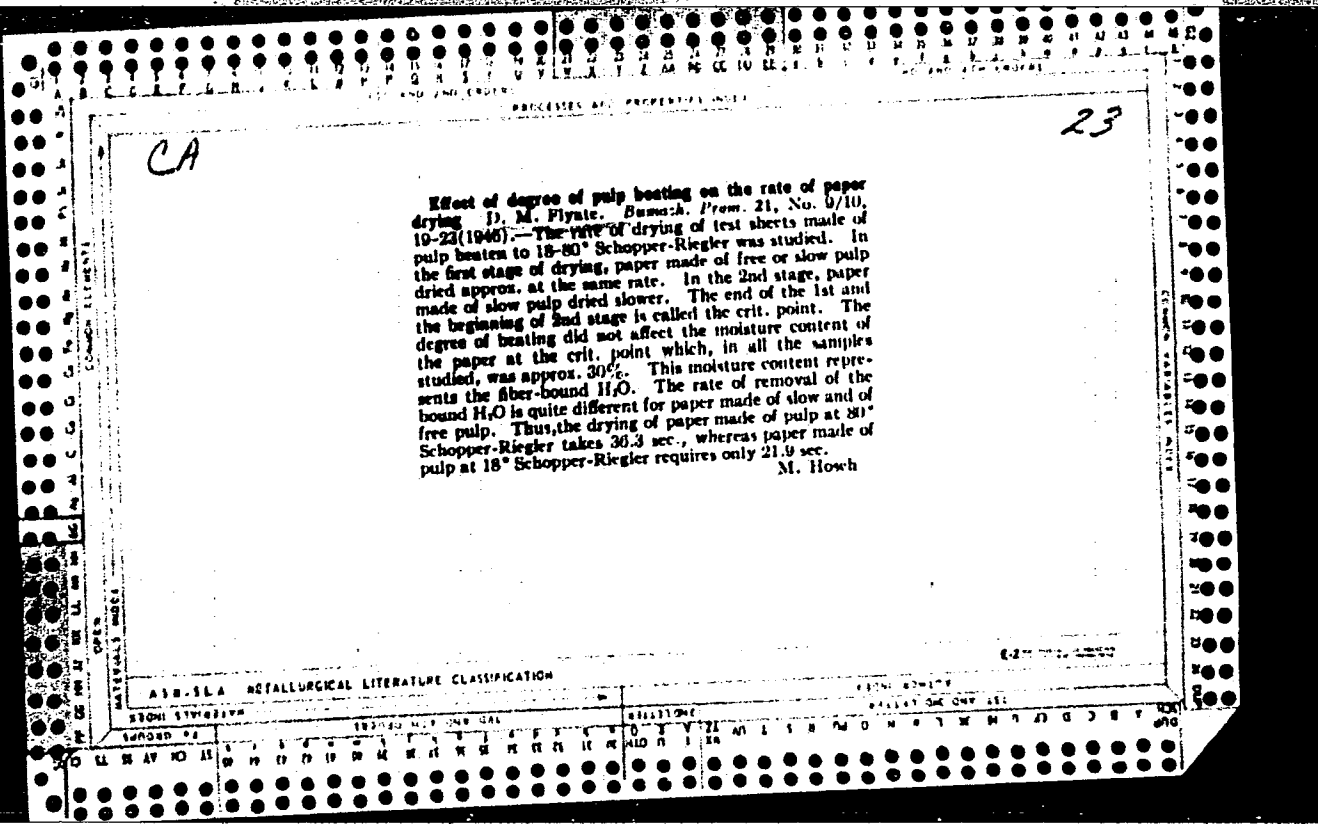
M. Hloch

ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION

REGION SYMBOLS AUSTRIAN INDEX 1ST AND 2ND ORDERS 3RD AND 4TH ORDERS

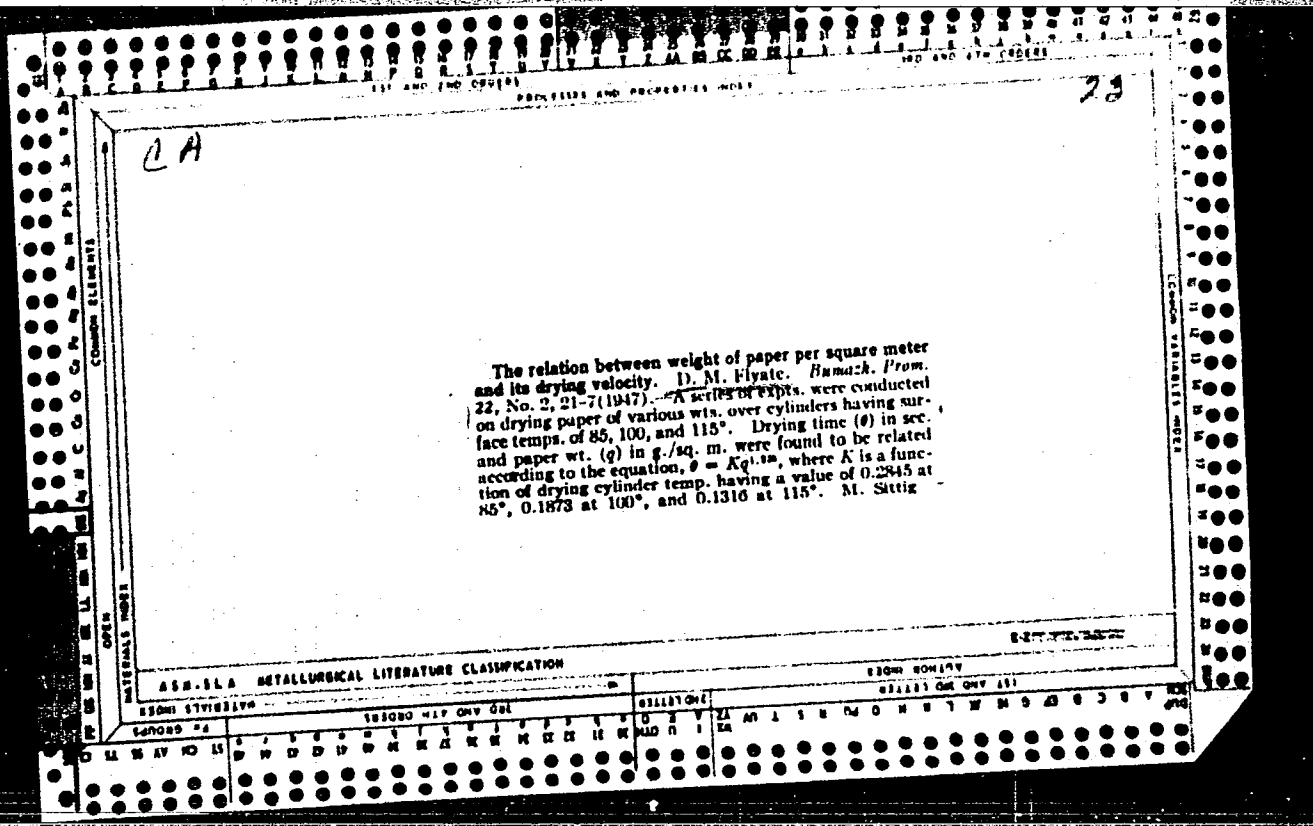
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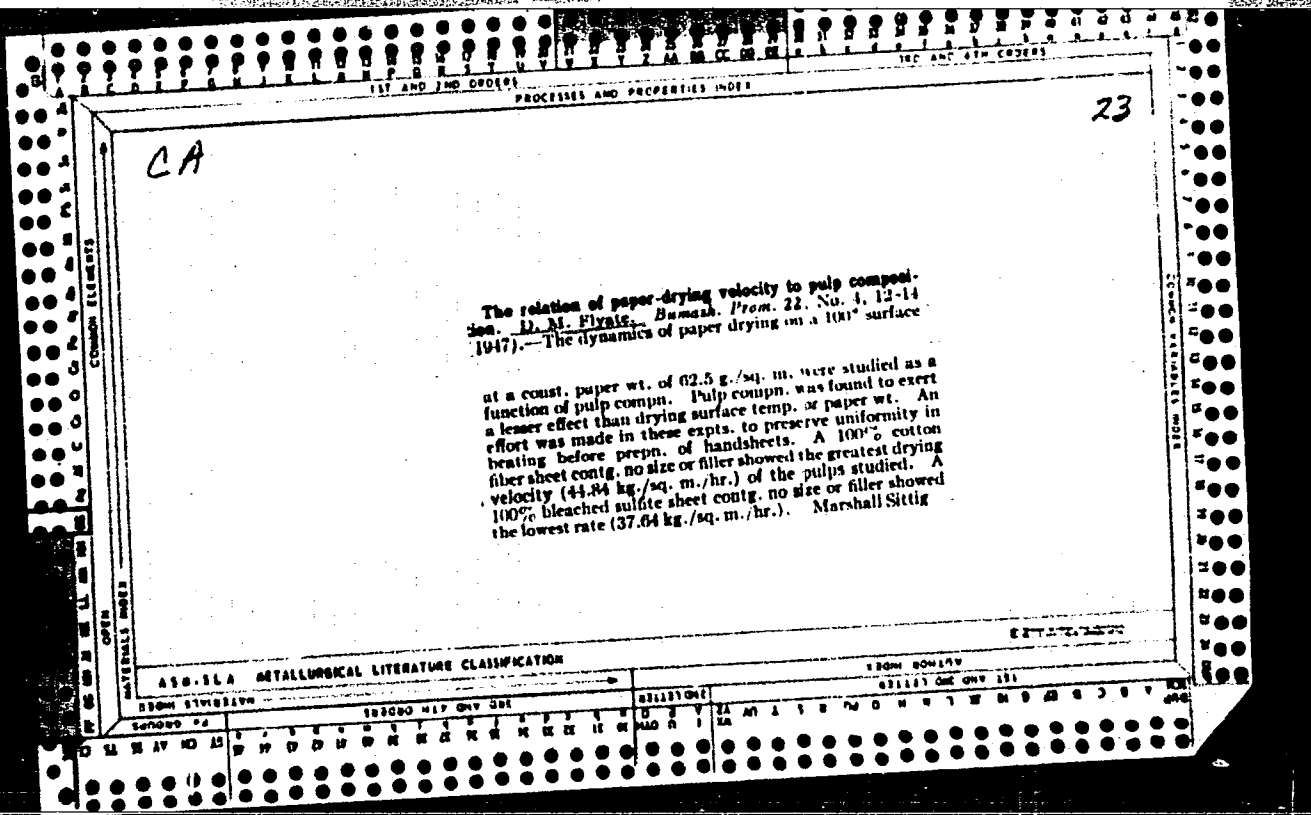
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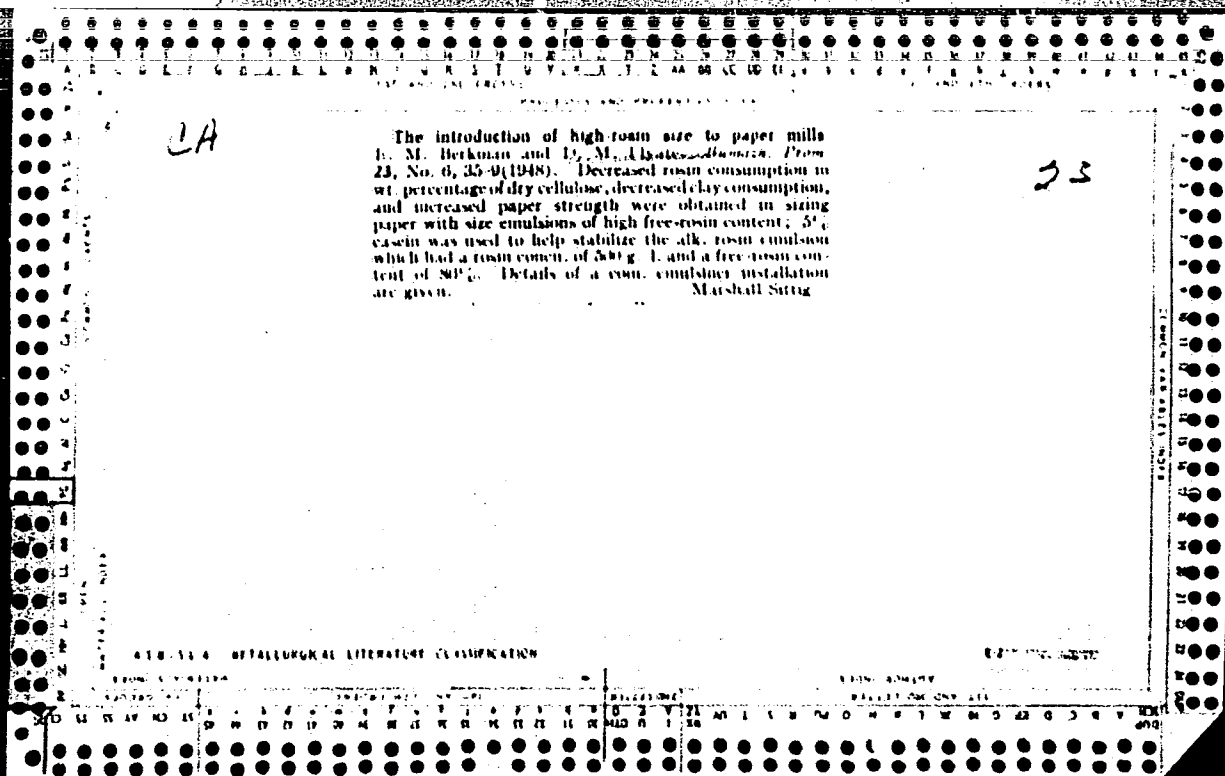


CA

High wet-strength paper. B. R. Cutman and D. M. Flixate.—U.S.S.R. 60,879, Dec. 31, 1947. To impart wet strength to paper, the pulp is treated with 3-7% (of the dry fiber wt.) of a colloidal soln. in HCl having a 2.0% concn. of a resin obtained as follows: to 100 g. of melamine, 80 g. CH_2O , and 1 cc. of 100% AcOH add 600 ml. of H_2O . Boil at 65-70° with const. stirring until aropy, hydrophobic product is obtained. Dry and grind to a powder. Or, to 100 g. of melamine and 75-80 g. of CH_2O add 250 ml. of H_2O and condense at 65-70°. M. Huseh







FLYATE, D. M.

