ZSEBOK, Zoltan, dr.; PATRANYI, Gyozo, dr.

Significance of quantitative changes in extracellular fluid
space in water imbalance in experimental "intestinal x-ray
death". Magy. radiol. 16 no.1:1-8 F'64.

1. Magyar Tudomanyos Akademia Orvos-Radiologiai Kutatoscoport-
janak kozlemenye (Vezeto: Zsebok Zoltan dr., egyetemi tanar).

MIHUL, ., conf. ing., GHICA, A.   ing., NEAGU, I.   ing., PATRAS N.   .

Prestressed piles having distance   span   length   pipe
constructed on inventory stands at the Regional Trust   have   he
constr al mas constr if no 10   C

1. Institute f Building and Constru ton Re um   .   .
(for Mihu   Regional Trus for   nst   o   tan he   .
Ghica.   Office of Systemati ation, Arch ecture   t   .
Projects e   for Neag   In tte   Insti   .
Patras!.

PATRAS, N., ing., candidat in stiinte tehnice

Space and sound. St si Teh Buc 16 no.2:3-10 F '64.

ALEXINSCHI, A.; PEIU, M.; PASCOVICI, V.; FILIPESCU, C.; PATRASCANU, Elena

Ecologic and systematic contributions, and the Hibernia
Latr. genus distribution in Rumania. Studii biol agr Iasi
14 no.1:69-83 '63.

PaTRascoiU, N

COUNTRY CATEGORY	Rumania Forestry. General Problems. K
ABS. JOUR.	Rzh3iol., No. 4.1959, No. 15453
AUTHOR INST. TITLE	Chirita, Const.; D. Avram, Chr.; Coman, N.; • Acad.Sci. Rumanian PR Investigation and Mapping of Forest Habitats.
ORIG. PUB.	Bul stiint. Acad. RPR. Sec. biol. si stiinte agric., 1956, 8; No.4, 847-864
ABSTRACT	The number of basic taxonomic units necessary for the mapping of types of habitat are ex- plained, and criteria are given for the deter- mination and classification of habitats. Methods of mapping are offered with an estimated number of concrete taxonomic units taken in Ru- mania. Results of mapping are considered for surfaces of 30 thousand hectares in the Eastern Carpathians, and an ecological scheme is presen- ted for types of habitat in this region. — L.V. Mammolov
CARD	1/1 • Doroi, P.; Crapini, V.; Malureanu, O.; Nicolae, V.; Patrascoiu, N.; Stanciuo, Or.

PATRASCOIU, F., ing.

    Inertia navigation principles. Rev transport 9 no. 2:71-79
    F '62.

PATRASCOIU, T., ing.

Rational utilization of the land fund by arranging a complex project of land organization on the Valeni-Podgoria Collective Farm. Rev geodezie 7 no.3:38-47 '63.

1. O.R.P.O.T. Arges.

COUNTRY: : [illegible]
CATEGORY   :

ABS. JOUR.   : RZKhim., No. [illegible] 1960, No.   [illegible]

AUTHOR   : Pitis, I., Patra[illegible], R., and Fray, H.
INST.   : [illegible]
TITLE   : [illegible] with a view [illegible]
                   [illegible] of Treatment Method[s]

ORIG. PUB.   : Ind [illegible]

ABSTRACT   : The authors have studied the wastes from a number
                   of slaughterhouses. The average characteristics
                   of the wastes are as follows: pH 7.0-7.1, total
                   res. alkalinity [illegible] elm. [illegible] mg/liter, [illegible]
                   [illegible] mg/liter. The optimum doses of $FeCl_3$ [illegible]
                   [illegible] for the chemical treatment of these [illegible]
                   vary from 215 to 507 mg/liter. When simultaneous
                   treatment with $FeCl_3$ and CaO is used, the consump-
                   tion of these materials is 150-160 and 105 mg/
                   liter, respectively. The lowering in the concer-

CARD: 1/2

COUNTRY   : Rumania
CATEGORY   :   [illegible]

ABS. JOUR.   : RZKhim., No. 5 1960, No.   18520

AUTHOR   :
INST.   :
TITLE   :

ORIG. PUB.   :

ABSTRACT   : tration of suspended solids following treatment
                   with $FeCl_3$ is 27% as against 77% when simultaneous
                   treatment with $FeCl_3$ and CaO is practiced; the
                   concentration of organic soluble salts is reduced
                   by 42 and 18%, respectively; oxygen demand is re-
                   duced by 72 and 52%, respectively. For complete
                   purification, the authors recommend that the
                   wastes be subjected to biochemical treatment after
                   chemical treatment.
                                                        Ya. Matlis

CARD: 2/2

PATRASCU, Alexandru, ing.

Aspects of electric power utilization in glass melting
furnaces. Industria usoara 10 no.6:245-251 My '63.

PATRASCU, Gh., ing.

A rapid shunting method of MKP-110 switches in the aerial lines
of 110 kv. Energetica Rum 9 no.6:248-249 Ja '61.

RUMANIA

TAGA, M., Dr, and PATRASCU, I., Veterinarian, of the "Pasteur"
Institute for Veterinary Research and Biological Products.

"New Aspects Concerning   Newcastle Disease in Fowl Breeding
Units."

Bucharest, Revista de Zootehnie si Medicina Veterinara, Vol 16,
No 4, Apr 66, pp 53-64.

Abstract [Authors' English summary modified]: The authors
discuss outbreaks of Newcastle disease in large poultry-
raising units that occurred in the last two years. The la-
boratory tests used to diagnose the disease in some charac-
teristic foci are described, the probable causes for the
appearance of the disease are analyzed (even in vaccinated
units), and the means of combatting the outbreaks in the
various cases are discussed.
        Includes 4 figures, 2 tables and 9 references, of
which 2 German, 2 French and 5 English-language. --

1/1

PATRASCU, M., ing.; MACAVEI, O., tehn.; HEINCZ, M.,teh┐ COICULFSCU, M., ing.
          HERTA Ileana, tehn.; HEINCZ, Maria, tehn.

        Fighting against the blasting dust. Rev min 14 no.10:
        467-473 0 '63.

PATRASCU, St., fiz.; TOFAN, I., ing.; ASAVINEI, I.

Experimental method for determining the coefficients of spectral and
total emission. Metrologia apl 11 no.9:410-414 S '64.

PATRASESCU, M.; STOENESCU, C.

"Aerochemical was against cate-pillars of the traveling silkworm".
p. 220, (REVISTA PADURILOR, Vol. 69, No. 5, May 1954, ncuresi.
Runania)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 3,
No. 12, Dec. 1954, Uncl.

RUMANIA / Chemical Technology, Chemical Products and Their   H-27
         Application. Fermentation Industry.

Abs Jour   : Ref Zhur - Khimiya, No 5, 1959, No. 17232

Author   : Pitis, I.; Patrascioin, R.
Inst   : Not given
Title   : Investigation of Water Quality for Breweries RNR

Orig Pub   : Lucrarile Inst. cercetari aliment., 1958, 2, 149-155

Abstract   : Presented is the classification of water employed in
             breweries based on the index of residual alkalinity.
             Methods of clarifying and disinfecting water are proposed.
             Breweries are singled out at which water is suitable
             for the manufacture of Pilsen type beers. For other
             breweries the type of beer, that would conform to quality
             of available water, was established.

Card 1/1

         in the 511; the latter represents the ...

Card 1/2

H-27

RUMANIA / Chemical Technology, Chemical Products and Their
Application. Fermentation Industry.

