GAVRILESCU,S., dr.; STREIANU, C., dr.; STANCIU,L., dr.; DEUTSCH,G., dr.;
      CRISTODORESCU, R., dr.

Dye dilution curve, a method of hemodynamic exploration. I.
Med. intern. 16 no.3:339-347   Mr'64

Dye dilution curve, a method of hemodynamic exploration. II.
Ibid: 349-354

1. Lucrare efectuata in Clinica I medicala, I.M.Timisoara
(director: prof. H. Aubert).

STREIBEL, Vilma, dr.; LANYI, Miklos, dr.

Experience with the agar fixation reaction in patients with pulmonary diseases. Tuberkulozis 14 no.8:250-251 Ag '61.

1. A Budapesti Orvostudomanyi Egyetem Tudogyogyaszati Klinikajanak (igazgato: Prof. dr. Kovats Ferenc, egyetemi tanar, az orvostudomanyok doktora) kozlemenye.

(LUNG NEOPLASMS diag)   (LUNG DISEASES diag)

STREIBEL, V.

Current status of bacteriological research in tuberculosis.
Tuberkulozis 17 no.4:125-126 Ap. '64.

LANYI, Miklos, dr.; STREIBEL, Vilma, dr.

Clinical contribution on expiration dyspnea in aged patients. Tuberku-
lozis 14 no.12:353-357 D '61.

1. A Budapesti Orvostudomanyi Egyetem Tudogyogyaszati Klinikajanak
(igazgato: Kovats Ferenc dr. egyet. tanar, az orvostudomanyok doktora)
kozlemenye.

(DYSPNEA in old age)

investigation of chromic acid with a class of the metal.
... ...11. 10 n .3:103-... ... '64.

CZECHOSLOVAKIA / Microbiology.   General Microbiology.   F
                  Growth and Development of the Microbe
                  Population.

Abs Jour   : Ref Zhur - Biologiya, No 5, 1959, No. 19408

Author   : Faerber, G.; Vondrova, O.; Streiblova, E.
Inst   : Not given
Title   : Concerning Morphological and Biochemical
              Peculiarities in the Formation of Zones in
              Microbe Macrocolonies

Orig Pub   : Sbor. Narodn. musea Praze, 1957, B13, No 1-2,
              24-52

Abstract   : The study of macrocolonies of various species
              of bacteria in different solid media of
              various agar concentrations indicates that
              clearly defined zones in them are often
              developed in 24 hours. The zones are

Card 1/3

CZECHOSLOVAKIA / Microbiology. General Microbiology.
Growth and Development of the Microbe
Population.

F

Abs Jour   : Ref Zhur - Biologiya, No 5, 1959, No. 19408

particularly clearly established in 48-72
hours of cultivation in media with an agar
concentration of 2.5%. The ability to form
especially sharp zones is established by one
strain of Pseudomonas "cychro", which in all
these media formed macrocolonies in 24 hours;
in these macrocolonies, 3 clearly circum-
scribed zones stood out in 48-72 hours. Sharp
differences in biochemical activity in the
subcultures obtained from various zones of the
colonies of the Pseudomonas "cychro",
developed; particularly, the greatest activity
of fermentation in various hydrocarbons is
displayed by the culture originating in the

Card 2/3

5

CZECHOSLOVAKIA / Microbiology.   General Microbiology.
Growth and Development of the Microbe   F
Population.

Abs Jour   : Ref Zhur - Biologiya, No 5, 1959, No. 19408

zone designated "Vicin", which formed at the
edge of the colony in the form of a rising
shaft. These differences in biochemical
activity in the cultures, developed in various
parts of the colony, proved to be fixed
hereditarily. On the basis of the results
obtained, the authors worked out a method
of a "two-phase" selection of the strains
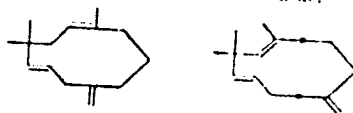having industrial value. -- G. P. Kalina

Card 3/3

Milan; KONECNY, Karel

Simple apparatus for preparative gas chromatography.
Chem listy 58 no.1: My '64.

Institute of Organic Chemistry and Biochemistry, Czecho-
slovak Academy of Sciences, Prague.

10

CA

The structure of humulene   F. Šorm, M. Streibl, J. Pliva, and V. Herout (Central Chem. Inst., Prague, Czech.). *Chem. Listy* **45**, 308-9(1951).—On the basis of hydrogenation, ozonization, mol. refraction (mol. depression −0.6 for D line), and optical inactivity, 2 formulas having 11-membered rings are suggested for humulene:

M. Hudlický

STREIBL, M.

Behind the window of laboratory

/Beránek, J., Smrt, J., and Streibl, M.: Za okny labora-
toře. Prague: Mladá Fronta. 1953. 212 pp. 17.50.
Kčs. Reviewed in *Chem. Listy* 48, 791(1954).|

SORM, F.; HOLUB, M.; SYKORA, V.; MLEZIVA, J.; STREIBL, M.; PLIVA, J.;
        SCHNEIDER, B.; HEROUT, V.

On terpenes. Part 46. Sesquiterpenic hydrocarbons from oil of sweet
flag [in English with summary in Russian]. Sbor.Chekh.khim.rab. 18
no.4:512-526 Ag '53.   (MLRA 7:6)

1. Department of Natural Products, Institute of Organic Chemistry,
Czechoslovak Academy of Science, Prague.   (Sesquiterpenes)
                                           (Calamene)

CZECH

Terpenes. LVIII. Total syntheses of 1,1,4,8-tetramethyl-cycloundecane (humulane). Proof of the eleven-membered ring in humulene. František Sorm, Milan Streibl, Václav Jarolim, Ladislav Novotny, Ladislav Dolejš and Vlastimil Herout (Ustav Org. Chemie, CSAV, Prague, Czech.). *Chem. Listy* 48, 573–85(1954); *Collection Czechoslov. Chem. Communs.* 19, 570–80(1954)(in English); cf. *C.A.* 48, 12703h.—1,1,4,8-Tetramethylcycloundecane (I) was synthesized by 2 different ways; a 3rd possible way was abandoned as unsuitable at the stage of $HO_2CCHMe(CH_2)_3CMe_2(CH_2)_3CHMeCO_2H$ (II). The identity of I was proved by d., n, and infrared spectra. $EtO_2CCH_2CMe_2CH_2CH_2CO_2Et$ (1.2 g.) in 10 ml. Et_2O was dropped into 30 ml. Et_2O contg. 1 g. $LiAlH_4$, and the mixt. refluxed 1 hr., decompd. with H_2SO_4, and extd. with Et_2O to give 0.75 g. (88%) $HO(CH_2)_2CMe_2(CH_2)_2OH$ (III), b_{11} 150°. III (15 g.) satd. with HBr at 95–135° gave 21.8 g. (83%) $Br(CH_2)_2CMe_2(CH_2)_2Br$ (IV), b_{11} 124–5°. The Na salt of $MeCH(CO_2Et)_2$ (V) prepd. from 7 g. V with 0.92 g. Na dust in 30 ml. PhMe, treated in an autoclave 5 hrs. at 170° with 5.6 g. IV, gave 5 g. (07%) of the product of condensation of IV with 1 mole of V, $b_{0.4}$ 133–40°, and 1.5 g. (10%) $(EtO_2C)_2CMe(CH_2)_2CMe_2(CH_2)_2CMe(CO_2Et)_2$ (VI), $b_{0.1}$ 170°. Hydrolysis of VI with KOH in MeOH gave 67% $(HO_2C)_2CMe(CH_2)_2CMe_2(CH_2)_2CMe(CO_2H)_2$, m. 160–5° (decompn.). Decarboxylation of the acid at 170–80°/20 mm. yielded 74% glassy II, $b_{0.0}$ 160–4°; di-Me ester (with CH_2N_2 in 83% yield), $b_{0.1}$ 115°. $Me_2C(CH_2CO_2Et)_2$ (74 g.) in 100 ml. Et_2O added in 30 min. to 13 g. $LiAlH_4$ in 600 ml. Et_2O, the mixt. refluxed 30 min., decompd. with wet Et_2O, H_2O, and HCl, and repeatedly extd. with 4 l. Et_2O gave 35 g. (80%) $Me_2C(CH_2CH_2OH)_2$ (VII), b_{11} 146°; VII was transformed to 83% $Me_2C(CH_2CH_2Br)_2$