Flyate, D. M. "Question of the mechanical toughness of a sheet of paper," Materialy Tsentr. nauch.-issled. in-ta bumazh. prom-sti, Issue 36, 1948, p. 137-66 -- Bibliog: 52 items

SO: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 14, 1949).

FLYATE, D. M.

Fylate, D. M. - "The question of the cohesive forces of fibers in a sheet of paper," Materialy Tsentr. nauch.-issled. in-ta bumazh. prom-sti, Issue 37, 1948, p. 193-202

So: U-3566, 15^March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)

FLYATE, D. M.

Flyate, D. M. - "Dependence of the speed of drying of paper on the initial wetness of the sheet of paper," Materialy Tsent. nauch. issled. in-ta bumazh. prom-sti, Issue 37, 1948, p. 203-10

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey; No. 13, 1949)

FLYATE, D.M., i SHUKHMAN, F.G.

24965 Flyate, D. M. i Shukhman, F. G. Puti Povysheniya Proizvoditel'nosti Rumagodelatel'nykh Mashin. Bumazh Prom-st', 1949, No 3, S 18-22 Bibliogr: 7 Nazv.

So: Letopis', No 33, 1949

Ii Lesozagotovki. Lecnaya I Derevoobrabatyvayushchaya Promyshlennost'.
Nebel'noye Proizvodstvo.

CA

The influence of fillers on the strength and air permeability of paper. D. M. Flyvsk. *Bumish. Prom.* 25, No. 2, 21-4 (1950). -- Theoretical considerations of the effect of fillers on paper properties are presented. The effects of the addn. of clay filler on the tensile strength and air permeability of paper are studied. A fully bleached sulfite pulp is beaten to 45° S.-R. in a lab. beater, the test sheets are prepd. on a modern sheetmaking machine, varying units of Turboviski clay are added (clay detd. by ash content), and the sheet is conditioned at 65% relative humidity and 20° prior to testing. The tensile strength test values are reproducible within $\pm 3.5\%$. A parallel series of test sheets are prepd. without filler but with the same basis wt. as the sheets with filler. In the case of sheets at a const. fiber content of 60 g./sq. m. but with increasing clay content, there is little change in tensile strength up to 4% clay but,

with increasing clay up to 24%, the tensile strength decreases by 60%. For the sheets in which the clay is replaced by an equal wt. of fiber, the tensile strength increases smoothly; the vertical interval between the 2 curves gives the percentage decrease in tensile strength of a paper with filler compared with a paper of the same basis wt. without filler. The resistance of paper to burst and folding shows the same relation with clay content. A study of air permeability shows that, with increasing clay content, the air permeability increases (45% increase for a clay content of 25%). A similar series of tests with sheets prepd. from a 30% unbleached sulfite-70% groundwood mixt. gave the same results. The increased drying velocity of filled paper is explained on a basis of readier escape of vapor from the larger capillaries, the presence of less bonded H₂O, and the more open structure of the filled sheet. From theoretical considerations it is shown that the velocity of penetration of liquids into capillaries is increased with increasing capillary radius (assumed for paper contg. filler), which helps explain why paper contg. filler has increased absorptivity. In the case of a 100% sulfite bleached pulp beaten to 32° S.-R. and contg. 3% rosin size, 6% alum, and 5% starch, of 100 g./sq. m. basis wt., for clay contents of 0, 5, 10, 15, 20, and 25% clay (based on oven-dry fiber), the corresponding breaking lengths are 4314, 3722, 3221, 3011, 3000, and 2730 m., stretch 3.2, 3.8, 2.7, 2.1, 1.7, and 2.0%, and double folds 2300, 1348, 479, 351, 305, and 102; the relative time to be wet by a 10% soln. of Na₂CO₃ is 13.5, 11.7, 12.0, 12.5, 11.0, and 10.0 min., resp.

John Lake Keays

23

ELYATE, D.

Paper-Making Machinery

Calculating the necessary number of drying cylinders. Bum. prom. no. 6, 1951.
Kand. Tekhn. Nauk

SO: Monthly List of Russian Accessions, Library of Congress, April ²195~~6~~, Uncl.

1. LARIN, P. S., FLYATE, D. M.
2. USSR (600)
4. Fibers
7. Glaring errors in the description of the production of pulp and paper
(Cellulose and fiber plants of the U.S.S.R.), P. K. Krasil'nikov, P. A.
Yakimov. Reviewed by P. S. Larin, D. M. Flygate. *Sov. prom.* 27, No. 6, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953, Uncl.

1. BERKMAN, Ye. M.; FLIATE, D. M.

2. USSR (600)

4. Paper

7. Sizing of paper, and ink for letters. Bun. prom. 27, No. 10, 1952

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

BERKMAN, Ye.M.; FLYATE, D.M.

The sizing agent in paper rosin size. Bum. prom. 28 no.6:9-14 Jo '53.
(Gums and resins) (Paper industry) (MLRA 6:6)

FLYATE, D. M.

USSR/Miscellaneous - Manufacturing

Card 1/1 : Pub. 77 - 16/21

Authors : Flyate, D. M., Cand. Tech. Sci.

Title : Paper bottles

Periodical : Nauka i zhizn' 21/9, page 38, Sep 1954

Abstract : A description is given of the working of a machine on exhibit at the All-Union Agricultural Exposition in Moscow which makes 3,600 pint-sized bottles per hour out of paper treated with paraffine. Illustrations.

Institution :

Submitted :

FLYATE, D.M., kandidat tekhnicheskikh nauk.

Properties of lithographic paper. Sum. prom. 29 no.5;8-12 My '54.
(Paper) (MIRA 7:7)

ALEKSEYEV, A.A., inzhener, redaktor; ASHKENAZI, K.M., doktor tekhnicheskikh nauk, redaktor; GRABOVSKIY, V.A., kandidat tekhnicheskikh nauk, redaktor; GORBACHEV, A.N., kandidat tekhnicheskikh nauk, redaktor; IVANOV, S.N., kandidat tekhnicheskikh nauk, redaktor; LARIN, P.S., kandidat tekhnicheskikh nauk, redaktor; NEPENIN, N.N., doktor tekhnicheskikh nauk, redaktor; PUZYREV, S.A., kandidat tekhnicheskikh nauk, redaktor; RYUKHIN, N.V., kandidat tekhnicheskikh nauk, redaktor; FLYATE, D.M., kandidat tekhnicheskikh nauk, redaktor; SHAPIRO, A.D., kandidat tekhnicheskikh nauk, redaktor; ELIASHBERG, M.G., kandidat tekhnicheskikh nauk, redaktor; KHUDYAKOVA, A.V., redaktor izdatel'stva; KARASIK, N.F., tekhnicheskiy redaktor

[Paper maker's handbook] Spravochnik bumazhnika (tehnologa). Moskva, Goslesbumizdat, Vol.2., book 1. 1956. 458 p. (MLBA 10:2)

1. Leningrad Tsentral'nyy nauchno-issledovatel'skiy institut tsellyuloznoy i bumazhnoy promyshlennosti (Paper industry)

FLYATE, D.M., kandidat tekhnicheskikh nauk.