Abs Jour   : Ref Zhur - Khimiya, No 5, 1959, No. 17232

Author   : Pitis, I.; Patrascioin, R.
Inst   : Not given
Title   : Investigation of Water Quality for Breweries RNR

Orig Pub   : Lucrarile Inst. cercetari aliment., 1958, 2, 149-155

Abstract   : Presented is the classification of water employed in
breweries based on the index of residual alkalinity.
Methods of clarifying and disinfecting water are proposed.
Breweries are singled out at which water is suitable
for the manufacture of Pilsen type beers. For other
breweries the type of beer, that would conform to quality
of available water, was established.

Card 1/1

RUMANIA/Chemical Technology - Chemical Products and Their
       Application - Treatment of Natural Gases and
       Petroleum. Motor and Rocket Fuels. Lubricants.   H.

Abs Jour   : Ref Zhur - Khimiya, N. 9, 1958, 30195

              asphaltenes, carbenes, and carboxylic compounds.
              For the wear of the engine (Y_1) the following relation
              was found to hold: $Y_1 = B + C_k^+ k$, where B and C are
              constants. A method is demonstrated permitting the
              utilization of the above relationships in the calcula-
              tion of technically and economically optimum oil change
              schedules.

          Card 2/2

                                    61

PATEREICOW

RUMANIA/Chemical Technology - Chemical Products and Their   H.
        Application - Treatment of Natural Gases and
        Petroleum. Motor and Rocket Fuels. Lubricants.

Abs Jour   : Ref Zhur - Khimiya, No 9, 1958, 30195

Author   : Sandulescu, T. and Patrascoiu, I..
Inst   : -
Title   : Determination of Oil Change Schedules

Orig Pub   : Studii si cercetari chim., 5, No 1, 151-167 (1957)
               (in Rumanian with Summaries in French and Russian)

Abstract   : The studies were made on type GAZ-51 automotive engines.
               A relationship of the type $Y=A/l$, where A and k are cons-
               tants depending on the quality of oil used and on the
               type of engine, has been observed between the degree of
               deterioration of the oil (Y) and the distance covered by
               the car (x) [TN: actually operating time]. Y can be
               determined from the concentration of degradation products
               in the oil; the latter represents the sum of the

Card 1/2

RUMANIA/Chemical Technology. Chemical Products
and Their Applications. Food Industry.   H

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 21267

Author   : Pitis, I., Patrasciolu, R.
Inst   : -
Title   : Investigation of the Quality of Water Used
            for Washing Wheats in the Flour Mill Industry
            and Its Purification.

Orig Pub : Lucrarile Inst. cercetari aliment., 1958,
            2, 157-160

Abstract : The possibility was established of repeated
            use of water in a closed cycle in large ca-
            pacity mills in regions where sources yield
            small supplies of water. The water is puri-
            fied by simple settling in a layer 1 m in

Card   : 1/2

H-137

PATRASCICIU, R.; PIFLE, I.

Studies on the quality of residual town waters in view of using them in agriculture. p. 36.

HIDROTEHNICA. (Asociatia Stiintifica a Inginerilor si Technicienilor din Romina) Bucuresti, Rumania Vol. 4, no. 2, Feb. 1959.

Monthly List of East European Accessions (EEAI) IC, Vol. 8, no. 7, July 1959

Uncl.

PATRASCU, Al., ing.; SAMSON, Fl.

        Automatic machines for the glazing of ceramic products.
        Industria usoara 3 no.11:468-472 N '56.

PATRASCU, Alexandru, ing.

Considerations on the production of household glassware in Rumania.
Industria usoara 10 no.3:105-108 Mr '53.

PATRASCU, Alexandru, ing.

Interesting aspects of an information visit to several glass factories in Czechoslovakia. Industria usoara 10 no.5: 202-207 My '63.

ISPASOIU, G., fiz.; PATRASCU, St., fiz.; ASAVINEI, I.

Reproduction and transmission of the temperature unit by
the PtRh-Pt thermocouple. Metrologia apl 11 no.12:635-
540 D '64.

PATRASESCU, M.

"The knowledge and application of cutting rotation, a basic factor in reforestation and the creation of a planned foresty economy." p. 10. (REVISTA PADURILOR, Vol. 68, no. 8, Aug. 1953, Bucuresti, Rumania)

SO: Monthly List of East European Accessions, L. C., Vol. 3, No. 4, April 1954, Uncl.

PATRASESCU, H.

"Technoeconomic aspects of the problem of the maximum utilization of forst land in th Olt Valley and silvicultural improvements in re ent years", p. 25, (REVISTA ...   , Vol. 67, no. 11, Nov. 1952, Bucuresti)

SO: Monthly List of East European Accession, Vol. 2, no. 8, Library of Con ross, August 1953, Uncl.

WASSERMAN, L.; GAVRILITA, L.; MARCULESCU, T.; CHIPAIL, A.; PATRASCANU, V.

Anatomico-clinical study of congenital human toxoplasmosis.
Stud. cercet. inframicrobiol., Bucur. 7 no.1-2:203-219 Jan-June
56.

(TOXOPLASMOSIS, in infant & child
        congen., in Rumanian inf., pathol. & diag)

PATRASCOIU ; PAVE

Determination of the useful life of lubricating oils.
Teodor Sāndulescu and Pavel Pātrāscoiu. *Petrol și-Gaze*
(Bucharest) 7, 183-95(1956)(German summary); cf. *C.A.*
49, 11002e — New correlations are presented which make
possible the prediction of the useful life of lubricating oil in
service under a variety of conditions.   Gary Gerard
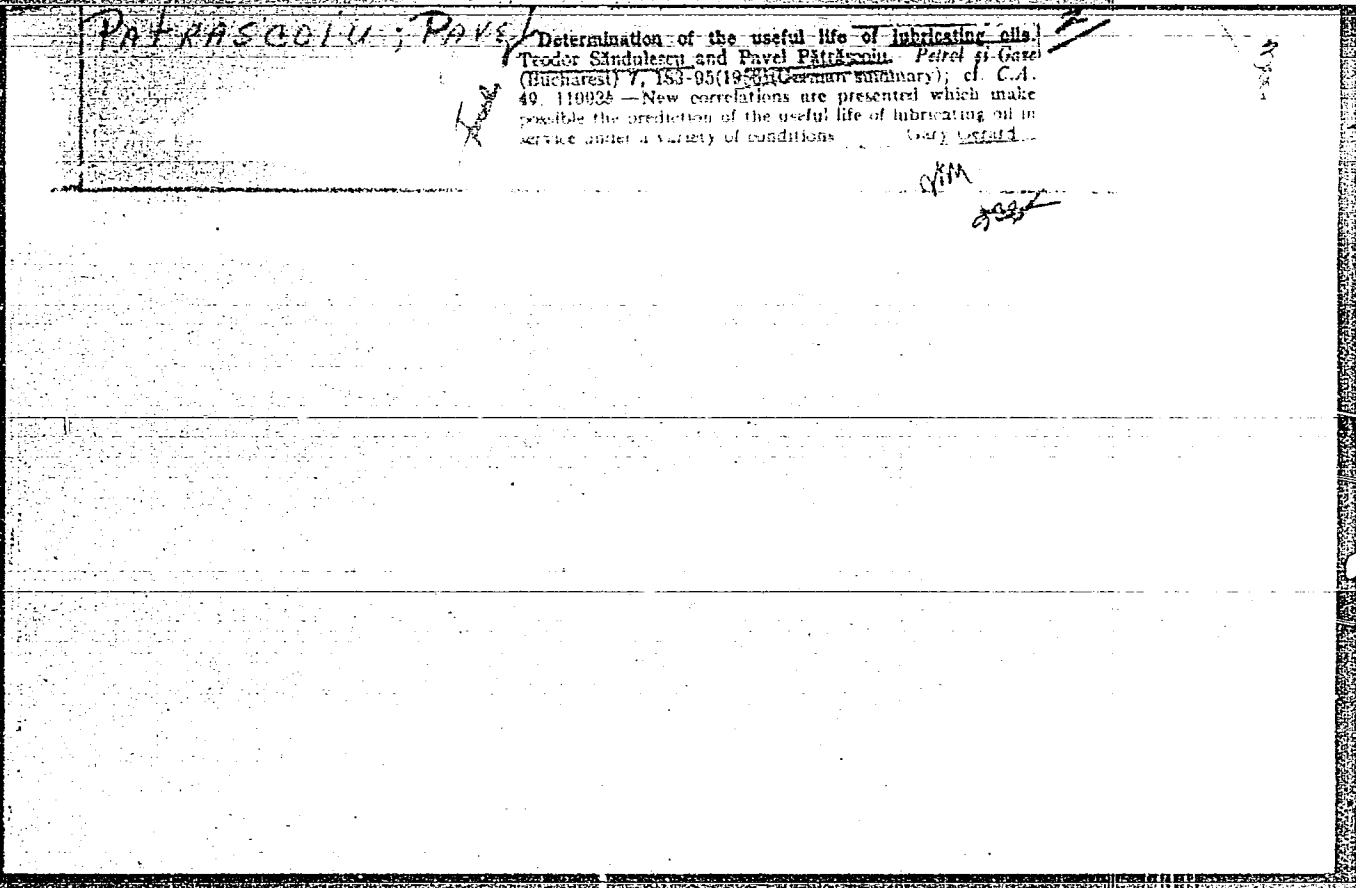
PATRASCOIU, P.