STREIBL, M.

CZECHOSLOVAKIA/Organic Chemistry. Naturally Occurring Substances
and Their Synthetic Analogs.   G-3

Abs Jour: Referat Zhur-Khimiya, No 4, 1958, 11420.

Author : Jarolim, V., Streibl, M., Dolejs, L., and Sorm, F.
Inst   : Not given.
Title : On Terpenes. LXXV. Cis- and Trans-homocaryophyllenic
         Acid. LXXVI. Synthesis of 4,8,11,11-tetramethylricyclo-
         (0,2,7)-undecance (Caryophyllene).

Orig Pub: Sbornik Chekhoslov Khim Rabot, 22, No 4, 1266-1276;
          1277-1282 (1957) (in English with a summary in Russian)

Abstract: See RzhKhim, 1957, 44661, 44662.

Card   : 1/1

2

JAROLIM, V.; STREIBL, M.; HEJNO, K.; SORM, F.

Composition of lignite. I. Some substances present in montan wax.
II. Additional substances present in montan wax. Coll Cz chem 26
no.2:459-465 F '61.   (EEAI 10:9)

1. Institut fur organische Chemie und Biochemie, Tschechoslowakische
Akademie der Wissenschaften, Prag.

(Lignite) (Montan wax)

2

CZECHOSLOVAKIA

WOLLRAB, V; STREIBL, M; SORM, F.

Institute of Organic Chemistry and Biochemistry,
     Czechoslovak Academy of Science, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communi-
     cations, No 5, 1963, pp 1316-1324

"On the Composition of Lignite IV. On the Group
     Separation of the Wax Portion of Montan Wax with
     the Help of Chromatography."

CZECHOSLOVAKIA

WOLLRAB, V; STREIBL, M; SORM, F.

Institute of Organic Chemistry and Biochemistry of the
Czechoslovak Academy of Sciences, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 7, 1963, pp 1904-1912

"On the Composition of Coal VI. Analysis of Wax Components
of Montan Wax by High Temperature-Gas-Distribution
Chromatography."

WOLLRAB, V.; STREIBL, M.; SORM, F.

On the composition of lignite. Pt. 4. Coll Cz Chem 28 no. 5: 1316-1325 My '63.

1. Institit fur organische Chemie und Biochemie, Tschechoslo-wakische Akademie der Wissenschaften, Prag.

WOLLRAB, V.; STREIBL, M.; SORM, F.

On composition of lignite. Pts. 5-6. Coll Cz Chem 28 no.7: 1895-1913 Jl '63.

1. Institut fur organische Chemie und Biochemie, Tschechoslowakische Akademie der Wissenschaften, Prag.

Chemical composition of carboxylation m   ne. Pt. 1. Chem prum
14 no.12:638-633   D   '64

1. Institute of Organic Chemistry and Biochemistry of the Czechoslovak
Academy of Sciences, Prague.

STREIBL, M.; JAROLIMEK, P.; WOLLRAB, V.

Syntheses of some higher saturated and unsaturated hydrocarbons.
Coll Cz Chem 29 no.10:2522-2527 O '64.

1. Institut fur organische chemie und Biochemie, Tschechoslowakische
Akademie der Wissenschaften, Prague.

JAROLIMEK, P.; WOLLRAB, V.; STREIBL, M.

Gas chromatography of some higher saturated and unsaturated
hydrocarbons. Coll Cz Chem 29 no.10:2528-2530 O '64.

1. Institut fur organische Chemie und Biochemie, Tschechoslowakische
Akademie der Wissenschaften, Prague.

KONECNY, Karol; STREIBL, Milan

Modifying the dosing device in the gas chromatograph chrom-1.
Chem listy 58 no.9:1102-1105 S '64.

1. Institute of Organic Chemistry and Biochemistry, Czechoslovak
Academy of Sciences, Prague.

STREIBL, M.; JAROLIMEK, P.; WOLLRAB, V.

Boiling point values of some higher paraffins. Chem Cz
Chem 29 no.11:2855-2859 N '64.

1. Institut fur organische Chemie und Biochemie,
Tschechoslowakische Akademie der Wissenschaften, Prague.

STREIBL, Milan

Chemical composition of carbonisation gasoline. Pt.2. Chem prum 15 no.1:15-18 Ja '65.

1. Institute of Organic Chemistry and Biochemistry of the Czechoslovak Academy of Sciences, Prague.

JARCLIMEK, P.; WOLLRAB, V.; STREIBL, M.; SORM, F.

Composition of brown coal. Pt.10. Coll Cz Chem 30 no.3:880-886
Mr '65.

1. Institut fur organische Chemie und Biochemie, Tschechoslowakishe
Akademie der Wissenschaften, Prague. Submitted June 29, 1964.

2. Advisory Board Chairman, "Collection of Czechoslovak Chemical
Communications" (for Sorm).

WOLGRAD, V.. SPREIER, A.;

Reguliertes nerves System und Austausch-
..... by .....

1. Institut für ..... Chemie und ...chemie, Tschechoslowakische
Akademie der ..... Prague. Submitted September 2, 1962.
2. Avicenny ..... in Prague. Collection of documents war chemical
..... in ....

CZECHOSLOVAKIA

STRANSKY, K; STREIBL, M; SORM, F

Institute of Organic Chemistry and Biochemistry, Czechoslovak Academy of Sciences, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 12, December 1966, pp 4694-4702

"On natural waxes. Part 6: On a new type of released paraffins of beeswax (Apis mellifera)."

HUNGARY

LANYI, Miklos, Dr, STREIBEL, Vilma, Dr; Medical University of Budapest,
Pulmonary Clinic (director: MISKOVITS, Gusztav, Dr) (Budapesti Orvostudomanyi
Egyetem, Tudogyogyaszati Klinika).

"Current Differential Diagnostic Views in Hemoptoe."