Paper for automatic packing machines used in the food industry.
Bum.prom.31 no.4:22-25 Ap '56. (MIRA 9:7)
(Containers) (Paper--Specifications)

FLYATN, David Moiseyevich, kand.tekhn.nauk; SASONKO, V.G., red.; SARMATSKAYA,
G.I., red.isd-va; SHITS, V.P., tekhn.red.

[New methods for the production of newsprint] Novoe v proizvodstve
gazetnoi bumagi. Moskva, Goslesbumizdat, 1957. 123 p. (MIRA 11:2)
(Newsprint)

FLYATE, D.M., kand.tekhn.nauk

New high-speed papermaking machines; (survey of foreign journals).
Bum.prom. 33 no.11;27-29 N '58. (MIRA 13:8)
(United States--Papermaking machinery)

FLYATE, D.M., kand. tekhn. nauk; BARAN, M. Ye., inzh.

Present-day achievements in the manufacture of felts for the
paper industry. Bum. prom. 33 no. 6:12-14 Je '58. (MIRA 11:7)
(Paper industry--Equipment and supplies)

IVANOV, Sergey Nikolayevich. Prinsipal uchastiye EYDLIN, I.Ya., kand. tekhn.nauk. MUDRIK, V.I., kand.tekhn.nauk, retsenzent; PEREKAL'SKIY, N.P., retsenzent; FLYUTE, D.M., red.; SIDEL'NIKOVA, L.A., red.izd-va; BACHURINA, A.M., tekhn.red.

[Technology of paper manufacture] Tekhnologiya bumagi. Moskva, Goslesbumizdat, 1960. 719 p. (MIRA 13:5)

1. Kafedra tsellyulozno-bumazhnogo proizvodstva Leningradskogo tekhnologicheskogo instituta (for Perekal'skiy).
(Paper industry)

FLYATE, D.M., kand.tekhn.nauk

New book on the technology of woodpulp and paper production.
Bum.prom. 35 no.1:29 Ja '60. (MIRA 13:6)
(Woodpulp) (Paper)

FLYATE, D.M., kand.tekhn.nauk; RYSOVA, A.P., inzh.

Press felts for manufacturing condenser paper. Bum.
prom. 35 no.6:28-29 Je '60. (MIRA 13:7)
(Papermaking machinery)
(Felt)

ALEKSEYEV, A.A., inzh., red.; ASHKENAZI, K.M., doktor tekhn.nauk, red.;
GRABOVSKIY, V.A., kand.tekhn.nauk, red.; GORBACHEV, A.N., kand.tekhn.
nauk, red.; IVANOV, S.N., kand.tekhn.nauk, red.; LARIN, P.S., kand.
tekhn.nauk, red.; NEPENIN, N.N., doktor tekhn.nauk, red.; PUZYREV,
S.A., kand.tekhn.nauk, red.; RYUKHIN, N.V., kand.tekhn.nauk, red.;
FLYATE, D.M., kand.tekhn.nauk, red.; SHAPIRO, A.D., kand.tekhn.nauk,
red.; ELIASHBERG, M.G., doktor tekhn.nauk, red.; KHUDYAKOVA, A.V.,
red.izd-va; SIDEL'NIKOVA, L.A., red.izd-va; LOBANKOVA, R.Ye., tekhn.red.

[Manual for paper industry technicians] Spravochnik bumazhnika; (tekhnolo-
loga). Moskva, Goslesbumizdat. Vol.3. 1961. 719 p. (MIRA 14:6)

1. Leningrad. Tsentral'nyy nauchno-issledovatel'skiy institut
tsellyuloznoy i bumazhnoy promyshlennosti.
(Paper products)

ZAMORUYEV. Boris Mikhaylovich; FLYATE, D.M., dots., kand. tekhn.
nauk retsenzent; MORCHENKOV, V.S., dots., kand. tekhn. nauk
retsenzent; FILONENKO, K.D., red.

[Water purification structures in woodpulp production; a
textbook on a diploma Project for students of the Faculty of
Chemistry and Technology] Vodochistnye sooruzheniia tselliulozno-
bumazhnogo proizvodstva; posobie po diplomnomu proektirovaniu
dlia studentov khimiko-tekhnologicheskogo fakul'teta. Leningrad,
Vses. zaachnyi lesotekhn. in-t, 1962. 83 p. (MIRA 18;3)

TSVETKOV, Ivan Dmitriyevich; NEPENIN, Yu.N., dots., kand. tekhn.nauk, retsenzent; FLYATE, D.M., dots., kand. tekhn. nauk, retsenzent; KIRILLOVA, L.D., red.; URITSKAYA, A.D., tekhn. red.

[Some calculations for the production of sulfite pulp with a sodium base] Nekotorye raschety po proizvodstvu sul'fitnoi tselliulozy na natrievom osnovanii; metodicheskoe posobie k diplomnomu proektirovaniu dlia studentov khimiko-tekhnologicheskogo fakul'teta. Leningrad, Vses. zaachnyi lesotekhn. in-t, 1962. 112 p. (MIRA 16:8)

(Woodpulp)

KOZAROVITSKIY, L.A., prof., doktor tekhn. nauk; FLYATE, D.M., red.;
POSTNOVA, I.D., red.; SHENDAREVA, L.V., tekhn. red.;
PETRENKO, V.M., tekhn. red.

[Basic characteristics of chalk overlay paper for printing
and methods for their control] Osnovnye svoistva melovannoi
bumagi dlia pechati i metody ikh kontrolya. Moskva, TSentr.
in-t tekhn. informatsii i ekon. issl. po lesnoi, bumazhnoi i
derevoobrabatyvaiushchei promyshl., 1962. 147 p.

(MIRA 16:4)

(Paper--Testing) (Printing)

FLYATE, D.M.; LEVDIK, I.Yu.

Some irreversible phenomena taking place during the drying of
paper and woodpulp. Bum.prom. 37 no.3:14-16 Mr '62.

(MIRA 15:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut bumazhnoy
promyshlennosti.

(Paper--Drying)

(Woodpulp)

ABRAMOVICH, Aleksandr Davidovich; FLYATE, D.M., red.; FILIMONOVA,
A.I., red.izd-va; VDOVINA, V.M., tekhn. red.

[Reference book for the press operator of papermaking
machines] Posobie pressovshchiku bumagodelatel'noi ma-
shiny. Moskva, Goslesbumizdat, 1963. 108 p.

(MIRA 16:7)

(Papermaking machinery)

FLYATE, D.M.

Book on the coating of paper and paperboard. Bun.prom. [38] no.7:
30 J1 '63. (MIRA 16:8)

(Paper coatings)

GLOTKO, Ye.D.; FLYAZHIKOVA, L.F.

Photocolorimetric determination of small amounts of
molybdenum in products containing selenium and tellurium.
Sbor.trud. VNIITSVETMET no.9:26-29 '65.