Determination of the useful life of lubricating oils. Th.
Simionescu and P. Patrascoiu. *Rev. Chim.* (Bucharest) 6,
97-101(1955). — Specifications for the prediction of the
useful life of lubricating oils under certain conditions are
presented, based on theoretical considerations and periodic
analysis of oil in service.   Gerard Anfleger

PATRASCU, M., ing.; NITA, S., ing.; CIOCULESCU, M., ing.; HERTA, I., tehn. lab.; MACOVEI, O., tehn. min.; HEINCZ, M., tehn. min.

Moist lateral drilling as an effective method of fighting the dust resulting from hole drilling. Rev min_13. no.6:254-257 Je '62.

1. Institutul de cercetari miniere, Petrosani.

PATRASCU, S

RUMANIA / Chemical Technology, Chemical Products and Their   H-17
            Application. Pharmaceuticals. Vitamins. Antibiotics.

Abs Jour   : Ref Zhur - Khimiya, No 5, 1959, No. 16501

Author   : Milstoc, M.; Patrascu, S.
Inst   : Not given
Title   : Corn Extract as a Raw Material in the Production of
              Antibiotics

Orig Pub   : Rev. chim., 1957, 8, No 1, 54-55

Abstract   : Corn extract derived in the manufacture of corn starch
              is an excellent culture medium for various fungi and is
              suitable for the manufacture of antibiotics. Quality of
              the extracts is dependent on the ratio of total nitrogen
              (I) to carbohydrates (II) and to lactic acid (III). With
              a high content of III and a low content of II, the
              decomposition of amines is facilitated and the decomposi-
              tion products are easily assimilated by the microorganisms.

Card 1/2
                                    H - 54

RUMANIA/Magnetism - Experimental Methods of Magnetism.   F

Abs Jour   : Ref Zhur Fizika, No 2, 1960, 3662

Author   : Atanasi.., G., Patrascu, St.

Inst   : University "C.I. Parhon", Bucharest, Rumania

Title   : Null Method of Investigating the Changes of the Magnetic
               Moment with Temperature

Orig Pub   : Studii si cercetari fiz., 1959, 10, No 1, 7-17

Abstract   : In Part 1 there is given a brief critical analysis of the
               preceding methods of investigating the variation of the
               magnetic moment of permanent magnets with temperature.
               It is indicated that certain methods are not sensitive
               enough, while others cannot be used in a municipal labo-
               ratory, usually located under the influence of strong
               parasitic fields. In Part II there is described a null
               method, devised by the authors for the measurement of

Card 1/2

- 44 -

the variation of the magnetic moment with temperature.
The advantage of this method is that it permits carry-
ing sufficiently accurate measurements in a laboratory
located in the center of the city. In particular, the
authors have investigated the temperature variation of
the moment of several magnets of the types used in
Chasselon theodolites, and found for the temperature
coefficient α, which enters into the formula $M_t = M_0$
$(1 - \alpha t)$, values from 1.75×10^{-4} to 4.08×10^{-4}.
The values obtained make it possible to carry out correc-
tly the temperature corrections, pertaining to the results
of the measurement of the horizontal component of the
earth's magnetic field, obtained in practice.

Card 2/2

Card 1/1

- 45 -

RUMANIA/Chemical Technology - Chemical Products and Their
              Applications - Drugs, Vitamins, Antibiotics.

Abs Jour   : Ref Zhur - Khimiya, No 11, 1958, 37201

Author   : Gherondache, C., Vasilescu, I., Milstoc, M., Voinescu, R., Patrascu,
               S., Birladeanu, R.

Title   : Penicillin V.

Orig Pub   : Rev. Chim., 1957, 8, No 5, 342-343

Abstract   : Biological and chemical stages of phenox methyl penicillin preparation
               are described. Special attention is given to the optimum conditions of
               of the fermentation process (nutrient medium etc.), extraction and pre-
               cipitation methods. Commercial verification of the method yielded a
               good quality product.
               Bibliography 15 references.

PETRASCU, M.

Contraction factor of nuclear emulsions as a function of the inclination and the depth of the tracks. M. Petrascu and C. Besliu (Fac. math. phys., Bucharest, Rumania) Rev. univ. "C.I. Parhon" Bucureşti, Ser. ştiinţ. nat. 4, No. 6-7, 149-52(1955).—Nuclear emulsions Agfa K2 of 300-μ thickness have been impregnated for 1 hr. with 1% $Th(NO_3)_4$. About 150 trajectories of Th C from Th were analyzed by using the graphical method of Vigneron (C.A. 44, 1814i). Straight lines were obtained the slope of which, tan α, permits calcn. of the contraction factor S, by the equation tan $\alpha = -1/S^2$. This method was applied to 2 regions of 0-50 and of 50-100-μ depth and 0-30 and 30-85° of inclination. The values for S thus found lie between 1.66 to 1.69 ± 0.05, which means that S does not change with depth or inclination of the trajectories.   W. J.

PETRASCU, M.

2-4E 3c
4E 3d

4

Determination of the mass and energy of ionizing particles by means of nuclear emulsions. II. M. Petrascu and L. Berlin. Rev. phys., Acad. rep. polpulaire Roumaine 2, 229-32(1957); cf. ibid. 55.—It had been suggested previously (loc. cit.) that the mass, m_x, of a particle with d. between x_1 and x_2 can be detd. by the no. of grains N_x on its track: $m_x/m_0 = N_x/N_0$, where m_0 and N_0 are the corresponding values of a known particle. The energy of the particle is obtained by the no. of residual grains from a calibration curve $E = f(N)$. Exptl. values of the distribution σ^2 of 6 groups of protons in the range of 1000 grains, detd. on Ilford G5 emulsion, were 0.002, whereas the calcd. value was 0.0009. The significance of this difference, estd. by statistical mechanics, showed that m_x in 95% of cases could be detd. by the suggested method within 7%.   I. Bencowitz

Patrassescu Mircea

Rumania/General Division. Conservation of Nature   A-5

Abs Jour   :   Ref Zhur-Biologiya, No 2, 1958, 4508

Author   :   Patrassescu Mircea
Inst   :
Title   :   A Chamois Reservation in the Olt River Valley
                (500 meters Above Sea Level)

Orig Pub   :   Rev. padurilor., 1955, 70, No 5, 358 - 361

Abstract   :   No abstract

Card 1/1

PATRASESCU, M.