Abstract: [Authors' Hungarian summary] Based on the data of 2 years of
patient material hospitalized at the clinic for hemoptoe, the diseases are
enumerated which must be considered in a case of hemoptoe. The large majority
of the patients do not have active tb. Among the tumor patients, hemoptoe
was not an early symptom. In the presence of hemoptoe of unknown etiology,
the possibility of viral or parasitic diseases of the lung as well as of
disturbances in blood coagulation must be considered more often than is
currently done. Hemoptoe is a symptom of severe disease in most of the
cases. These patients must be sent without delay to the pulmonary ward
for examination or treatment. 8 Eastern European, 39 Western references.

1/1

STREIBLOVA, Eva

On the question of taxonomy of Endomycopsis javanensis (Klöcker)
Dekker. Folia microbiol. 8 no.3:170-175 '63.

1. Department of Technical Microbiology, Institute of Microbiology,
Czechoslovak Academy of Sciences, Prague 6.
        (CLASSIFICATION)   (SACCHAROMYCES)

STREIBLOVA, Eva ;   BERAN, K.

Types of Multiplication Scars in Yeasts, Demonstrated by Fluorescence
Microscopy. Folia microbiol. 8 no. 4:221-7 Jl. '63

1.Department of Technical Microbiology, Institute of Microbiology,
  Czechoslovak Academy of Sciences, Prague 6
    (YEASTS) (SACCHAROMYCES) (MICROSCOPY, FLUORESCENCE)

LIEBLOVA, Jitka; BERAN, K.; STREIBLOVA, Eva

Fractionation of a population of Saccharomyces cerevisiae yeasts
by centrifugation in a Dextran gradient. Folia microbiol. (Praha)
9 no.4:205-213   15 Je'64

1. Department of Technical Microbiology, Institute of Micro-
biology, Czechoslovak Academy of Sciences, Prague 6.

HUML, K., SLADEČKOVÁ, Eva, JIRMANN, V.

"Ultrastructure of the surface of multiple scars in Saccharomycodes ludwigii. Folia microbiol. (Praha) 9 no.6:358-360 N '64.

1. Department of Technical Microbiology and Laboratory of Electron Microscopy, Institute of Microbiology, Czechoslovak Academy of Sciences, Prague.

STREICH, ELZBIETA

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Foods

Characteristic of Silesian cottage cheeses. Elzbieta
Streich (Oddzial Badania Zywnosci i Przedmiotow Uzycu
Tili PZH, Katowice, Poland). Roczniki Panstwowego
Zakladu Hig. 3, 119-26(1952).—A new method was de-
veloped for detg. the acidity of cottage cheese, as an indi-
cation of its quality, and the values obtained were com-
pared with the organoleptic properties of the samples and
their water content: 5 g. of cheese (weighed on a semiana-
lytical balance to the nearest 0.1 g.) is crushed with 10 ml.
of distd. water at room temp. in a porcelain mortar of 8-10
cm. diam. The water is taken from a 50-ml. graduated
cylinder, the remaining 40 ml. is used to wash the cheese
plus water mixt. into a 300-ml. Erlenmeyer flask and to
rinse the mortar 3-4 times. The sample is left alone for
15-20 min. with frequent shaking, then 2 ml. of 2% neutral
alc. phenolphthalein soln. is added to it and a titration
follows with 0.1N NaOH till a light pink color is obtained.
The result is multiplied by 2. Every sample was tasted by
5 different persons, and the water content was detd. by
drying a crushed mixt. of cheese with dried sand (Krause).
Conclusions: (1) the simplest method of acidity detn. is the
titration of the total acidity with the above method, ex-
pressing the result in percentage of lactic acid; (2) the total
acidity of the cottage cheese should not be <8 degrees and
Lot >16 degrees to assure the proper taste; (3) the accept-
able acidity, expressed in percentage of lactic acid, for an
edible cheese should range 0.72-1.37% and not 2-2.5% as
given in the literature or 1.8% as assumed by the old em-
pirical standards; a cheese destined for a further processing
can contain 3.15-4.05% of acidity; (4) the water content
should not exceed 68% (rapid deterioration), but should
not be lower than 60% (bad taste, difficulty in utilization).
                                    Henry W. Lawende

STREICH   ELZBIETA

P O L .

The methodical evaluation of deteriorating margarine. Hipolit Schoeueich and Elzbieta Streich (Sanitary-Epidemiol. Sta., Stalinogrod, Poland). Roczniki Panstwego Zakladu Hig. 5, 227-34(1954)(English summary).—Good correlations were obtained between organoleptic evaluation of margarine samples and the detn. of titratable acidity (I), the Lea no. (II), and the reducing no. (III). Fresh margarine showed 0.6-1 I, 1.2-6 II, and 0.6-1.5 III. Margarine which had a tendency to deteriorate and which showed a rancid odor and a slightly soapy flavor gave 0.6-1.2 I, 5-7.5 II, and 1.5-3 III. Margarine which had deteriorated and which had a soapy, rancid odor and a pungent, bitter flavor showed 0.8-1.6 I, 7.5-18 II, and 3-8 III. The reducing no. gives the quantity of volatile substances from decompd. fats obtained from 5 g. margarine which in 2 hrs. at 60° reduces a soln. of acid chromium sulfate of about 0.25% concn. It is expressed in ml. of 0.005N Na thiosulfate.   A. S. S.

KURUC, F.; STREICHER, T.; KRAJCOVIC, S.

Mercurialentis. Cesk. oftal. 20 no.5:382-385 S '64.

1. Ocne oddelenie v Bojniciach (veduci MUDr. F. Kuruc) a
Zavodna poliklinika CHCWP v Novakoch (veduci MUDr. J. Hudec).

STREICHOWNA, E.

Detection of traces of zinc in milk. Elżbieta Streichówna (P.Z.H., Katowice, Poland). *Roczniki Panstwowego Zakladu Hig.* 1, 205–13, French summary, 214(1950).—The detns. were made by using alc. soln. of resorcinol (Jones and Jones, *Canning Practice and Control*, 1937, p. 92 (C.A. 31, 4408⁰), and 10⁻⁸ g. Zn/l. milk could be detected. The content varied depending on the length of time that milk has been stored in a Zn-coated can. Presence of Fe and exposure to air accelerated the soln. The first traces of Zn can be observed after 3–4 hrs.' storage. I. Z. R.

STREICHSBIER, Stanislav

Development of end milling cutters with a shank. Stroj vyr
12 no.9:618-623 S '64.

1. Zavody presneho strojirenstvi National Enterprise,
Gottwaldov.

STREIL, CHRISTA

/[Quantitative analysis of] hard and cutting metals.
Christa Streil. Chem. Tech. (Berlin) 9, 672-5(1957).—
A brief description of each detn. is given: sp. gr., total C,
graphite, W, Cr, Fe, Co, Ni, and V.   Oscar T. Quimby

GAVRILESCU,St., dr., candidat in stiinte medicale; ATHANASESCU,I., dr., candidat in stiinte medicale; STREIANU,C. dr ; COREANU, Gabriela,dr.; STANCIU,I., dr.