(MIRA 18:11)

ALDAKOVA, V.D.; FLYUMEL', N.F.; MITROFANOVA, Ye.B.; SOLOV'YEVA, N.A.

Epidemiological significance of atypical strains of dysentery
bacteria. Zhur.mikrobiol., epidem. i immun. 27 no.3:23 Nr' 56.

(MLRA 9:7)

1. Iz kafedry epidemiologii i Moskovskogo meditsinskogo instituta.

(SHIGELLA,

dysenteriae, atypical strains, epidemiol. significance
(Rus))

FOALE, P.

TECHNOLOGY

Periodicals: CELULOZA SI HIRTIE. Vol. 7, no. 8, Aug. 1958

FOALE, P. Some considerations relative to the level of the Danube River waters. p. 313

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

FOBER, H.; KEMPINSKI, S.; LEDWOCH, Z.

"Efficiency of Donbass combines in Poland. Biuletyn."

p. 1 (Przegląd Gorniczy) Vol. 12, no. 2, Feb. 1956
Katowice, Poland

SO: Monthly Index of East European Accessions (EEAI) 16. Vol. 7, no. 4,
April 1958

~~FOBER, H.~~

"Speed of the cutting chain and the performance of a longwall cutter."

p. 58 (Przegląd Gorniczy) Vol. 12, no. 2, Feb. 1956
Katowice, Poland

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

FOBER, H., Kempinski, S.; Ledwoch, Z.

The results of working with the Donbas combines in Poland. p. 3.
(PRACE. No. 17, 1956, Katowice, Poland)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, no. 12, Dec. 1957.
Uncl.

FOCHEM, K.

Problems of grid irradiation. *Magy. radiol.* 10 no.3:170-174 Sept 58.

1. A Bessi Orvosegyetem I. sz. noi klinikajanak (igazgato: prof. T. Antoine dr.) kozlemenye.

(RADIOTHERAPY, in various dis.
cancer, grid irradiation (Hun))

(NEOPLASMS, ther.
radiother., grid irradiation (Hun))

BIEDA, S.; FOCHM, K.

Role of roentgenodiagnosis in obstetrics. Ginek. Pol. 33 no.2:153-159
'62.

1. Z I Kliniki ChoroB Kobiacych Uniwersytetu w Wiedniu Kierownik
Kliniki: prof. dr T. Antoine.

(OBSTETRICS) (RADIOGRAPHY)

BIEDA, S.; FOCHEM, K.

Role of the anterior height of the pelvis in labor prognosis. Ginek.
pol. 33 no.6:717-722 '62.

1. Z I Kliniki Chorob Kobięcych Uniwersytetu w Wiedniu Kierownik Kliniki:
prof. dr T. Antoine.

(PELVIMETRY)

BARANYAI, Pal, dr.; FOCHER, Laszlo, dr.

Data on constitutional role of Pelger-Huet anomaly. Orv. hetil. 102
no.38:1782-1785 17 S '61.

1. Fovarosí Tanács Heim Pal Gyermekkorháza, Laboratorium es Idegosztály,
Budapest.

(LEUKOCYTES) (EPILEPSY blood)

Calculation of the number of leukocytes in urine in pregnancy.

The number of leukocytes in urine in pregnancy.
Data collected. Rossi. Ann. Mag. 5 no. 1331-33 1964.

U. S. Naval Children's Hospital (Director: Dr. J. Barkley,
Lynchburg.

FOCHER, LASZLO, dr.; SZEKESY, VILMA, dr.

Epilepsy following Di-Per-Te vaccination in monozygotic twins.
Orv. hetil. 105 no.43:2045-2048 0 25 '64.

1. Fovarosi Tanács Heim Fal Gyermekkorház, Idegosztaly (vezeto:
Focher Tamas dr.)

FOCHER, László, dr.

Nocturnal enuresis in children. Orv. hetil. 106 no.3:119-122
Ja 17 '64.

I. Fovárosi Tervacs, "Heim Pál" Gyermekkorház, Idegosztály
(fcoarvos: Focher László dr.)

FOCK, Jeno

Let us accelerate socialist construction, let us develop our economic achievements. Munka 10 no.3:6-7 Mr '60.

1. Magyar Szocialista Munkaspárt Politikai Bizottsaganak tagja,
a Kozponti Bizottsag titkara.

FOCK, Jeno

Our economics leaders should assume more responsibility in fulfilling the plans and increasing productivity. Ujit lap 12 no.3:7 10 F '60.

1. Magyar Szocialista Munkaspart politikai bizottsaganak tagja.

FOCK, Jenó (Budapest)

Our salute to the 3d National Conference of Innovators and Inventors.
Ujit lap 13 no.23:3 D '61.

"New method in the soap industry; the manufacture of soap in a vacuum according to the
Mazzoni system."
Kemija U Industriji, Zagreb, Vol 2, No 12, 1953, p. 377

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

CH ✓ Polymorphism of soap and the Mazzoni process. *Milod. Rock. Seifen-Öle-Felle-Wachse* 81, 348, 352-4(1955); cf. *Zeit. 49, 14352f.*—The effect of the Mazzoni process on the cryst. phases in soaps is investigated by x-ray analysis of 2 soap cakes, A contg. approx. 62% fatty acids and some coconut oil in the raw material and B contg. approx. 70% fatty acids and produced from tallow fats of low titer. The relative intensities of the rings corresponding to the α phase (diam. 2.95 A.) and β phase (diam. 2.76 A.) are detd. For A, the ratio of the intensities is 1.6:1, and for B, 1:3; this shows some conversion of α to β phase. The δ phase is absent in soap produced according to the Mazzoni process.
Maria E. W. Torok

Homogeneity, Covariance and Relativity

Rock, V. A. Homogenität, Kovarianz und Relativität. Czechoslovak J. Phys. 7 (1957), 255-261.

4
I-F/W

The author wishes to stress the fact that in his opinion the use of the term "relativity" in the manner in which it is prevalent in the literature on the general theory of relativity is not only misleading but also seems to indicate a lack of understanding of fundamentals. His reasons for this opinion are based on a close analysis of the meaning of the terms (1) "homogeneity" of the space-time continuum, and (2) "covariance" of equations (laws of nature). It is shown that these concepts are fundamentally distinct and are expressed mathematically in distinct ways: the first by the existence of transformations which leave invariant the expression for the 4-dimensional distance between two points of (Galilean) space-time, including the coefficients g_{ij} (which is not generally possible in Riemannian spaces, so that the latter are inhomogeneous), while the second concept generally involves transformations which themselves entail transformations of the g_{ij} . Such composite transformations, or covariance with respect to them, are not directly connected with the homogeneity (or

CC
1/2

Fock, V.A.

lack of homogeneity) of the space. Yet both these concepts, viz. homogeneity of space-time and covariance, are often described by the same word "relativity". If this word is to imply homogeneity, the so-called general theory of relativity is not relativistic, while if the word is to imply covariance, the latter theory is no more relativistic than, for instance, classical mechanics (the exar. ple of the covariance of the equations of Lagrange is cited). H. Rund (Durban). 1b

4
1-FW

cc
2/26
c-425

FOCK, W.