Patrasescu, M.   -   .tation for black cnanmis in the Jlt Valley at an altit de
                    meters. ;.30%

SO: Monthly List of East European Accessions List (EEAL) LC, / 1 ., No. 11
     November 1955, Uncl.

PATRASESCU , E.

Patrasescu, E.   -   From the experience of transplanting young trees. p.241

SO: Monthly List of East European Accessions List (EEAL) LC, Vol 4, No. 11
     November 1955, Uncl.

Patrassescu, Mircea

Rumania/General Division. Conservation of Nature   A-5

Abs Jour   : Ref Zhur-Biologiya, No 2, 1958, 4508

Author   : Patrassescu Mircea
Inst   : ---
Title   : A Chamois Reservation in the Olt River Valley
              (500 meters Above Sea Level)

Orig Pub   : Rev. Padurilor., 1955, 70, No , 30 -371

Abstract   : No abstract

Card 1/1

Mar., Higher Naval Engineering Order of Lenin School
i/n F. E. Dzerzhinskiy (-1943-)

"Fundamentals . . . .
Air Through . . . . ter . . . . .
Compartment," . . . . ,
No. 11-12, 1943.

AM-12049 17

NUMEROV, S.N.; PATRASHEV, A.N.

Diffusion of soluble materials in hydraulic structures. Trudy Len.politekh. inst. no.4:165-169 '47.
(MLRA 6:8)
(Hydraulic engineering)

PATRASHEV, A. N.

Gidromekhanika /Hydromechanics7. Moskva, Voenmorizdat, 1953. 720 p.

SO: Monthly List of Russian Accessions, Vol 6 No 6 September 1953

MARKOV, Nikolay Mikhaylovich; DUAN,N.I., kandidat tekhnicheskikh nauk,
redaktor; GOFMAN,Ye.K., redaktor;PATRASHEV,A.N., professor,
doktor tekhnicheskikh nauk, retsenzent; SOKOLOVA,L.V., tekhniche-
skiy redaktor

[Computing the aerodynamic characteristics of blade sets in turbo-
machines] Raschet aerodinamicheskikh kharakteristik lopatochnogo
apparata turbomashin. Moskva, Gos.nauchno-tekhn. izd-vo mashino-
stroitel'noi lit-ry, 1955. 162 p.   (MLRA 9:2)
                        (Turbomachines)

14(9)

SOV/112-59-3-4673

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 3, p 54 (USSR)

AUTHOR: Patrashev, A. N.

TITLE: Methods for Selecting Grain-Size Composition for Backfilters
(Metodika podbora granulometricheskogo sostava obratnykh fil'trov)

PERIODICAL: Sb. tr. Leningr. gos. in-t proyektir. na rechn. transp. L.,
1957, pp 33-47

ABSTRACT: Bibliographic entry.

Card 1/1

PATRASHEV, A.N.

"Hydrodynamic forces in the unstabilized motion of highly elongated rotating bodies."

report presented at the 11th Annual Scientific Technical Conference on Ship Theory, organized by the Central Administration of the Scientific-Technical Society of the Shipbuilding Industry, 13-15 December 1960.

PATRASHEV, A. N.   (Leningrad)

    "Basic Laws of Fluid Seepage Through Deformable Soils."

report presented at the First All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 27 Jan - 3 Feb 1960.

MATVEYEV, Gavriil Alekseyevich; KAMNEV, Georgiy Fedorovich; MARKOV, Ni-
kolay Mikhaylovich; YELIZAROV, Vadim Sergeyevich; MOISEYEV, A.A.,
prof., doktor tekhn. nauk, retsenzent; PATRASHEV, A.N., zasl. deyatel'
nauki i tekhniki RSFSR, prof., doktor tekhn. nauk, retsenzent; SER-
DYUKOV, S.A., nauchnyy red.; VLASOVA, Z.V., red.; SHISHCHKOVA, L.M.,
tekhn. red.

[Aerodynamics of marine turbine blading] Aerodinamika protochnoi
chasti sudovykh turbin. By G.A.Matveyev i dr. Leningrad, Gos.
soiuznoe izd-vo sudostroit. promyshl. 1961. 362 p.   (MIRA 14:9)
                      (Marine turbines—Aerodynamics)

PATRASHEV, A.N. (Leningrad)

"On the mechanics of motion of high-speed fishes"

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

MARKOV, Nikolay Mikhaylovich; PATRASHEV, A.N., doktor tekhn. nauk, prof.,
zasl. deyatel' nauki i tekhniki RSFSR, retsenzent; MATVEYEV,
G.A., kand. tekhn.nauk, red.; SIMONOVSKIY, N.Z., red.izd-va;
SPERANSKAYA, O.V., tekhn. red.

[Theory and design of turbine stages] Teoriia i raschet tur-
binnykh stupenei. Moskva, Mashgiz, 1963. 154 p.
(MIRA 16:8)

(Steam turbines)

YAKOVLEV, Yuriy Sergeyevich; FOMIN, P.F., inzh.-vitse-admiral,
     retsenzent; CHUVIKOVSKIY, V.S., kand. tekhn. nauk, retsenzent;
     PATRASHEV, A.N., doktor tekhn. nauk, prof., zasl. deyatel'
     nauki i tekhniki RSFSR, nauchnyy red.; FOMICHEV, A.G., red.;
     KOROVENKO, Yu.N., tekhn. red.

[Hydrodynamics of explosions] Gidrodinamika vzryva. Leningrad,
Sudpromgiz, 1961. 312 p.   (MIRA 15:4)
    (Shock waves)   (Explosions)

L 29994-66

ACC NR: AP6020084   SOURCE CODE: BU/0017/65/020/004/0011/0016

AUTHOR: Viktorov, Iv. (Colonel of the medical service); Patrashkov, T. (Lieutenant colonel of the medical service); Metev, M. (Colonel of the medical service)

ORG: none

TITLE: Current therapy of acute renal insufficiency

SOURCE: Voenno-meditsinsko delo, v. 20, no. 4, 1965, 11-16

TOPIC TAGS: genitourinary system disease, therapeutics, vitamin, hormone

ABSTRACT: Review of preventive and therapeutic procedures in acute renal insufficiency: protein-free or -poor diets; caloric intake, vitamins, hormone support, electrolyte control; description of 3 case reports of young men in their twenties, the first recovered with conservative treatment, the other 2 had an unspecified type of extracorporeal dialysis and one died despite all efforts. [JPRS]

SUB CODE: 06 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 009
SOV REF: 003

Card 1/1

VIKTOROV, I., dotsent; PATRASHKOV, T.

    Biochemical changes in the blood and urine in cancer of the
    prostate. Urologiia 28 no.5:27-29 S-O'63   (MIRA 17:4)

    1. Iz urologicheskoy kliniki (nachal'nik - prof. G. Krystinov)
    na kafedre voyenno-polevoy khirurgii Vysshego voyenno-medi-
    tsinskogo instituta, Sofiya.

VIKTOROV, Iv., dots.; PATRASHKOV, T.

One-stage adenomectomy with blind suture of the bladder.
Khirurgiia (Sofiia) 17 no.1:45-50 '64

VIKTOROV, Iv.; PATRASHKOV, T.; TSOLOV, Ts.

Thromboembolic complications in urology. Khirurgija (Sofiia
18 no.3:334-341 '65.

1. Vissh veterinarno-meditsinski institut, Katedra po voennopolova
khirurgiia (nachalnik: prof. G. Krustinov).

VIKTOROV, Iv.; POLOV, TS.; PATRASHKOV, T.

Echinococcosis in a horseshoe kidney. Urologiia no.1:54-55'63.
(MIRA 16:7)

1. Iz Vysshego voyenno-meditsinskogo instituta, Sofiya.
(KIDNEYS —HYDATIDS)

VIKTOROV, Iv.; PATRASHKOV, T.