Aortic valvulography during prolonged diastole, an experimental method of study of aortic regurgitation. Med. intern. (Bucur.) 16 no.4:435-439 Ap'64.

1.Laboratorul de explorari functionale al Clinicii I medicala, Timisoara (director: prof. H.Aubert) si Serviciul de radiologie al Spitalului clinic orazenecs nr.1, Timisoara.

STREIPA, I.

Content of chlorine, bromine, and iodine in Latvian plants and soils.
Vestis Latv ak no.11:103-106 '59.   (EEAI 9:11)
(Latvia--Plants)   (Latvia--Soils)
(Chlorine)   (Bromine)   (Iodine)

, .

. . .

STREIPA, P. ; KALNINS, A.

Perfecting the methods of resin and tar distillation in the Minsk and analogous-type retorts. p. 65.

BIOLOGICHESKAIA NAUKA; SELSKOMU L L SKOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademija. Biologijas Zinatnu nodala) Riga, Latvia, No. 16, 1958. In Russian.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

Streiss, N. A.

1947

USSR/Geology
    Mineral Deposits - Bauxite

"On Marine Paleozoic Bauxites of the Urals," A. V. Peive and N. A. Streiss, 11 pp

"Izv Akad Nauk USSR Ser Geol" No 2

Bauxite of the Krasnaya-shapochka type and general locations in the Urals

FA 17105

BUDUESCU, M., ing. tehnolog; ABRAMOVICI, J., ing. tehnolog; HAIM, E., ing. tehnolog; STREIT, E., ing. mecanic; IONESCU, I., arh.

Complex planning and designing helping a systematic introduction of new technics in the rubber industry. Industria usoara 3 no.10:416-420 O '56.

Streit, J.

Mechanized filling of joints in the reconstruction of old tunnels.
p. 135. INZENYRSKE STAVBY. (Ministerstvo stavebnictvi) Praha.
Vol. 4, no. 3, Mar. 1956.

Source: EEAL   LC   Vol. 5, No. 10   Oct. 1956

STRNAD, J.

Thin shell structures made without casing by means of rendering on trelliswork.

p. 303 (Inzenyrske Stavby, Vol. 5, no. ?, Aug. 1957, Praha, Czechoslovakia

SO: MONTHLY INDEX OF EAST EUROPEAN ACCESSIONS (EEAI) LC, VOL. 7, NO. 1, JAN. 1958

STREIT, Jiri

Pouziti malty Aerocem Specielni zpusob a nanaseni vysoce provzdusnene malty.
(Use of the Aerocem Mortar; a Special Method and Use of a Highly Air-Trained
Mortar. illus.) Prague, Dopravni nakl., 1957. 87 p.

Ae ocem is an air-trained mortar having a series of valuable properties. Its
manufacture is a British patent. The manual contains an analysis of its properties,
instructions for its manufacture and application in underground injections injections
of the soil and slopes, the reconstruction of old masonry, mechanical making of
joined masonry, the cement-gun process, making of plasters, shell constructions, etc.

Bibliograficky katalog, CSR, Ceske knihy, No. 35. 8 Oct 57. p. 756.

STREIT, JIRI

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: /not given/

Affiliation: /not given/

Source: Prague, Sbornik Ceskoslovenske Spolecnosti Zemepisne, Vol 66, No 4, 61, pp 379-380.

Data: Wonders of the Old Prague (Divy stare Prahy). Prague, Mlada Fronta Publishing House, 1960. 344 pages. 2d ed.

Author: STREIT, Jiri
Reviewer: POKORNY, Ota

GPO 981643

STREIT Jiri, ins dr.

Construction of the Prague-South railroad yard. Zel dop
tech 12 no.12:319-321 '64.

STREIZAND, Joachim, doktor na filosofskite nauki

Institutes and establishments of social sciences at the German
Academy of Sciences in Berlin. Spisanie BAN 5 no.3:86-91 '60.
(EEAI 10:5)

(Academy of Sciences, Berlin)
(Germany, Eastern--Social sciences)

STREJA, M. (Bukharest), STOIANOVICI, St. (Bukharest)

Echinococcus of the kidneys from "Chirurgia" [Bucharest], 1957, No.5, pp.728-734). Urologiia 23 no.3:83-86 My-Je '58 (MIRA 11:6)
(KIDNEYS--HYDATIDS)

OLANESCU, G.; DUMITRESCU, D.; STREJA, M.; IAMANDI, C.

Contribution to the solution of the problems of cystosphincterometry.
Probl. ter. 10 no.1:47-56 '59.

(BLADDER physiol)
(UROLOGY equipment & supplies)

OLANESCU, G.; DUMITRESCU, D.; STREJA, M.; IAMANDI, C.

Contribution to the solution of the problems of cysto-sphincterometry.
Probl. ter., Bucur. 10 no.1:48-56 1959.
          (BLADDER
                  sphincterometry, appar. method & problems)

CIUCA, M., academician; POPOVICI, Marcela; NESTORESCU, N.; STREJAN, G.
VALERIU, A.; WEINBACH, R.

Ecological relationships between bacteriophages (double-stage
symbiotic and lytic) and Lyso-sensitive bacteria of the
Enterobacteriaceae family; conditions favoring the transfer of
lysogenesis between heterologous strains and species. Stud.
cercet. inframicrobiol., Bucur. 6 no.3-4:341-373 July-Dec. 1955.
        (BACTERIOPHAGE
           transfer of lysogenesis from E. coli to Salmonella typhosa
           in combined cultures)
        (ESCHERICHIA COLI
           (same)
        (SALMONELLA
           (same)

STREJC, U.

STREIC, U

Purpose of regulation and

Strejc, V.: Návrhy regulaci v chemii a jiných oborech.
Prague: SNTL. 1953. 440 pp. 49 Kčs. Reviewed in
Chem. Listy 48, 1102(1954).

STILJC, V.

Regulation by single methods.   p. 52 (Mechanisace. Praha. Vol. 2, no. 2/3, Feb./Mar. 1953)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 6, June 1955, Uncl.

Strejc, V.

What we expect from the measuring and regulating technique. p. 187.

Vol. 5, no. 5, May 1955.
CHEMICKY PRUMYSL

SO: Monthly List of East European Accession, (EEAL), LC, Vol. 4, No. 9,
Sept.1955, Uncl.

STREJC, V.

Control circuits with equal time constants. In German. p. 356. (ACTA
TECHNICA, Vol. 2, No. 4, 1957, Praha, Czechoslovakia)

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

STRELEC, V.

Approximation of aperiodic transient characteristics.

P. 565.   (SLAPOPROUDY OBZOR.) (Praha, Czechoslovakia) Vol. 18, No. 6, Aug. 1957

SO: Monthly Index of East European Accession (EEAI) LC. Vol. 7, No. 5, 1958

PHASE I B OK EXPLOITATION   CZECH/3715

Straka, Vladimír, Engineer; Milan Balda, Doctor, Engineer; and Miloslav
   Kašpar, Candidate of Technical Sciences, Engineer

Regulace v průmyslové aplikaci (Industrial Use of Automatic Control) Praha,
   SNTL naklad. technické lit-ry, 1958. 174 p. 2,200 copies printed.