FOCK, W. Copernican System and Ptolemaic System in the Light of the Modern Theory of Gravitation. Postepy fizyki, Warszawa (Polish Physics Society), 1954, v. 5, no. 1, p. 3.

STANKOVIC, D.; KANTA, F.; MIJINOVIC, M.; FOCCO, S.

Hearing disorders following repeated carbon monoxide poisoning. Acta med. Jugosl. 18 no.2:95-106 '64

1. Institut za patolosku fiziologiju i Institut za higijenu i socijalnu medicinu, Medicinskog fakulteta u Sarajevu.

RUMANIA / Chemical Technology. Chemical Products and Their Applications. Chemical Wood Products. Hydrolysis Industry. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13336.

Author : Vasilescu, I.; Focsa, C.; Cojocaru, C.

Inst : Not given.

Title : Production of Nutritional Yeasts in Hydrolyzates of Cane Wastes.

Orig Pub: Lucrarile Inst. cercetari aliment., 1958, 2, 9-20.

Abstract: Production of cellulose from cane can be profitable by utilizing its wastes. These wastes in the form of hydrolyzates and spent crude alkalis can be used for the production of nutritional yeasts. A hydromodel of hydrolysis was established. A process was developed for adapting yeasts of the *Torulopsis utilis* type to hydrolyzates of cane

Card 1/2

POLAND / Chemical Technology. Chemical Products and Their Applications, Chemical Wood Products. Hydrolysis Industry. H

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 13323.

Abstract: investigated for saturated wood not subjected to flushing as well as for wood saturated and alkalinized with water. The corrosive effect of NaCl and H_2SiF_6 solutions on common steel was studied. It was established that the method indicated for saturation is useful for wood saturation. Outlay for such saturation is six times lower than with the "flural'sil" which is usually used. -- From the author's resume.

Card 2/2

103

FOCSA, Carmen

Determining filtering quality of Rumanian diatomites. Studii
cerc chimie 10 no.2:267-273 '62.

1. Laboratorul de industrii fermentative, Institutul de cercetari
alimentare, Bucuresti.

L 33038-66 T DJ/WE

ACC NR: AP6024217

SOURCE CODE: RU/0007/65/016/009/0488/0491

AUTHOR: Vasilescu, I.--Vasilesku, I.; Focsa, Carmen--Foksha, K.

30
B

ORG: none

TITLE: Method of estimating the n-paraffin hydrocarbons in gas-oils subjected to microbiological dewaxing ✓

SOURCE: Petrol si gaze, v. 16, no. 9, 1965, 488-491

TOPIC TAGS: hydrocarbon, dewaxing, urea, petroleum product, petrochemistry

ABSTRACT: A description of a method for determining n-paraffin hydrocarbons in gas-oils subjected to microbiological dewaxing. The method employs the property of urea of forming adducts with the n-paraffin hydrocarbons with more than 7 carbon atoms, and has been checked with pure n-hexadecane as reference substance. Use of the method for a gas-oil before and after dewaxing gave n-paraffin values of 22.5 and 0.15 percent respectively. Orig. art. has: 4 tables. [Based on authors' Eng. abstract] [JPRS]

SUB CODE: 11, 07 / SUBM DATE: none / OTH REF: 007

Card 1/1 *so*

UDC: 665.545.3:547.21.04:665.521.4

0915 *18 68*

JUGUREANU, N., ing.; FOCSA, I., ing.; TAT, Sabin, ing.

Technique of shooting in atmospheric methane in advancing
work where detonating explosives are used. Rev min 13
no.8:384-389 Ag '62.

FOCSA, I., ing.; TAT, S., ing.; FUIOREA, D., tehn.

Research organized for the determination of thermoresistant explosive manufacture formulas and the results obtained in experimenting with them in mines with high temperatures. Rev min 14 no.9:410-412 S '63.

FOCSA, I., ing.; TAT, S., ing.

Achievements obtained in the problem of fireproof explosives.
Rev min 15 no.11:560-562 N 54.

FOCSA, VIRGIL

RUMANIA/Chemical Technology - Chemical Products and Their Application. Ceramics. Glass. Binders. Concrete. H-13

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 25855

Author : Focsa Virgil, Alexandrescu Adrian, Alexandrescu Florica

Inst : Iasi Polytechnic Institute.

Title : Foam-Ceramics and the Possibilities of Their Use in Building.

Orig Pub : Bul. Inst. politchn. Iasi, 1956, 2, No 3-4, 389-400.

Abstract : Results of investigations of a new building material -- foam-ceramics (FC), produced by firing at 900-950° a mixture of clay and foaming agent. Decrease of shrinkage of the utilized raw material, containing up to 32% of clay, was attained by the use of clay that had been dehydrated at 400°, in an amount of 20% with addition of 0.5-1% cement. Thermal coefficients of articles

Card 1/2

RUMANIA/Chemical Technology - Chemical Products and Their
Application. Ceramics. Glass. Binders. Concrete.

H-13

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 25855

made of FC are from 0.09 to 0.19 cal/m³. The characteristics of FC thus produced are given as well as the fields of their utilization.

Card 2/2

- 23 -

FOCSA, V.

Calculation of longitudinal reinforced masonry sections. p. 126.
(Standardizarea, Vol. 9, No. 3, Mar. 1957, Bucuresti, Rumania)

SO: Monthly List of East European Accessions (EEAL) Lc. Vol. 6, No. 8, Aug. 1957. Uncl.

FOCSA, V.

TECHNOLOGY

Periodicals: REVISTA CONSTRUCTIILOR SI A MATERIALELOR DE CONSTRUCTII
Vol. 10, no. 10, Nov. 1958

FOCSA, V. Thermal behavior of roofs of certain industrial buildings. p.488

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

FOCSA, Virgil; RADU, Adrain (Jassy, Rumania)

Determination of the mean coefficient of heat penetration
through layered walls by the method of thermal fields.
Archiw inz lad 9 no. 4: 407-418 '63.

FOCSA, V., conf. ing.; RADU, A., ing.; VERES, Al. ing.

Thermal resistance of masonry work in materials with
vertical holes. Rev constr si mat constr 15 no. 11:
586-591 N '63.

PITIS, I., dr; FOCSAMEANU, A., dr inz.; ANTONIU, M.; WOYNAROWSKI,
Zbigniew, doc. inz. [translator]

Studies on mold resistance of some electroinsulating compounds.
Przeł elektrotechn 39 no.12:472-474 D'63.

1. Instytut Elektrotechniki, Bukareszt (for Pitis, Focsameanu,
Antoniou). 2. Politechnika, Gdansk (for Woynarowski).

Focsaneanu, A.

Category : RUMANIA/General Problems - Problems of Teaching

A-3

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 2818

Author : Focsaneanu, Antonia

Title : Teaching the Topic "Electromagnetic Induction."

Orig Pub : Gaz. mat. si fiz., 1956, A8, No 3, 147-159

Abstract : No abstract

Card : 1/1

FOCSENEANU, H.

"Takeover. The growth of monopoly in Britain, 1951-1961" by
William Mennell. Reviewed by H.Focseneanu. Probleme econ 16
no.12:137-140 D '63.