On the problem of treatment in pr static carcinoma. Khirurgiia
16 no.1:45-50 '63.

1. Vissh voennomeditsinski institut. Nachalnik: prof.
G. Krustinov.
            (PROSTATIC CARCINOMA)   (ESTROGENS)
                     (PROSTATECTOMY)

VIKTOROV, I., dotsent; PATRASHKOV, T.; TSOLOV, TS.; NAKOV, E.

Cytodiagnosis in tumors of the bladder. Urologiia no.6:
39-41 N-D '63.   (MIRA 17:9)

1. Iz urologicheskoy kliniki pri kafedre voyenno-polevoy
khirurgii (nachal'nik - prof. G. Krystanov) Vysshego voyenno-
meditsinskogo instituta v Sofii, Bolgariya.

BULGARIA

PATRASHKOV, I., Lieutenant-Colonel of the Medical Service; Chair of Military
Field Surgery (Head Col Prof Krustinov), Higher Military Medical Institute

"Experimental Study of Quantitative Changes in the Urea in Blood After an
Acute Hemorrhage"

Sofia, Voenno Meditsinsko Delo, Vol 22, No 1, Jan 67, pp 36-41

Abstract: Observations were carried out on dogs subjected to severe blood
letting which reduced the blood volume by 50%. Determinations of the urea
content in the blood during a period 4-96 hrs after the hemorrhage indicated
that the average urea content in the blood of the experimental animals after
the bloodletting was 50 mg % as compared with a normal level of 24 mg %.
Consideration of factors involved in the increase of the urea content led
to the conclusion that in the period up to 48 hrs after the blood letting
extrarenal factors, including disturbances of hemodynamics, a subnormal
blood volume, and increased protein catabolism, predominated, while in the
period following the first 48 hrs inadequate functioning of the kidneys due
primarily to damage sustained by the tubules played a principal role. Chart,
20 references (1 Bulgarian, 2 USSR, 17 Western). Russian and English
summaries. Manuscript received 20 Oct 66

1/1

MADZHARU, M.; YAKOB, A.; LAKATOSH, L.; DIAKU, D.; PATRASHKU, S.

Determination of bismuth in Rumanian drugs by means of EDTA titration.
Apt.delo 8 no.6:67-69 N-D '59.   (MIRA 13:4)

1. Iz Instituta po lintrolyu kachestva medikamentov Ministerstva
zdravookhraneniya Rumynskoy Narodnoy Respubliki, Bukharest.
                    (BISMUTH--ANALYSIS)

VIKTOROV, Iv.; MIRCHEV, M.; TSOLOV, TS.; PATRASHKOV, T.

      Combined wounds of the abdomen, pelvis and extremities.
      Khirurgiia 15 no.9/10:875-878 '62.

      1. Iz Visshiia voennomeditsinski institut.
          (ABDOMINAL INJURIES)   (PELVIS)
             (LEG INJURIES)

PATRASOV, V.I.; KOGAN, S.S., red.

[Safety measures in the manufacture of alkyd lacquers, natural
drying oils and siccatives] Tekhnika bezopasnosti v proizvod-
stve alkidnykh lakov, natural'nykh olif i sikkativov. Moskva,
Izd-vo "Khimiia," 1964. 21 p.   (MIRA 17:6)

PATRATIY, A. P. Cand Agr Sci-- (diss) "Effect of the feeding of cattle with corn in the form of *kernels* green mash, and *silage* upon the yield, *composition* of *milk*, and the quality of dairy products." Mos, 1959. 16 pp (All-Union Sci Res Inst of Animal Husbandry. Department of *Livestock* Raising. Lab of Dairy Farming), 150 copies (KL, 52-59, 123)

-101-

USSR / Farm Animals. Cattle.   Q

Abs Jour   : Ref Zhur - Biologiya, No 2, 1959, No. 7322

Author   : Patratiy, A. P.
Inst   : All-Union Scientific Research Institute of
              Animal Husbandry
Title   : The Effect of Feeding Cows with Corn (Ground
              Seeds, Green Mass) upon the Quantity of Milk
              and Cheese.

Orig Pub   : Byul. nauchno-tekhn. inform. Vses. n.-i. in-t
              zhivotnovodstva, 1957, /vyp./ aspirantskiy,
              11-14

Abstract   : As large quantities of corn (310 g of ground
              seeds per 1 liter of milk /yield/ and 15 kg
              of corn silage daily) were introduced during
              barn keeping and pasture periods (40 kg of

Card 1/2

L 14605-66   EWT(m)/T/EWP(j)   RM

ACC NR: AP6001505   (A)   SOURCE CODE: UR/0191/65/000/012/0063/0064

AUTHORS: Genel', S. V.; Patratiy, A. P.; Komar, S. Sh.; Chebotareva, N. I.

ORG: none

TITLE: Change of properties of polymeric films during accelerated aging

SOURCE: Plasticheskiye massy, no. 12, 1965, 63-64

TOPIC TAGS: packing material, polyethylene plastic, polyvinyl chloride, thermal aging, permeability measurement, tensile strength

ABSTRACT: Polyethylene films of low and high density, polyvinyl chloride, and cellophane polyethylene films, utilized as a preferred packing material, have been tested under conditions of long storage at variable temperatures and humidity. Experiments duplicated conditions of moist tropical climate and were conducted (in cycles) for 6 months. The test conditions were: temperature of +50C at relative humidity of 98% was maintained for 8 hours, then for 16 hours with the same humidity but at temperatures of 20 to 24C. The cycles were repeated 25 times within each month. One month was devoted to testing at -40C. Properties observed were: appearance, elasticity, steam permeability, water permeability, and tensile strength. It was determined that the tensile strength and elasticity of the films did not change to any significant extent. Steam permeability of polyethylene films increased by

Card 1/2   UDC: 678.01:027.5--539.389

L. 14605-66

ACC NR: AP6001505

a factor of 2.5, of polyvinylchloride film by a factor of 4, and of cellophane-polyethylene by 25%. Water permeability of most films dropped to 1/2, but did not change at all in some films. At low temperatures, the steam permeability increased slightly, while the water permeability generally decreased. Orig. art. has: 7 tables.

SUB CODE: 07/ SUBM DATE: none/ ORIG REF: 004

Card 2/2

USSR / Farm Animals.   Cattle   Q

Abs Jour   : Ref Zhur - Biologiya, No 2, 1959, No. 7322

Author   : Patratiy, A. P.
Inst   : All-Union Scientific Research Institute of
              Animal Husbandry
Title   : The Effect of Feeding Cows with Corn (Ground
              Seeds, Green Mass) upon the Quantity of Milk
              and Cheese.

Orig Pub   : Byul. nauchno-tekhn. inform. Vses. n.-i. in-t
              zhivotnovodstva, 1957, /vyp./ aspirantskiy,
              C1-14

Abstract   : As large quantities of corn (310 g of ground
              seeds per 1 liter of milk /yield/ and 15 kg
              of corn silage daily) were introduced during
              barn keeping and pasture periods (40 kg of

Card 1/2

PATRATIY, V.

A new manual on medical microbiology. Mikrobiol. zhur. 25 no.6:
59-60 '63   (MIRA 17:7)

RUBINSHTEYN, S.A.; PATRAT'YEV, A.G.

Selecting the hard alloy brand for turning high-alloyed steels. Sta...i
instr. 35 no.9:25-26 S '64.   (MIRA 17:10)

PATRAT'YEV, A.G.

Strength of diamond disks used in cutting semiconductor materials.
Stan. i instr. 36 no.9:35-36 S '65.   (MIRA 18:10)

OBODOVSKAYA, D.A.; PATRAT'YEVA, V.B.