Tech. Ed.: Marie Králová; Resp. Ed.: Vladimir Spačil, Engineer.

PURPOSE: This book is intended for general technical workers engaged in
   the operation and design of automatic control systems in chemical,
   food processing, and related industries.

COVERAGE: The book deals with examples of application of control and regu-
   lation installations in production units of the chemical industry. The
   first part of the book presents practical information, useful general rules,
   and simple discussions about control circuits, indispensable elements
   for the solution of automation problems in industrial production. The
   rest of the book presents the solution of several examples from many
   years of practical experience in designing and building industrial
   installations for automatic control and regulation. In the conclusion,
   fundamental observations on the economics of automation are summarized,

Card 1/2

STREJC, V.

TECHNOLOGY

Periodical   AUTOMATISACE.   No. 11, Nov. 1958.

STREJC, V.   Controllers with interaction and possibilities of their use.   p. 377.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 3, March, 1959.   Uncl.

10.   · A NEW METHOD OF APPROXIMATING THE DIFFEREN-
TIAL EQUATIONS OF CONTROL SYSTEMS WITH AN ARBITRARY
INPUT SIGNAL. V. Streic.
Slaboproudý Obzor, Vol. 19, No. 7, 440-5 (1958). In Czech.

The problem consists of determining approximately the differen-
tial equation of a control system, if its transient response to a given
input function is known. It is assumed that the system is linear and
can be described by a n-th order differential equation. The coeffici-
ents of the equation can then be found by successive integrations of
the input and output functions, but this method becomes very inaccu-
rate if it is necessary to determine more than three coefficients.
However, even three coefficients are sufficient, since they permit
the determination of the order and of a multiple time constant for
the required equation. The method is verified by means of two ex-
amples and it is found to be adequate for differential equations up to
the third order.   R.S.Sidorowicz
                                                              621-52

STRE JA, V.

621.316.7

136.   THEORY OF LINEAR REGULATION V.Strejc.
Elektrotech. Obzor, Vol. 47, No. 7, 339-46 (1958). In Czech.
    Reviews basic theory and discusses most important methods
for the determination of the properties of linear regulating circuits.
TA Describes briefly authors' approximation methods for simple and
// accurate determination of the characteristics.   N.Klein

S/194/62/000/008/030/100
D201/D308

AUTHOR: Strejc, Vladimir

TITLE: Results of investigations into the optimum control
              processes

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika,
              no. 8, 1962, abstract 8-2-145 u (Souhrn praci o auto-
              mat., 1959, Prague, 1961, 59 - 76 [Czech.; summary in
              Eng.])

TEXT: The author determines dynamic properties of automatic control
systems with given input and output signals and having a monotonic
response to a stepped input. The optimum control process for such
systems is analyzed. The selection of parameters for the optimum
system of the nth order with equal time constants is carried out
with the aid of a system of the second order with different time
constants, which approximates the former system. The most suitable
method of analysis of optimum control processes was found to be the
"optimum modulus" method. This method was checked on a system of
the tenth order containing a delay element, also on a system with
Card 1/2

Results of investigations into ...   S/194/62/000/008/030/100
                                       D201/D308

zero position error and a delay element. [Abstracter's note: Comple-
te translation.]

Card 2/2

PHASE I BOOK EXPLOITATION   SOV/4938

Strejc, Vladimír, Engineer, Milan Balda, Engineer, Docent, and Miloslav Krampera, Candidate of Technical Sciences, Engineer

Primeneniye avtomaticheskogo regulirovaniya v promyshlennosti (Industrial Application of Automatic Control) Translated from the Czech by B. K. Barbarov. Moscow, Gostoptekhnizdat, 1960. 228 p. 7,200 copies printed.

Ed.: G. M. Ulanov, Doctor of Technical Sciences; Exec. Ed.: A. A. Gor'kova; Tech. Ed.: I. G. Fedotova.

PURPOSE: This book is intended for workers, foremen, and technical personnel in industry.

COVERAGE: The book describes the present state and the prospects for further development of automation in the chemical, fuel, and raw-materials industries. The information contained in the book is based on the experience of Czechoslovakia and other countries in automation systems. A series of general problems and methods of automation of some industrial processes are presented. Basic technical requirements are systematically reviewed, and layout diagrams for industrial automation, methods of measuring

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Industrial Application (Cont.)   SOV/4938

signals, and information used in industrial-control systems are studied.
Simplified evaluations of the technical and economic efficiency of auto-
mation and the design elements of automatic-control systems are given.
The present state-of-the-art in automation in Czechoslovakia is discussed
in the preface to the translation. No personalities are mentioned. There
are 151 references: 103 Soviet, 21 Czech, 17 English, 9 German, and 1
French.

TABLE OF CONTENTS:

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Industrial Application (Cont.)   SOV/4938

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Industrial Application (Cont.)   SOV/4938

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AVAILABLE: Library of Congress (TJ213.S747)

Card 5/5   JP/dfk/os
                                                    4/10/61

PHASE I   BOOK EXPLOITATION   SOV/4387

Strejc, Vladimír, Engineer, Miroslav Šalamon, Doctor, Engineer, Zdeněk Kotek, Engineer, Candidate of Technical Sciences, and Milan Balda, Docent, Engineer, Candidate of Technical Sciences

Osnovy teorii avtomaticheskogo regulirovaniya (Basic Theories In Automatic Regulation) Moscow, Gostoptekhizdat, 1960. 332 p. 5,200 copies printed. Translated from the Czech.

Translator: G. M. Gol'denberg, Engineer; Ed.: M. P. Simoyu; Executive Ed.: A. A. Gor'kova; Tech. Ed.: A. V. Trofimov.

PURPOSE: This book is intended for technical personnel engaged in the automatic regulation of industrial processes.

COVERAGE: The book presents the fundamentals of the theory of automatic regulation of linear and nonlinear systems, and of intermittent types of regulation. Numerous methods of analyzing regulation systems with regard to the stability of regulation processes and the determination of the optimum adjusting of

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Basic Theories In (Cont.)   SOV/4387

regulators are reviewed. No personalities are mentioned. References ac-
company most sections of the volume. An additional list of references con-
tains 39 titles, 16 Soviet, 9 Czech, 8 English and 6 German.

TABLE OF CONTENTS:

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29563
S/024/61/000/005/003/009
E140/E135

/6.8000 (1013, 1031, 1132)

AUTHORS: Strejc, V., and Ruzicka, J.   (Prague)

TITLE: The theory of autonomy and invariance in multiparameter digital systems

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Energetika i avtomatika, no.5, 1960, 51-71

TEXT: Autonomous automatic control systems with mutually coupled multiple parameters are those in which variation of a single control quantity affects only the corresponding controlled parameters while the remaining parameters are unaffected. However, noise appearing in any particular branch of the systems affects all of them. In invariant systems noise does not affect the controlled parameters. An ideal system is therefore one in which the conditions of autonomy and invariance are satisfied simultaneously. This has been previously studied for continuous systems, but the authors are unaware of publications on the theory of multiparameter digital controls. This is the subject of the present study.

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The theory of autonomy and invariance...E140/E135

The authors employ the method of analogy between the matrix
equation of a multiparameter system with the equation of a single
parameter system. The following results are obtained. In
multiparameter digital control systems the form of the control
transfer function permitting a finite number of control steps is
found. The requirement for a finite number of control steps
coincides with the requirement of autonomy. The autonomy
condition can be fulfilled only with $\epsilon = 0$, where ϵ is
defined in Fig.1. After a finite number of steps the autonomy
condition can also be satisfied for $\epsilon \neq 0$ for certain
constraints on the transfer function. The treatment of
invariance is similar to the treatment of autonomy. It is found
that the invariance condition can be satisfied only if $\epsilon = 0$.
The requirement of a finite number of control steps cannot be
satisfied in the presence of noise in the time intervals $\epsilon = 0$.
In order for an invariant system to be stable it is necessary
that the numerator and the denominator of the determinants of
the system matrix be Hurwitz polynomials. A detailed solution
of a numerical example is presented. It is shown that the
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The theory of autonomy and ....

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transient behaviour of multiparameter systems can be improved by
the same means as in single parameter systems.
There are 7 figures, 3 tables and 17 references: 12 Soviet-bloc
and 5 non-Soviet-bloc. The four most recent English language
references read:
Ref.9: D.J. Povejsil, A.M. Fuchs. A Method for the Preliminary
       Synthesis of a Complex Multiple-Loop Control System.
       A.I.E.E. Appl. and Industry, 1955, No.19, p.129.
Ref.10: R.J. Kavanagh. The Application of Matrix Methods to
       Multi-Variable Control Systems.
       J. Franklin Institute, 1956, v.262, pp.349-367.
Ref.11: R.J. Kavanagh. Noninteracting Controls in Linear
       Multivariable Systems.
       A.I.E.E. Appl. and Industry, 1957, v.76, pp.95-100.
Ref.12: H. Freeman. A Synthesis Method for Multipole Control
       Systems.
       A.I.E.E. Appl. and Industry, 1957, v.76, pp.28-31.

SUBMITTED: April 25, 1961

Card 3/

STREJC, Vladimir, C.Sc., Engineer

The general theory of autonomity and invariance of linear systems of control. Acta techn. Cz 5 no.3:235-258 '60.   (EEAI 9:10)

1. Institute for Information Theory and Automation, Czechoslovak Akademy of Sciences, Praha.
       (Automatic control)

31318
S/569/61/001/000/003/019
D274/D304

AUTHOR: Strejc, V., Engineer, Candidate of Technical Sciences
(Czechoslovakia)

TITLE: Tabulation of optimum control processes and results
obtained so far

SOURCE: International Federation of Automatic Control. 1st
Congress, Moscow, 1960. Teoriya nepreryvnykh sistem.
Spetsial'nyye matematicheskiye problemy. Moscow,
Izd-vo AN SSSR, 1961. Trudy, v. 1, 123-139

TEXT: In systems which involve heat processes, fluid- and gas mechanics,
as well as in chemical industries, the dynamic properties of the controlled
object (process) are determined by the transient characteristic and not by
the frequency characteristic. As the transient characteristic cannot be
readily determined, effective methods had to be developed. Thus, the
Institute for Information Theory and Automation of the Czechoslovak Academy
of Sciences developed approximate methods for determining the transient

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Tabulation of optimum...

characteristics and of the general curves of input- and output signals of
linear systems. The approximate methods involve second-order systems with
different time constants and n-th order systems with similar time con-
stants; such methods satisfy all the requirements and make it possible to
take into account transportation lag. In order to determine the parameters
of the optimum control process for objects whose dynamic characteristics
were already adequately approximated, a corresponding method had to be
selected. The method of "optimum modulus" was found to be the most conveni-
ent. This method was used for single-loop systems with approximating
equations up to the tenth order and transportation lag, with all standard
types of continuous controllers. The obtained results are listed in a
table ready for use by engineers. The systems considered have usually a
monotonic transient characteristic. If the system has no parallel loops
and feedbacks, its transfer function is

$$F_v (p) = \frac{1}{S_0 (1 + pT_v)} \quad , \qquad (1)$$

The dynamic properties of such a system are described by linear equations

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Tabulation of optimum

with constant coefficients:

$$\sum_{\nu=0}^{n} s_{\nu} \varphi^{(\nu)}(t) = \mu(t) \quad , \tag{2}$$

where $\mu(t)$ is the input variable, $\varphi(t)$—the output variable, s_{ν} — constant coefficients, n—the order of the equation. The corresponding transient characteristic is expressed by

$$\varphi(t) = \frac{\mu_0}{s_0} \left(1 + \sum_{j=1}^{n} C_j e^{-\frac{1}{T_j}} \right) \quad , \tag{3}$$

where μ_0 is the step change of input variable, T_j are time constants, and C_j —integration constants which can be expressed by

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Tabulation of optimum. .

$$
C_\nu = \frac{(-1)^n T_\nu^{n-1}}{\prod\limits_{\substack{i=1 \\ i \ne \nu}}^{n} (T_i - T_\nu)} \qquad 0 \qquad (4)
$$

From Eqs. (3) and (4), it is evident that the form of the transient charac-
teristic is determined by the larger time constants of the same order.
Hence, the dynamic characteristics should be approximated either by sys-
tems with n similar time constants or (if n ≤ 2) by second-order systems
with different time constants. Both methods were tested (at the Institute
for Information Theory) and found satisfactory. The method of determining
the approximating functions is very simple and has been described in detail
in literature. If the system has parallel loops and feedbacks, it is
necessary to determine the dynamic characteristics of the various elements
to which the above approximation method is applicable. Taking into con-
sideration that very often it is impossible to experimentally determine

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Tabulation of optimum...

the transient characteristic, it is convenient to evaluate the general curves of the input- and output signals. If the above approximations apply, then it is enough to determine the constants s_0, s_1 and s_2 of Eq. (2); hence, T_1 and T_2 can be found (or n and T). If the general input- and output signals can be successively integrated (for systems not higher than second order), then s_0, s_1 and s_2 can be found from

$$\sum_{i=1}^{2} s_i a_{ij} = b_j \ (j = 1, 2, 3, \ldots) \ . \qquad (6)$$

With the notation

$$\int_{t_1}^{t_2} \int_{t_1}^{t_2} \cdots \int_{t_1}^{t_2} \xi(t) dt^j = S_j(\xi) \ ,$$

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where t_1 and t_2 are the initial- and final moment of the general input and output signal (t), one obtains

$$a_{0j} = S(\varphi)_j \quad ;$$

$$a_{1j} = \varphi(t_2) \frac{(t_2 - t_1)^{j-1}}{(j-1)!} - \underset{j-1}{S}(\varphi) \quad ;$$

$$a_{2j} = \varphi'(t_2) - \varphi'(t_1) \quad ; \qquad (7)$$

$$a_{2j} = \varphi'(t_2) \frac{(t_2 - t_1)^{j-1}}{(j-1)!} - \varphi(t_2) \frac{(t_2 - t_1)^{j-2}}{(j-2)!} + \underset{j-2}{S}(\varphi) \quad ;$$

$$b_j = S_j(\mu) \quad .$$

The method is also applicable to systems with non-monotonic transient characteristics. Assuming the dynamic properties of control systems with

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a monotonic transient characteristic to have been mathematically formu-
lated, the optimum processes for such systems can be calculated and tabu-
lated. For this purpose, the method (criterion) of "optimum modulus,"
originally proposed by R. C. Oldenburg and H. Sartorius was adopted. The
"optimum modulus" conditions were extended by J. Maršik to certain types
of transcendental equations. This method can be applied (in its generalized
formulation) to all types of linear networks and also to networks with
transportation lag. If, however, the control time is such that the con-
trolled variable is less than $\pm 4\%$ of the value of the change in input
variable, then the "optimum modulus" criterion no longer yields satisfac-
tory results; in such a case, the square integral criterion has to be
used. The two criteria are complementary. Graphs show the properties of
the two criteria. Further, the influence of a change in the point of
application of the input variable is considered and of the influence of
various forms of input signals. It was found that for practical purposes
it is sufficient to tabulate the values of the chosen constants for the
most inconvenient case; this restricts considerably the number of tabulated
variables. The above simplifications make it feasible to use computer]

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Tabulation of optimum...

for tabulating optimum processes. Thereby, all the necessary variables
can be plotted--in the case of a simple control system with continuous
controller, for example--on ten diagrams only. Further, one of these
diagrams is shown. In the case of complex control systems, it is more
convenient to numerically solve the problem for each particular case
separately. There are 7 figures, 4 tables and 12 references: 5 Soviet-
bloc and 7 non-Soviet-bloc. The references to the English-language
publications read as follows: J. G. Ziegler, N. B. Nichols, Optimum
settings for automatic controllers, Trans. ASME, 64, 1942, 759-768; K. L.
Chien, J. A. Hrones, J. B. Reswick, On the automatic control of generalized
passive systems, Trans. ASME, 74, 1952, 175-185; P. Hazenbroeck, B. L.
van der Waerden, Theoretical considerations on the optimum adjustment of
regulators, Trans. ASME, 72, 1950, 309-315; The optimum adjustment of
regulators, Trans. ASME, 72, 1950, 317-322; R. C. Oldenburg, H. Sartorius,
A uniform approach to the optimum adjustment of control loops, (collection:
Frequency Response, The Macmillan Co., New York, 1956).

ASSOCIATION: Institute for Information Theory and Automation of the
                Czechoslovak Academy of Sciences, Prague

Card 8/8

41460

S/044/62/000/009/057/069
A060/A000

AUTHOR: Strejc, Vladimír

TITLE: Evaluation of general signals with non-zero initial conditions

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 41, abstract 9V217 ("Acta techn." (ČSSR), 1961, vo. 6, no. 4, 378 - 391; English; Russian summary)

TEXT: The problem is considered of determining the coefficients of the linear differential equation of an object with constant coefficients if its input function $u(t)$ and the output function $\varphi(t)$ are known, under the condition that the order of the equation is known. If the differential equation is integrated between the limits t_1 and t_2, one obtains a linear algebraic equation with respect to the coefficients of the original equation with coefficients' being functions of

$$t_1, \ t_2, \ \varphi^{(v)}(t_1), \ \varphi^{(v)}(t_2), \ \int_{t_1}^{t_2} \varphi(t) \, dt, \ \mu^v(t_1), \ \mu^v(t_2), \ \int_{t_1}^{t_2} \mu(t) \, dt \ .$$

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Evaluation of general signals with ....

Under two-fold integration [first between the limits (t_1, t_2), and then (t_1, t_2)] one obtains one more algebraic equation, and so on. As a result it is possible to obtain as many equations as there are unknown coefficients. A sufficiently precise solution is obtained only in the case that the values of μ (t), φ (t) and their derivatives at the points t_1 and t_2 are known with sufficient precision. The author eliminates this difficulty by multiplying μ (t) and φ (t) by the function σ (t) in such a manner that the functions $\bar{\mu}$ (t) = μ (t) σ (t) and $\bar{\varphi}$ (t) = φ (t) σ (t) themselves and a sufficient number of their derivatives vanish at the points t_1 and t_2. In that case one manages to obtain algebraic equations which do not depend upon the initial and final values of μ (t) and φ (t).

E.M. Braverman

[Abstracter's note: Complete translation]

Card 2/2

STREJC, V., inz., C.Sc.

Ensuring the control reliability in complex automation
by means of digital automatic computers. Automatizace
5 no.5:123-128 My '62.

1. Ustav teorie informace a automatizace, Ceskoslovenska
akademie ved.

G/033/62/000/007/001/009
I029/I229

AUTHORS: Strejc,V., Dipl.-Ing., Candidate of Sciences and
              Růžička,J., Dipl.-Ing.

TITLE: Optimal control of multiple-parameter control systems
              with digital computers

PERIODICAL: Zeitschrift für Messen, Steuern, Regeln, no.7, 1962,
              289-293

TEXT: In the near future digital computer techniques will be widely
used to control complicated processes.
The synthesis of multiple-parameter control systems with continuous
control line and discontinuous automatic regulators, using digital
computer techniques, is discussed and formulated for the case of
optimal command with regard to a finite number of steps and dis-
turbance-feed-forward. An illustrative example is worked out.
There are 6 figures.

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G/033/62/000/007/001/009
I029/I229

Optimal control of multiple-parameter...

ASSOCIATION: Československá Akademie VĚD, Ústav teorie informace
a automatisace (Institute of Information Theory and
Automation, The Czechoslovak Academy of Sciences),
Prague

Card 2/2

S/271/63/000/003/015/049
A060/A126

AUTHOR: Strejc, V.

TITLE: Optimizing multi-parameter processes with the aid of digital computers

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 3, 1963, 59, abstract 3A337 (Automatizace, 1962, v. 5, no. 7, 182 - 185; Czech.)

TEXT: For optimal control the computer should carry out the computations; satisfying the equation $\sum_{i=0}^{n} \frac{d\eta}{dy_{if}} = 0$, where $y_{ij} = y_{01}, \ldots, y_{0m}, \ldots, y_{ml}$, $\ldots, y_{nm}$ are the input signals of the control system; η is the characteristic function of the optimizer and dependent upon the input and the output signals. It is assumed that this dependence is determinate and has an extremum. In certain cases a better optimality criterion is the extremum of the integral of η (t), or the extremum of the mean values of the function η (t). In that

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Optimizing multi-parameter processes with the S/271/63/000/003/015/049
                                                       A060/A126

case the solution is carried out by the use of the Wiener-Hopf integral equation.
There are 4 figures and 1 reference.

                                                            Ye. G.