117 AND 119 SERIES 118 AND 119 SERIES

PROCESSING AND PROPERTY INDEX

Ca FOC SANEANU, I. J. 2

The saponification kinetics and the absorption spectra of ester-amide groups containing the furan ring and a conjugated double bond. N. N. Maxim and I. J. Focसानेअनु. *Bucharest 1967, 26 pp. (Separate).*—The saponification and ultraviolet absorption of Me α -phenyl- β -furylacrylate, Et α -phenyl- β -furylacrylate, α -phenyl- β -furylacrylamide, and α -phenyl- β -furyl-*N,N*-diphenylacrylamide were investigated. The saponification velocities of the compounds studied satisfy the equation of bimolecular reactions. At the same temp: the numerical values of the constants of the Me and Et esters are nearly identical. Substitution by phenyl groups increases the value of the constant. Activation energies of all the compounds studied are in the same order of magnitude. They all possess a strong absorption band in the region of 2100–2200 Å., followed by a transmission zero between 2800 and 3400 Å. The effect of the furan group on the max. of the absorption band is similar to that of an acyclic system with conjugated double bond, but numerically the value of the max. is only about one-half of such an acyclic system.

François Kertész

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

12004 90419V 221127 047 04V 111

12004 90419V 221127 047 04V 111

J.
FOCSANEANU, I.;SAVULESCU, A.;BONTEA, V.

Effectiveness of some organic preparations in fighting the vine mildew
(*Plasmopara viticola* (Berk. et Curt.) Berl. et de Toni) and the apple speckles
(*Endostigme inequalis* (Cooke Syd.) p. 313.

COMUNICARILE. Bucuresti, Rumania. Vol. 8, no. 3, Mar. 1958.

Monthly List of East European Accession (EEAI), LC, Vol. 8, No. 9, September, 1959.

Uncl.

FOCSANEANU - I. J.

COUNTRY : Rumania H-18
CATEGORY :
ABS. JOUR. : RZKhim., No. 20 1959, No. 72453
AUTHOR : Savulescu, A.; Bontea, V.; Focsaneanu, I. J.*
INVT. : Rumanian Academy
TITLE : Effectiveness of Domestic Organomercury Prepa-
ration in Control of Apple Scab [*Endostigma
inaequalis* (Cooke) Syd.]
ORIG. PUB. : Studii si cercetari biol. Acad. RPR Ser. biol.
veget., 1958, 10, No 4, 393-408
ABSTRACT : In testing a number of organic preparations
for control of apple scab, to find a substitute for Bordeaux
mixture (BM), the most effective was found to be Merphazin,
containing phenylmercurochloride. The quality of fruit,
their taste, contents of sugar and vitamine C, are higher
than those of apples treated with BM. The preparation can
be recommended for control of apple scab, at concentration
of 0.2% prior to blossoming, and of 0.1% after blossom. To
preclude instances of poisoning, other preparations con-
taining no Hg should be used in the last application.
I. Mil'shteyn.

CARD:

* Suta, V.; Giurea, M.

3

FOESANU, E.

Stadiul Actual al Tehnicilor Imbrăcămintelor de Drumuri și Piste din Nețon de Ciment. H. E. Foescu. Rev. Transporturilor, Aug. 1954, pp. 317-320. In Romanian. Evaluation of current techniques used for concrete runways. 62

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VAN

[Handwritten signature]

Focseneanu D.

Category : RUMANIA/Atomic and Molecular Physics - Heat

D.4

Abs Jour : Ref Zhur . Fizika, No 3, 1957, No 6274

Author : Focseneanu, D.

Title : Unavoidable Errors in the Measurement of Temperature

Orig Pub : Metrol. spl. 1956, 3, No 3, 38-40

Abstract : In the measurement of the temperature of any medium, there occur errors owing to the parasitic heat exchange between the thermometer and those neighboring bodies of media that have a different temperature. The most important cases of parasitic heat exchange are: radiation occurring when measuring the gas temperature, convection due to incomplete immersion of the thermometer in the liquid, convection and radiation occurring when measuring the surface temperature of the solid body by contact, and radiation occurring in the measurement of temperature by means of an optical pyrometer. The first two cases are considered in detail. Recommendations are given for the reduction of the errors.

Card : 1/1

MUNTEANU, Corneliu (Bucuresti); PESTROIU, Daniel (Tirgu Jiu); PIRSAN, Liviu (Bucuresti); VOICULESCU, Dan (Bucuresti); ALEESCU, I. (Zaras)
PELTEANU, Ioan (Bucuresti); STANCU, I.M. (Bucuresti); CHITESCU, Ion (Bucuresti); STANESCU, Ilie (Sibiu); IONESCU, Traian (Braila); KACSO, F. (Cluj); MANESCU, L. (Rimnicu Vilcea); IONESCU-TIU, C.; FOCSENEANU, M.I.; POPA, Eugen (Iasi); MIHALCA, Dan (Bucuresti); PELIGRAD Nicoae, prof. (Pitesti); PENNA, I. Dorin (Goroneasa); STANCU, Ion M. (Bucuresti)

Proposed problems. Gaz. mat B 16 no.2:86-91 F '65.

BEKE, Denes; B. BARZAI, Marietta; FOCZE, Lajos

Data on the chemistry of heterocyclic, pseudobasic amino carbinols.
XX. Preparation of quaternary 3,4-dihydroisoquinoline salts by the
interaction of 2-(β -bromoethyl)-benzaldehyde and amines of the 1st
order. Magyar kém folyoir 67 no.12:517-519 D '61.

1. Budapesti Műszaki Egyetem Szerves-Kémiai Tanszéke. 2. Szerkesztő
bizottsági tag, "Magyar Kémiai Folyóirat" (főr. Beke).

S/021/62/000/012/002/018
D251/D308AUTHOR: Fodchuk, V.I.

TITLE: Some existence and uniqueness theorems for differential equations with a delayed argument

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 12, 1962, 1541-1545

TEXT: The author considers the differential equation with a delayed argument

$$\frac{dx(t)}{dt} = f [t, x(t), x(t - \Delta)], \quad (1)$$

where $t \geq t_0$, and Δ is some positive delay. The initial conditions are given by

$$x(t) = \varphi(t) \text{ for } t \in [t_0 - \Delta, t_0], \quad (2)$$

where $\varphi(t)$ is some given positive function, defined in $[t_0 - \Delta, t_0]$. The following general existence and uniqueness theorems, which are analogous to the Caratheodory theorems are proved. Theorem 1:

Card 1/3

S/021/62/000/012/002/018
D251/D308

Some existence

(Existence) If the function $f(t,x,y)$ is defined in the parallelepiped R

$$R: |x - \varphi(t_0)| \leq a, |y - \varphi(t_0)| \leq a, t_0 \leq t \leq t_0 + T_0 \quad (3)$$

where a and T_0 are positive constants, and is commensurate with t for fixed x, y , and is continuous with respect to x, y for fixed t , and if the point $[t_0, \varphi(t_0), \varphi(t_0 - \Delta)]$ lies in R , and if there exists in the interval $[t_0, t_0 + T_0]$ a function $m(t)$ that is integrable in the Lebesgue sense and dominates $|f|$ in R , then for some interval $[t_0 - \Delta, t_0 + T]$, $T \leq T_0$, there exists a function $x(t)$, absolutely continuous on $[t_0, t_0 + T]$ satisfying (1) and (2) almost everywhere, the curve of which lies in R for $t_0 \leq t \leq t_0 + T$.