Storage of apple, cherry, and whortleberry extracts at low temperatures.
Kons. i ov. prom. 14 no.9:13-14 S '59.   (MIRA 12:12)

1.TSentral'naya proizvodochno-naladochnaya laboratoriya pri Moskovskom
zavode No.2 pishchevykh kontsentratov.
                    (Fruit, Frozen)

ROMANIA

GHEORGHIU, P.; MANUCHIAN, M.; DEMETRESCU, Catalina; PATRAU, Emilia.

Pharmacology Laboratory, Institute of Medicine and Pharmacy,
   Bucharest (Laboratorul de farmacologie, I.M.F., Bucuresti)
   - (for all)

Bucharest, Farmacia, No 1, Jan 1964, pp 23-34

"Investigations Concerning the Antispastic Action of some New
   Derivatives of the Benzoylaminocinnamic and Cyclohexylidene-
   acetic Acid Series. Relationship Between Structure and
   Activity."

(4)

Patraulea, N.

Carafoli, E., et Patraulea, N. Mouvement dans un milieu poreux autour des surfaces perméables. Com. Acad. R. P. Romäne 2 (1952), 143-146. (Romanian, Russian and French summaries)

The authors study the movement of an incompressible fluid past a permeable plate according to the Darcy-hypothesis. The penetration conditions through the permeable surface are stated. The authors find that when the intensity of the vortex layer is developed in a Fourier series, an equation is arrived at which is virtually the same as that encountered in the linear theory of wings of finite span [cf. Carafoli, Théories des ailes monoplanes d'envergure finie. An. Acad. Romäne. Mem. Sect. Sti. (1945) (unavailable for review)]. By means of a simple transformation the authors determine the movement in the whole plane.   K. Bhagwandin (Oslo).

1 - F/W

PATRAULEA, N.

4
6
0
3

Carafoli, E., et Patraulea, N.   L'équation de la circulation autour d'une aile fuselage central. Com. Acad. R. P. Romàne 2 (1952), 249-255. (Romanian, Russian and French summaries).

The author assumes that the fuselage may be replaced by an infinite cylinder normal to the wing and parallel to the flow at infinity. Far behind the wing the perturbation of uniform flow is essentially plane flow about the fuselage induced by the trailing vortex system. By means of a conformal mapping in planes normal to the fuselage which carries a cross-section of the fuselage onto a slit, the author reduces the problem to that of determining the spanwise distribution of circulation about an image wing without a fuselage but with appropriately modified chord and twist. When this has been found by standard methods, the induced drag and the spanwise lift distribution can easily be computed for the original wing-fuselage combination.   J. Giese (Aberdeen, Md.).

J - F/W

Patraulca, N.

Caratoli, E. et Patraulea, N. Le théorème de la résistance minimum des systèmes portants complexes. Com. Acad. R. P. Romăne 2 (1952), 441–446. (Romanian. Russian and French summaries)

The authors wish to minimize the induced drag of a system of lifting lines with prescribed total lift L in a given direction D and prescribed rolling moment M about a given point O. For a system of wings the local component of induced velocity normal to the wings must arise from a superposition of translation at some velocity w parallel to D and rotation with some angular velocity ω about O. For a system composed of wings and infinite cylindrical fuselages they propose to solve their problem by superposing two flows obtained as follows. 1) Treat the fuselages as lifting surfaces and find the optimum flow with appropriate w and ω for the entire wing fuselage system.

2) For the fuselage system alone find the flow with induced velocity corresponding to $-w$ and $-\omega$. The reviewer is not convinced by the authors' argument that this superposition will minimize the induced drag.   J. Giese.

1 - F/W

Patraulea, N.

Patraulea, N. Une solution du type Oseen pour l'écoulement autour des surfaces perméables. Com. Acad. R. P. Romîne 2 (1952), 737–743. (Romanian. Russian and French summaries)

The author applies an Oseen-type approximation to the problem of the motion past permeable surfaces. Boundary conditions are stated, and the solution is expressed in terms of an unsolved integral equation. K. Bhagwandin.

1 - P/7

MS

3

1/

PATRAULEA, N.; LARISCH, E.

Theory of v ne contours with permeable flaps. p. 689.   COMUNICARILE.
Bucuresti.   Vol. 5, No. 4, April 1955.

SOURCE: East European Accessions List (EEAL) LC, Vol. 5, No. 2, Feb. 1956.

PATRAULEA, I.

An aerodynamic theory of parachutes. p. 637. ACADEMIA
REPUBLICH POPULARE ROMANE. Rumania. Vol. 5, No.5, May 1955

East European Accessions List (EEAL, Library of Congress
Vol. 5, No. 11, August 1956

PATRAULEA, N.; LARISCH, E.

The track movement around a permeable bearing plate.
p. 1109.
Academia Republicii Populare Romîne. COMUNICAILE.
Bucuresti.
Vol. 5, no. 7, July 1955.

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 5, No. 12, December 1956.

PATRAULEA, N.

    Motion around a "toropter" with a cylindrical fuselage. p. 1631.

Academia Republicii Populare Romine. COMUNICARILE. Bucuresti. Vol. 5,

no. 11, Nov. 1955.

So. East European Accessions List   Vol. 5, No. 9   September, 1956

PATRAULEA, N.; STANESCU, C.

Theory of subsonic movements with an almost rectilinear track. p. 259.

Academia Republicii Populare Romine. Institutul de Mecanica Aplicata.

STUDII SI CERCETARI DE MECANICA APLICATA. Bucuresti. Vol. ', no. 3/4,

July/Dec. 1955.

So. Fast European Accessions List   Vol. 5, No. 9   September, 1956

Patraulea, N.

Patraulea, N. Théorie des mouvements aux sillages presque-rectilignes. Acad. R. P. Romîne. Bul. Şti. Secţ. Şti. Mat. Fiz. 7 (1955), 139–148. (Romanian. Russian and French summaries)

The author deals with the problem of slightly perturbed movements of incompressible perfect fluids in the presence of several permeable, or opaque bodies. It is shown that, in certain cases, the velocity potential of the irrotational motion can be continued analytically to the exterior of the bodies. The expression for the pressure is determined by means of the Bernoulli formula, which is supposed to be valid for large perturbations, too. An application is made to the case of the flow around a helix.

K. Bhagwandin (Oslo).

1 - F/N

PATRAULEA

4

Teoria Mişcării Subsonice cu Dr̄ă Aproape Rectilinie. N. Patraulea and C. Stancean. *Stud. Cerc. Mec. Apli.,* July-Dec. 1955, pp. 250 204. In Rumanian. Study of the subsonic motion having a quasi-rectilinear wake around porous bodies of arbitrary shape, using the Ghizetti linearization theory.

2

Patraulea, N.N.

489. Patraulea, N. N., Supersonic flow around a triangular wing which is passing through a circular cone (in French), Acad. Rr.tub. pop. Rom. Rev. Mecan. appl. 1, 1, 57-81, 1956.

According to the author the problem considered is the steady supersonic flow around a triangular wing which is passing through a circular cone. What exactly this means physically it is difficult to determine. The standard Busemann technique is used and a complete solution seems to be given of some problem, although it is difficult to say what this problem is.

G. Temple, England

VMP

LFH

PATRAULEA, N. N.

1-FW

Patraulea, N. N. Le mouvement à symétrie axiale autour des ailes annulaires minces. Acad. R. P. Romîne. Bul. Şti. Sect. Şti. Mat. Fiz. 8 (1956), 115-119. (Romanian. Russian and French summaries)

The author develops a vortex\theory, similar to that of the motion around plane thin profiles\for the axial symmetrical flow\around a thin annular wing. The solution is expressed in the form of a singular integral equation. An approximate solution is presented. This solution is however not uniquely determined. — K. Bhagwandin.

Patroulea, N.N.

Book—157. Patroulea, N. N., Aerodynamics of permeable surfaces [Aerodinamica suprafetelor permeabile], Rumania, Editura Academiei Republicii Populare Romane, 1956, 173 pp. lei 7.35.