[Abstracter's note: Complete translation]

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ACCESSION NR: AT4040382

AUTHOR: Strejc, Vladimir (Streyts, Vladimir)   Z/2503/63/000/009/0169/0181

TITLE: Theory of the synthesis of a multi-parameter system containing a digital computer and exposed to the action of random signals

SOURCE: Ceskoslovenska akademie ved. Vyzkumny ustav matematickych stroju. Stroja na zpracovani informaci, no. 9, 1963, 169-181

TOPIC TAGS: system synthesis, control system, multiparameter control system, digital computer, random signal

ABSTRACT: The article gives the derivation of a general theory for synthesizing a multiparameter control system including a digital computer and acted upon by random signals. The theory stems from the least mean square deviations in the sense of Wiener. This theory, which is known in the field of continuous filters with one parameter, is extended to hybrid multiparameter control systems. It is shown that satisfying the conditions for solving the Wiener-Hopf integral equation is not sufficient to ensure stability of a control system with digital correcting elements. The author proposes supplementing

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ACCESSION NR: AT4040382

these conditions with stability conditions stemming from the determinative theory of the synthesis of hybrid control systems. The solution based on the least mean square value of the deviations in the sense of Wiener can be accepted as one of the performance criteria which can be applied in the general theory of determinative synthesis. The relation between invariance conditions and the conditions of the least mean square of deviations is shown. Orig. art. has: 4 figures.

ASSOCIATION: Institute for Information Theory and Automation, Czechoslovak Academy of Sciences

SUBMITTED: 03Aug62   DATE ACQ: 18Jun64   ENCL: 00

SUB CODE: DP, CP   NO REF SOV: 001   OTHER: 002

Card 2/2

STRUJC, Vladimir

The deterministic optimization of multiparameter control loops by a
digital computer according to the mean value of the characteristic
variable. Stroj na zprac inf 10:141-151   '64.

1. Institute of Information Theory and Automation, Czechoslovak
Academy of Sciences, Prague.

ACC NR: AP6030185   SOURCE CODE: CZ/0088/65/000/005/0399/0409

AUTHOR: Strejc, Vladimir (Engineer; Doctor of sciences)

ORG: Institute of Information Theory and Automation, CSAV, Prague (Ustav teorie informace a automatizace CSAV)

TITLE: Physical realizability of an optimum, gamma-parameter, discrete, linear control system determined in Wiener's sense

SOURCE: Kybernetika, no. 5, 1965, 399-409

TOPIC TAGS: linear control system, automatic control theory

ABSTRACT: The theory is discussed of the synthesis of linear loops with a continuously operating controlled system and with a discretely acting controller. The input signals of the loop are cross-correlated random signals. It is assumed that the controllers, or the discretely acting correcting members, are realized by an automatic computer directly connected in the feedback of the controlled system. Attention is drawn to the fact that the normal synthesis procedure according to the minimum of mean square deviation may lead to physically nonrealizable transfer functions of closed control loops. It is also shown that there are different conditions of physical realizability for loops designed for optimal controlling action where operative command signals are distorted by disturbances, and for loops designed for the optimal compensation of disturbances where the command signals are invariable.

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L   40861-66

ACC NR: AP6030185   O

The method is demonstrated by which it is possible to decide in advance whether
the resultant transfer functions of closed control loops will or will not be
physically realizable. For the latter case a modified synthesis procedure is
presented by which it is possible to ensure the conditions of physical realiz-
ability. The theory of synthesis in this sense has been worked out in general
for multi-paramter, linear control loops with cross-correlated input signals.
It is assumed that disturbances may act at the same points as the command sig-
nals, or at any arbitrary input points of the controlled system. The results
can be easily applied to simple control loops, e.g., single-parameter loops.
In conclusion two examples are presented to illustrate the proposed modified
synthesis procedure. In both examples the normal procedure leads to a physical-
ly nonrealizable solution. Orig. art. has: 2 figures and 40 formulas. /Based on
author's Eng. abst./ /JPRS: 34,162/

SUB CODE: 13 / SUBM DATE: 23Apr65 / ORIG REF: 002 / SOV REF: 001
OTH REF: 001

Card 2/2 ZC

L 45452-66   (t)/ (5)/ (1)/ (v)   PC

ACC NR: AT6029408   SOURCE CODE: CZ/2503/66/000/012/0169/0183   25

AUTHOR: Strejc, Vladimir -- Strejts, Vladimir   B+1

ORG: Institute for Information Theory and Automation, Czechoslovak Academy of Sciences, Prague

TITLE: The theory of the synthesis of a multiparameter, hybrid, linear control system exposed to the action of stationary, cross-related, random input signals

SOURCE: Ceskoslovenska akademie ved. Vyzkumny ustav matematickych stroju. Stroje na zpracovani informaci, no. 12, 1966, 169-183

TOPIC TAGS: automatic digital computer, Laplace transform

ABSTRACT: The author analyzes the definition of optimum transfer functions of a multiparameter linear, or at least linearizable with a sufficient approximation, hybrid control system. The term "hybrid control system" is used here in the sense that the controlling function is realized by discrete correcting members (discrete filters) on the one hand, and by continuous acting controllers on the other. The theory of synthesis is expressed in the discrete Laplace transform and quality

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ACC NR: AT6029408

control is assessed according to Wiener. It is proposed to realize the discrete filters with the aid of a computer. It is supposed that the input signals are cross-correlated. The transfer of the command signals is partly determined by conditions of stability resulting from the theory of regulation with the aid of automatic computers described in another work [Strejc, V.: Zajisteni spolehlivosti pri komplexni automatizaci samocinnym cislicovym pocitacem (Ensuring Reliability in Complex Automation by Automatic Digital Computer), Automatizace V (1962), no. 5, pp. 123-126]. The synthesis method is illustrated in an example, given by the author, which determines the optimum command transfer junctions of a two-parameter control system with cross-correlated random stationary command input signals of zero mean value. Orig. art. has: 61 formulas.

[GC]

SUB CODE: 09, 12/ SUBM DATE: 20Feb64/ ORIG REF: 002/ SOV REF: 001/
OTH REF: 001/

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Z. STREJC

Flotation properties of organic surface-active compounds. M. Doležil, J. Bulandr, and Z. Strejc (Vyzkumny ustav hutnictvi zeleza, Prague). Rudy (Prague) 6, No. 4, 1-8 (1958).—Org. surface-active compds., which are used as collectors, frothers, emulsifiers, dispersers, etc., were studied. The concn. of these compds. in soln. was detd. volumetrically. The surface-active ions present in some of these compds., as well as their behavior as strong electrolytes, were established. I. Hypr—

L 39929-65   EWP(k)/EWT(m)/EWP(b)/T/EWA(d)/EWP(w)/EWT(v)/EWP(t)   EM/JD

ACCESSION NR: AP4049935   Z/0059/64/000/001/0039/0044

AUTHOR: Strejcek, A. (Engineer, Candidate of sciences)

TITLE: Contribution to the problem of radial cracks in the base of the lock of the disk

SOURCE: Letnany. Vyzkumny a zkusebni letecky ustav. Zpravodaj vzlu, no. 1, 1964, 39-44

TOPIC TAGS: turbojet engine, lock base, disk lock, radial crack, pressure tension cycle, disk lifetime, disk rim, plastic deformation

ABSTRACT: The article analyzes the problem of calculating pressure-tension cycles in the rim of the turbine disk of a turbojet engine during simulated flight operation on the test block. The study was undertaken because the published results of ... the number of pressure-tension cy-