Theorem 2: If the conditions of theorem 1 are satisfied, and if $x(t)$ is a solution of (1), (2), and if there exists a function $L(t)$ integrable in the Lebesgue sense such that

$$|f(t, \bar{x}, \bar{y}) - f[t, x(t), x(t - \Delta)]| \leq L(t) \{ |\bar{x} - x(t)| + |\bar{y} - x(t - \Delta)| \} \quad (5)$$

for an arbitrary point, t, \bar{x}, \bar{y} , then the solution of (1), (2) is unique.

Card 2/3

Some existence ...

S/021/62/000/012/002/018
D251/D308

ASSOCIATION: Instytut matematyky AN URSSR (Institute of Mathematics of the AS UkrSSR)

PRESENTED: by Yu.A. Mytropol's'kyy, Academician

SUBMITTED: June 9, 1962

Card 3/3

33863

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S/041/62/014/001/004/007
B112/B104

AUTHORS: Rubanik, V. P., Fodchuk, V. I. (Chernovtsy)

TITLE: Existence and properties of a bounded solution of a system of quasi-linear differential-difference equations

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 1, 1962, 87 - 92

TEXT: The authors consider a system of quasi-linear differential-difference equations of the form ✓

$$du(t)/dt = \sum_{l=0}^r H_l u(t - \Delta_l) + F(t, u(t), u(t - \Delta_1), \dots, u(t - \Delta_r), \epsilon).$$

The real parts of the roots of the equation

$$\text{Det}(Ez - \sum_{l=0}^r H_l e^{-\Delta_l z}) = 0$$

are assumed to be negative. It is demonstrated that an unambiguous, Card 1/2

33863

S/041/62/014/001/004/007
B112/B104

Existence and properties of a...

bounded, asymptotically ($t \rightarrow \infty$) stable solution $u = \varphi(t, \epsilon)$ exists, which is periodic if F is periodic. The proofs are due to N. N. Bogolyubov (cf. O nekotorykh statisticheskikh metodakh v matematicheskoy fizike - On certain statistical methods in mathematical physics, K., 1945; Asimptoticheskiye metody v teorii nelineynykh kolebaniy - Asymptotic methods in the theory of nonlinear oscillations, Fizmatgiz, M., 1958). There are 5 references: 3 Soviet and 2 non-Soviet. The two references to English-language publications read as follows: E. M. Wright, The linear difference-differential equations, Proc. Roy. Soc., Edinburg, ser. A, 62, I, 1949; R. Bellman, On the existence and boundedness of solutions of nonlinear differential-difference equations, Ann. Math., 2, 1949.

SUBMITTED: July 23, 1960

Card 2/2

S/041/62/014/002/008/008
B172/B112AUTHOR: Fodchuk, V. I.

TITLE: Existence and properties of an integral manifold of a system of differential equations with retarded argument

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 2, 1962, 227-231

TEXT: The author considers a system of $n+1$ equations of the form

$$\frac{dh(t)}{dt} = Hh(t) + H_1 h(t-\Delta) + Q(t, g(t), g(t-\Delta), h(t), h(t-\Delta), \varepsilon),$$

$\frac{dg(t)}{dt} = \omega + P(t, g(t), g(t-\Delta), h(t), h(t-\Delta), \varepsilon)$, where $h(t)$ and $h(t-\Delta)$ are vectors of the n -dimensional Euclidean space; $g(t)$ is a scalar function; ω is a constant; Δ is a constant > 0 ; H and H_1 are constant matrices of

the n -th order. Conditions are stated under which the system possesses an integral represented as $h = f(t, g(t), g(t-\Delta), \varepsilon)$. In addition to two theorems relating to the properties of continuity and differentiability of f ,

Card 1/2

S/041/62/014/002/008/008
B172/B112

Existence and properties of an ...

a theorem is formulated which states that every solution of the system that fulfills certain initial conditions asymptotically approaches one single integral manifold of the above-mentioned type. The proofs are due to N. N. Bogolyubov. ✓

SUBMITTED: July 22, 1961, Kiyev

Card 2/2

43393

S/041/62/014/004/007/007
B172/B11216.2410
AUTHOR: Fodchuk, V. I. (Kiyev)

TITLE: On the construction of asymptotic solutions to nonstationary differential equations with lagging argument and small parameter

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 4, 1962,
435 - 440

TEXT: The equations of the form $\ddot{x}(t) + p_1(\tau) \dot{x}(t) + q_1(\tau) \dot{x}[t - \nu_1(\tau)] + p_2(\tau) x(t) + q_2(\tau) x[t - \nu_2(\tau)] = \varepsilon f(\tau, x(t), x[t - \nu_2(\tau)], \dot{x}(t), \dot{x}[t - \nu_1(\tau)]$; $\tau = \varepsilon t$ (1); are considered where ε is a small positive parameter, $\nu_1(\tau)$, $\nu_2(\tau)$ are non-negative functions; f , p_1 , p_2 , q_1 , q_2 , ν_1 , ν_2 shall be differentiable any number of times for all finite arguments. For τ_0 from $[0, 1]$ the degenerate equation $\ddot{x}(t) + p_1(\tau_0) \dot{x}(t) + q_1(\tau_0) \dot{x}[t - \nu_1(\tau_0)] + p_2(\tau_0) x(t) + q_2(\tau_0) x[t - \nu_2(\tau_0)] = 0$ shall have the periodic family of solutions

Card 1/2

S/041/62/014/004/007/007
 B172/B112

On the construction of ...

$x(t) = a \cdot \cos [\omega(\tau_0)t + \varphi]$ where a and φ are arbitrary constants and $\omega(\tau_0)$ is a simple root of the system $-\omega^2 + q_1(\tau_0)\omega \sin [\omega \nu_1(\tau_0)] + q_2(\tau_0)\cos [\omega \nu_2(\tau_0)] - 0$, $-p_1(\tau_0)\omega - q_1(\tau_0)\omega \cos [\omega \nu_1(\tau_0)] + q_2(\tau_0)\sin [\omega \nu_2(\tau_0)] - 0$; $n\omega(\tau_0)$ ($n=0, 2, 3, \dots$) must not be roots of this system. The formulation $x(t) = a \cos \psi + \varepsilon u_1(\tau, a, \psi) + \varepsilon^2 u_2(\tau, a, \psi) + \dots$, is chosen for solving (1). In this formulation μ_1, μ_2 are periodic functions of ψ with the period $2\pi, \tau = \varepsilon t$, and a, ψ are solutions to the system $\frac{da}{dt} = \varepsilon A_1(\tau, a) + \varepsilon^2 A_2(\tau, a) + \dots$, $\frac{d\psi}{dt} = \omega(\tau) + \varepsilon B_1(\tau, a) + \varepsilon^2 B_2(\tau, a) + \dots$. The measurements made give explicit expressions for A_1, B_1 and u_1 .

SUBMITTED: June 14, 1962

Card 2/2