An account of Rumanian and some Russian investigations. Flow through permeable surface is characterized by change of velocity (refraction equation) and change of pressure (filtration equation) as functions of average velocity across surface. Flow outside surface is assumed inviscid and also incompressible except in one short section on subsonic flow. If outside flow is irrotational everywhere, D'Alembert's paradox occurs. If wake is filled with trailing vortices, then theory predicts drag.

Chapters I to V review theory of vortex motion; discuss equations of refraction and filtration experimentally and theoretically, and propose similarity principle for experiments; and develop linearized theory. Theory is simplified in case of cylindrical wake of vortices parallel to velocity at infinity. Velocity field

PATRAULA, N.N.

outside wake is gradient of velocity potential; inside, it is gradient plus induced velocity of vortices. Appropriate boundary-value problem is formulated for velocity potential. Chapters VI to IX discuss plane flow applications to wind breaks (belts of trees); parachutes; permeable lifting surfaces (impermeable airfoil with perforated flap or spoiler); and propulsive disk theory of propellers with infinitely many blades. Chapter X proposes an iterative method to extend calculation from cylindrical wakes to wakes of curved vortices. Chapter XI derives Navier-Stokes equations. Chapter XII develops Oseen theory of viscous flow about permeable surfaces and shows that asymptotic form for vanishing coefficient of viscosity is equivalent to previously introduced linearized theory for cylindrical wakes.

Book is a fairly good introduction to subject. Chief criticisms are: insufficient comparison with experiment; no references to anything but Rumanian and Russian work except for classical topics, such as propeller theory and viscous flow theory.

J. H. Giese, USA

PATRAULEA, N.

PATRAULEA, N. Axial symmetric motion around thin toroid wings. p. 115.

Vol. 8, no. 1. Jan./Mar. 1956.
BULETIN STIINTIFIC.
SCIENCE
RUMANIA

So: East European Accession, Vol. 6, No. 5, May 1957

PATRAULEA, N.

"Aerodynamic profiles with fluid flaps."

p. 451 (Buletin Stiintific. Sectia De Stiinte Matematice Si Fizjce)
Vol. 9, no. 2, 1957
Bucharest, Rumania

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

FATRAULEA, N.N.

Patraulea, N. N.   Profils aérodynamiques à volet fluide. Acad. R. P. Romine. Bul. Şti. Secţ. Şti. Mat. Fiz. 9 (1957), 451–455.   (Romanian.   Russian and French summaries)
   Patraulea derives an analytical method for calculating the aerodynamic profiles with the jet flap. The conditions at infinity are based on the physical aspects of the problem and are approximated so as to make the problem linear. The small perturbation process is applied and the problem is reduced to an integral linear equation. No numerical example is calculated.
                                    M. Z. v. Krzywoblocki (Urbana, Ill.)

PATRAULEA, N.; DIRTU ILCOU, I.

Jet profiles in a limited current.

P. 467 (CONSTRUCTII) (Bucuresti, Romania) Vol. 7, no. 7, Iuly 1955

SO: Monthly Index of East European Accessions (EEAI) LC Vol. 7, No. 1

PATRAULEA, N.

Determination of the deflection of the stream and of induced velocities on the rotor disk of the helicopter. p. 13.
(STUDII SI CERCETARI DE MECANICA APLICATA. Vol. 8, no. 1, Jan/Mar. 1957, Bucuresti, Rumania)

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

PATRULIA, ., AND THEO

Experimental research on blown aerodynamic profiles.

p. 319 (Academia Republicii Populare Romine. Institutul de Mecanica Aplicata.   Studii
Si Cercetari De Mecanica Aplicata. Vol. 8, no. 2, 1957. Bucuresti, Romania)

Monthly Index of East European Accessions (EEAI) . . . Vol. 7, no. 2,
February 1958

PATRAULEA, M.

Profile with Jet flap in the presence of some given singularities.

p. 313 (Academia Republicii Populare Romine. Institutul de Mecanica Aplicata.
Si Cercetari de Mecanica Aplicata. Vol. , no. 2, 1957. Bucuresti, Romania)

Monthly Index of East European Accessions (EEAI). Vol. 7, no. 2,
February 1958

On the Solution of Prandtl's General Problem

Petraulea, N. N. Sur la solution du problème de Prandtl généralisé. I. Acad. R. P. Romîne Stud. Cerc. Mec. Apl. 9 (1958), 525-536. (Romanian. Russian and French summaries)

"On entend par problème de Prandtl généralisé la détermination d'une fonction harmonique, ϕ, régulière à l'extérieur des frontières $D+D_1$ et à l'infini et satisfaisant sur D (la frontière D étant une portion d'une surface ouverte, dans le cas de la fonction ϕ de trois variables, et un arc de courbe, dans le cas de la fonction ϕ de deux variables) aux conditions $d\phi^+/dn=d\phi^-/dn$ et $\phi(P^+)-\phi(P^-)=F(P)+G(P)d\phi/dn$. Sur les frontières D, la dérivée normale doit prendre des valeurs données.

On cite des applications particulières du problème de Prandtl et l'on montre une analogie entre le problème du profil à jet de bord de fuite et le problème de l'aile d'envergure semi-infinie.

Le problème général est réduit à la solution d'une équation intégrale de Fredholm, sur le domaine D, seulement. On étudie les propriétés du noyau et on indique les méthodes de solution, numériques ou basées sur l'analogie électrique. Des cas concrets seront étudiés en détail dans le prochain numéro de cette publication."

Résumé de l'auteur

1.9000

80411

RUM/8-59-1-2/24

AUTHOR: Patraulea, N.N.

TITLE: Counteracting Tandem Propellers

PERIODICAL: Studii şi Cercetări de Mecanică Aplicată, 1959, Nr 1, pp 41 - 67 (RUM)

ABSTRACT: The author has been studying earlier some mechanical effects caused by
            the interaction of a vortex ring with a permeable surface located in its
            vicinity [Refs 1, 2, 3, 4]. In a previous work [Ref 4] he has indicated
            some methods of producing an annular vortex with the purpose to increase
            the quality coefficient of a propulsion system. In subject article he
            examines a new annular vortex producing unit, consisting of 2 kinematically
            connected tandem propellers. The front propeller is a tractive one and
            the rear propeller operates in a windmill state. The mechanical energy
            picked up by the rear propeller is transmitted to the front propeller by
            the kinematic connection, i.e. the common axle (Figure 1), which is the
            most simple solution In the space between the propellers the speeds will
            be higher than in the other sections of the space, a fact that proves the
            presence of a tubular vortex surface, leaned against the discs of both
            propellers (S_1 and S_2). The author first examines two ideal counteracting
            tandem propellers with an infinite number of blades, without considering

Card 1/12

85411

Counteracting Tandem Propellers   RUM/8-59-1-2/24

the friction and the flow rotation. The S_1 disc of the upflow propeller is considered an active permeable surface and the S_2 disc of the downflow propeller a passive permeable surface, [Ref 1]. These surfaces cause a constant pressure leap δp_1 and δp_2 of the flow, passing through the discs, where $\delta p_2 = - \delta p_1$. In these conditions free vortexes are produced only at the margins of the permeable surfaces, forming a tubular vortex Σ. Figure 2 schematically shows the flow around the permeable counteracting surfaces. The vortexes on the Σ surface comprised between S_1 and S_2 are free vortexes, however, they behave if they were bound to the Σ surface. The total energy is zero. If S_2 is of that nature that $|\delta p_2| < |\delta p_1|$, the vortex surface leaned against S_1, and S_2 extends to a downflow infinite. The Σ portion of the vortex will have a higher density than the portion behind S_2. To find the motion around a system of counteracting propellers considered as permeable surfaces, the theory of the motions with a nearly rectilinear strip [Ref 5] can be used. It is considered that the distance between the propellers is very great and there is no friction between the air and propeller blades, and between the flow in the strip and the external flow (Figure 3). V = flow speed at infinite downflow, γ_0 = average whirl density, γ_∞ = asymptotic whirl density behind S_2, v_1 = axial speeds in front of S_1, and v_2 = axial speeds in front of S_2. Thus:

Card 2/12

80411

Counteracting Tandem Propellers   RJM/8-59-1-2/24

$$v_1 = V + \frac{\gamma_o}{2} \quad ; \quad v_2 = V + \frac{\gamma_o + \gamma_\infty}{2} \; ,$$

$$v_\infty = V + \gamma_\infty \qquad (3.1)$$

Based on the theoreme of Bernoulli δp_1 and δp_2 are expressed by:

$$\delta p_1 = \frac{\rho}{2} [(V + \gamma_o)^2 - V^2] = \frac{\rho}{2} \gamma_o (\gamma_o + 2V) \qquad (3.2)$$

$$\delta p_2 = \frac{\rho}{2} \gamma_\infty (\gamma_\infty + 2V) - \frac{\rho}{2} \gamma_o (\gamma_o + 2V) \qquad (3.4)$$

The introduced power N will be:

$$N = \frac{\rho}{4} S_1 \gamma_\infty (\gamma_\infty + 2V)(\gamma_o + 2V) \qquad (3.5)$$

The total traction of the system is

$$T = \rho S_1 (V + \frac{\gamma_o}{2}) \; . \qquad (3.6)$$

and the section S_2 is:

$$S_2 = S_1 \frac{\gamma_o + 2V}{\gamma_o + \gamma_\infty + 2V} \qquad (3.8)$$

These relations are used for the determination of some coefficients of
the counteracting propeller system. Propulsion efficiency of an ideal
system: Starting with the definition of the efficiency $\eta = \frac{T \cdot V}{N}$ (4.1),

Card 3/12

80411

Counteracting Tandem Propellers

RUM/8-59-1-2/24

the author deduces the propulsion efficiency: $\eta = \dfrac{1}{1 + \dfrac{C_T}{2 + \mathit{T}_0}}$ (4.5)

by replacing T and N by their expressions and introducing the traction coefficient C_T. For usual traction propellers C_T has values that n > 0.75. The increase of η is theoretically small. The quality coefficient is expressed by:

$$C = \frac{T^{\frac{3}{2}}}{N\sqrt{2\rho S}} \qquad (5.1)$$

considering that $S = S_1$. If V is not zero, C becomes

$$C = \frac{\sqrt{\dfrac{2\,V_\infty}{\mathit{T}_\infty} + \dfrac{\mathit{T}_0}{\mathit{T}_\infty}}}{\dfrac{2\,V_0}{\mathit{T}_\infty} + 1} \qquad (5.2)$$

thus C increases with the ratio $\dfrac{\mathit{T}_0}{\mathit{T}_\infty}$. If V = 0, the quality coefficient is:

$$C = \sqrt{\frac{\mathit{T}_0}{\mathit{T}_\infty}} = \sqrt{\frac{1}{\mathit{T}_\infty}} \qquad (5.3).$$

Card 4/12   Wind tunnel coefficient: Considering the space between the propellers to

Counteracting Tandem Propellers

80411

RUM/8-59-1-2/24

be equal with the test chamber, the wind tunnel coefficient is given by:

$$C_s = \frac{-\frac{P}{2} \, S_1 \, (V + \frac{\tau_0}{2}) \, (V + \tau_0)}{N} \qquad (6.1).$$

Operating at a fixed point, the wind tunnel coefficient becomes:

$$C_{so} = \frac{\tau_0^2}{\tau_\infty^2} = \frac{\tau_1}{\tau_\infty^2} \qquad (6.3).$$

This coefficient increases with the square of the ratio $\frac{\tau_0}{\tau_\infty}$. The co-efficient of the aeolian power: The theoretical advantages of the counter-acting propellers appear also when used as aeolian propellers. The operation coefficient of an aeolian system is: $C_e = \frac{-N}{N_\omega}$ (7.1). The author deduces the equation:

$$C_e = -\frac{1}{2} \, \tau_\infty \, (2 + \tau_\infty) \, (2 + \overline{\tau}_0 + \overline{\tau}_\infty) \, (\overline{\tau}_\infty < 0) \qquad (7.4)$$

after having established N (7.2), the energy output at infinite downflow through a section equal to S_2, and N (7.3). The tubular surface Σ was considered in the preceding equations to be unlimited. Considering Σ to be limited, the induced speeds can be computed on the base of the theory in [Ref 1]. The author then poses the problem of the following linear

Card 5/12

Counteracting Tandem Propellers

90411

RUM/8-59-1-2/24

theory: By knowing S_o, v_o and v_∞ , the flow has to be determined. For the mathematical solution he accomplishes the representation conform with the flow field (S_o, S_∞) at the internal side of the unitary circle of the auxiliary complex plan $\zeta = \zeta + i \eta$ (Figure 6). It is considered that $f = \varphi + i \psi$ the complex potential of the motion and $W = df/dz$, the complex speed in the complex plane $z = x + iy$. Starting with the auxilliary function $\omega (\zeta) = i \ln \dfrac{w (\zeta)}{v}$ (9.6) which first replaces the function $w (\zeta)$, the author deduces the function:

$$\frac{dz}{ds} = \frac{2 S_o}{\pi (\zeta^2 + 1)} \cdot \frac{1}{\sqrt{\dfrac{v_\infty}{v_o}}} \cdot \exp. \left\{ \frac{1}{\pi} \ln \frac{v_\infty}{v_o} \cdot \arg \frac{\zeta + 1}{\zeta - 1} \cdot \exp. \right.$$

$$\left. \left\{ \frac{-1}{\pi} \ln \frac{v_\infty}{v_o} \cdot \ln \left| \frac{\zeta + 1}{\zeta - 1} \right| \right\} \right\} ,$$

(9.16).

The posed hypotheses led to the acceptance of a certain singular behavior of the complex speed in the vicinity of the extremities of the S_2 segment. These singularities can be avoided supposing that there is no permeable surface S_2 and that the power imposed by S_2 is disposed in a volume limited by 2 surfaces S'_2 and S''_2 (Figure 7). The power function U can be determined by the raltion of Bernoulli and is:

Card 6/12

$$\underline{U} = \frac{v^2}{2} - \frac{v_o^2}{2}$$

(9.21).

Counteracting Tandem Propellers

80411

RUM/8-59-1-2/24

U is known on the whole contour of the S_2', S'' field and it is easy to determine such a function in the respective field. Based on these calculations it can be said that the operation coefficients of the counteracting propeller system can be unlimitedly improved if the friction is being neglected. The author then evaluates the influence of the friction. The friction losses are in connection with the unitary coefficient of the blade profile resistance δ and with the necessary solidity for the production of the pressure leap. The author establishes the expressions of the power output E_{10} and E_{20}, the introduced total power N and the total traction T. The mentioned f_1 and f_2 are the nondimensional friction coefficients. By using the stablished formulae, he calculates in the following paragraphs the expressions of the operation coefficients while considering the friction. The propulsion efficiency is expressed by:

$$\eta = 2v \frac{\gamma_o(1-f_1) - \frac{1+f_2}{\gamma_o + \gamma_\infty + 2v}[\gamma_o(\gamma_o + 2v) - \gamma_\infty(\gamma_\infty + 2v)]}{\gamma_o(\gamma_o + 2v)\left(\frac{1}{\eta_1} - \mu_o \eta_2\right) + \gamma_\infty(\gamma_\infty + 2v)} \quad (11.3)$$

Card 7/12   and with nondimensional parameters: