DOLGOPOLOV, V.M., inzh.; ZISMAN, L.M., inzh.; NEYSHTADT, I.S., inzh.;
    RANSEVICH, B.N., inzh.; URIN, V.D., inzh.

Operation of the automatic operator of a multiple-unit hydro-
electric power station with long-term frequency deviations
from the nominal value. Elek. sta. 35 no.2:35-37 F '64.

(MIRA 17:6)

ZISMAN, L.M.,inzh.; MIKHAYLOV, A.P.,inzh.; ROSMAN, L.V.,inzh.;
STAVITSKIY, A.Ye.,inzh.

Group control of the excitation in hydraulic generators by means
of a central regulator. Elek.sta. 29 no.11:34-37 N '58.
(MIRA 11:12)
(Electric generators) (Automatic control)

BOBROV, I.I., inzh.; DOLGOPOLOV, V.M., inzh.; ZISMAN, L.M., inzh.;
RAISEVICH, B.I., inzh.; MIKHAYLOV, A.P., inzh.

Recording frequency meter and power-register device. Elek.sta.
32 no.9:89-91 S '61.   (MIRA 14:10)
                    (Frequency measurement)
                    (Electric power plants—Equipment and supplies)

ZISMAN, L.M., inzh.

Calculation of the performance of a regulated transformer
taking into account the steady-state characteristics of
the power system. Elektrichestvo no.12:13-19 D '65.

(MIRA 18:12)

1. Moskovskiy energeticheskiy institut.

18(5)
AUTHOR: Zisman, M.A., Engineer   SOV/128-59-6-15/25

TITLE: Experience in Centrifugal Casting at the Chelyabinsk
            Mechanical Works

PERIODICAL: Liteynoye Proizvodstvo, 1959, Nr 6, p 41, (USSR)

ABSTRACT: At the mechanical works at Chelyabinsk a new construc-
            tion for fast centrifugal die casting has been manu-
            factured, It permits the change of dies at one instal-
            lation, to allow casting of several types of mold bo-
            xes with different diameters and lengths. The Works
            has manufactured 4 types of these constructions, one
            each with 125 mm, 175 mm, 225 mm, and 325 mm, as well
            as die boxes for a total of 65 casting shapes. The new
            system has shortened the cycle of operations to 35,7
            hrs standard time against a formerly necessary 67 hrs
            standard man hours for casting with sand molds. There
            is 1 diagram

Card 1/1

ZISMAN, N.

Improvement of the road network in Uzbekistan. Avt. dor. 26
no.6:4 Je '63.   (MIRA 16:8)

(Uzbekistan—Road construction)

ZISMAN, N.A.

Optimum relationships of cable parameters in networks with ferro-
magnetic coverings. Elektrosviaz' 11 no.12:65-72 D '57. (MIRA 10:12)
(Electric cables)

L 3058-66   EWT(d)/FSS-2
ACCESSION NR: AP5018028

UR/0106/65/000/007/0055/0062
621.395.465

AUTHOR: Zisman, N. A.

TITLE: New 3-channel multiplexing system for overhead lines

SOURCE: Elektrosvyaz', no. 7, 1965, 55-62

TOPIC TAGS: multiplex, frequency division multiplex / V-3-3 telephone system

ABSTRACT: Design considerations and some characteristics of a new 3-channel frequency-division multiplex telephone system are reported. Suitable for copper, steel, or bimetal overhead circuits, the V-3-3 system uses a 4.3—15.7-kc band in one direction and a 18.3—30.7-kc band in the other direction (carrier frequencies are 14.4 and 29.4 kc). An additional 2-carrier a-f channel is intended for auxiliary communication or for a secondary automatic-ringing by a channels of a 16-transistor subscriber. Channel filter-sections of 1 db and 24 kc are adopted. The transistorized V-3-3 system uses high-gain line amplifiers to compensate for a nonlinear attenuation of 9.5 nep (2nd harmonic) and 10.5 nep (3rd harmonic); their output level is +2.0 nep. Repeater sections of 30, 25, and 20 km are recommended for the upper frequency band. A thermoelectromechanical AGC system is used in which the

Card 1/2

,L 3058-66

ACCESSION NR: AP5018028

rectified pilot currents energize a small motor operating a potentiometer; the latter controls the heating current of a thermistor which, in turn, controls the amplification channel. Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: none

SUBMITTED: 19Oct64   ENCL: 00   SUB CODE: EC

NO REF SOV: 000   OTHER: 000

Card 2/2

ZISMAN, N.A.

CABLE CIRCUITS

"Optimum Ratios of Parameters of Cable Circuits for Ferro-Magnetic Armor"
by N. A. Zisman, Elektrosvyaz', No 12, December 1957, pp 65-72.

   Derivation of simplified formulas for the determination of the pri-
mary parameters of cable circuits with ferro-magnetic sheaths, and
also the optimum ratios between the primary parameters of such circuits.
A procedure is proposed for determining the optimum parameters of the
iron sheath. Graphs are given with which one can readily estimate the
effectiveness of the various methods of preparing the sheaths.

Card: 1/1   -1-

ZISMAN, N.A., inzh.

V-3-3 apparatus for multiplexing overhead communication lines.
Vest. sviazi 24 no.3:7-9 Mr '64.   (MIRA 17:4)

ZISMAN, N.A., inzhener; POPOVA, N.E., inzhener; SHMIDEL', A.A., inzhener;
YARTSEV, G.Ye., inzhener.

VS-3 apparatus for compositing steel circuits. Vest.sviazi 16 no.5:
5-7 Je '56.   (MLRA 9:8)
                    (Telephone--Apparatus and supplies)

ZIEMAN, R. L.

PA76T69

USSR/Medicine - Meninges, Tuberculosis   May 1948
      Medicine - Streptomycin

"The Problem of the Treatment of Tuberculous Menin-
gitis in Adults with Streptomycin," R. L. Zieman,
Moscow Oblast Soi Res Tuberculosis Inst, Chair of
Physiol, Second Moscow Med Inst imeni Stalin, 1 p

"Sov Meditsien" No 5

Describes successful treatment of 44-year old man
suffering from tubercular meningitis using L. S.
Bitern's streptomycin method. It is too early to
draw any conclusion, but this case is the first of
series now under treatment.

76169

1. SORKIN, I. YE.; ZISMAN, R. L. ; GRINCHAR, A. N.; PYZHOVA, K. M.; SEMENOVA, N. M.

2. USSR (600)

4. Meninges--Tuberculosis

7. Method of treating tuberculous meningitis in adults.   Probl. tub. no. 5 1952.

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

ZISMAN, Sh.A.

A case of 13-year cure after removal of cancer of the small in-
testine. Vop. onk. 8 no.12:70-72 '62.   (MIRA 17:6)

1. Iz onkologo-dispansernogo otdeleniya (zav. - Sh.A. Zisman)
Sorokskoy ob"yedinennoy bol'nitsy (glavnyy vrach - I.I. Shevtsov).

ZISMAN, Sh.A.

 Ski-shaped pincers for ligation. Zdravookhranenie 4 no. 1:57
Ja-F '61.   (MIRA 14:2)

 1. Iz ob"yedinennoy bol'nitsy g.Soroki (glavnyy vrach - T.I.
Shevtsov).
    (SURGICAL INSTRUMENTS AND APPARATUS)
      (LIGATURE (SURGERY))

ZISHAN, Sh.A.   (g. Soroki, Moldavskoy SSR, ul. Kotovskogo, 27, kv.3.)

  Technique of gastric resection in low located duodenal ulcers.
  Vest. khir. 92 no.4:141-142 Ap '64   (MIRA 18:1)

  1. Iz onkodispansernogo otdeleniya (zav. - Sh.A. Zishman)
  Sorokskoy ob"yedinennoy bol'nitsy (glavnyy vrach - I.I.Shevtsov).

ZISMAN, V.I., inzh.

Adoption of an electrolytic sheet steel tinning unit at the
Zaporozhstal' plant. Sbor. trud. TSNIICHM no.28:131-137 '62.
(MIRA 15:11)

(Zaporozhye—Iron and steel plants)
(Tin plating—Equipment and supplies)

ZISMAN, V.I.; MIRKINA, R.Ye.

> Some problems of the manufacture of electrolytically tinned
> and lacquered sheet steel in the "Zaporozhstal'" Plant. Kons.1
> ov.prom. 18 no.1:22-24 Ja '63.   (MIRA 16:2)
>
> 1. Zavod "Zaporozhstal'".
>   (Sheet steel)   (Tin plating)

ZISMAN, Ya.L., vrach (Syktyvkar)

Evdokiia Grigor'evna Serebrennikova. Med. sestra 15 no.11;25-26 N '56.
(MIRA 9;12)

(SEREBRENNIKOVA, EVDOKIIA GRIGOR'EVNA, 1896-)

ZISMAN, Ya.L. (Syktyvkar)

A quarter of a century in the ranks. Fel'd. i akush. 26 no.12:
50-51 D '61.
            (VASIL'EVA, MODESTOVNA EKATERINA)

(MIRA 14:12)

ZISMAN, Ya.L.

Work with the alumni of the Syktyvkar School for Feldshers and Midwives.
Fel'd. i akush. no.6:62-63 Je '53.   (MLRA 6:7)
   (Syktyvkar--Medicine--Study and teaching) (Study and teaching--
                                  Medicine--Syktyvkar)

ZISMAN, Ya.L.

Results of a joint effort. Zdrav. Ros. Feder. 6 no.3:30-32 Mr '62.
(MIRA 15:4)

1. Iz organizatsionno-metodicheskogo kabineta (zav. Ya.L.Zisman)
1-y Respublikanskoy klinicheskoy bol'nitsy Udmurtskoy ASSR (glavnyy
vrach T.M.Izakovich).
(IZHEVSK--PUBLIC HEALTH)

SOV/16-59-9-43/47

17(2,6)

AUTHOR: Mauerman, O.Ye.,.Berzina, L.A. and Zismanova, F.A.

TITLE: Epidemiological and Clinical Observations of Scarlet Fever
             Patients at Home

PERIODICAL: Zhurnal mikrobiologii, epidemiologii i immunobiologii, 1959,
             Nr 9, pp 141-144 (USSR)

ABSTRACT: In 1956 obligatory hospitalization of scarlet fever patients was
             repealed in the USSR and from this time patients were committed
             to hospital when clinical or epidemiological considerations in-
             dicated that it was advisable. The aim of subject work was to
             study what effect this trend might have had on the incidence of
             scarlet fever among the surrounding children in the family and
             apartment, and what was the course of the disease in the patients
             treated at home. It was found that the contraction of scarlet
             fever from patients who remained at home was 2 1/2 times more
             common among the patient's family than among the other families
             in the same apartment. The smaller the living area, the higher
             was the rate of contraction of the disease and the greater the
             chance of complications developing in the patient.   When the

             Card 1/3

SOV/16-59-9-43/47

Epidemiological and Clinical Observations of Scarlet Fever Patients at Home

patients were left at home, complications were 1 1/2 times rarer than with hospitalized patients, this mainly in patients suffering from chronic concomitant diseases. Antibiotic therapy of home patients was not effective enough in preventing complications. The general results suggest that most scarlet fever patients can safely be left at home for treatment. Further data on the home treatment of scarlet fever patients can be obtained by reference to I.T. Tishchenko, D.O. Primak, N.I. Lebedev and L.A. Popova.
There are 2 tables and 6 Soviet references.

Card 2/3

SOV/16-59-9-43/47

Epidemiological and Clinical Observations of Scarlet Fever Patients at Home

ASSOCIATION: Moskovskiy institut epidemiologii, mikrobiologii i gigiyeny
(Institute of Epidemiology, Microbiology and Hygiene, Moscow);
Kafedra pediatrii Tsentral'nogo instituta usovershenstvovaniya
vrachey (Department of Pediatrics of the Central Institute Post-
graduate Medical Institute); Sanitarno-epidemiologicheskaya
stantsiya Leningradskogo rayona Moskvy (Sanitary-epidemiological
Station of the Leningrad District of Moscow).

SUBMITTED: January 7, 1959

Card 3/3

KLIMENKO, Ye.P.; LAZAREVA, L.S.; ZISMANOVA, P.A.

Some problems in the epidemiology of intestinal diseases
in children from data of the Leningrad District Sanitary
and Epidemiological Station in Moscow. Zhur. mikrobiol.,
epid. i immun. 33 no.11:153-157 N '62.   (MIRA 17:1)

1. Iz I Moskovskogo ordena Lenina meditsinskogo instituta
imeni Sechenova i sanitarno-epidemiologicheskoy stantsii
Leningradskogo rayona Moskvy.

MAUERMAN, O.Ye.; BERZINA, L.A.; ZISMANOVA, F.A.

Epidemiological and clinical observations of patients with scarlet
fever at home. Zhur.mikrobiol.epid. i immun. 30 no.9:141-144 S '59.
(MIRA 12:12)

1. Iz Moskovskogo instituta epidemiologii, mikrobiologii i gigiyeny;
iz kafedry pediatrii TSentral'nogo instituta usovershenstvovaniya
vrachey i Sanitarno-epidemiologicheskoy stantsii Leningradskogo rayona
Moskvy.
     (SCARLET FEVER statist.)

ARSIC, Bogoljub,sanitetski pukovnik, dr.; DORDEVIC, Dusan, sanitetski
    major, dr.; KARANFILOV, Sotir, sanitetski pukovnik, dr.;
    MILADINOVIC, Toma, sanitetski kapetan, dr.; SOKOLOVSKI, Bora,
    sanitetski kapetan I klase, dr.; ZISOVSKI, Angel, sanitetski
    potpukovnik, dr.; PAVLOVIC, Miodrag, tehnicki saradnik, sanitetski
    kapetan I klase.

    Treatment and prevention of acute bacillary dysentery with a
    single dose of oxytetracycline. Vojnosanit. pregl. 21 no.4:
    223-228 Ap '64.

    1. Vojnomedicinska akademija u Beogradu; Epidemioloski institut
    NZ; Higijensko-epidemioloski odred u Skoplju; Armijska bolnica
    u Skoplju,Zarazno odeljenje.

ARSIC, Bogoljub, sanitetski pukovnik docent dr.; MEL, David, sanitetski
        pukovnik dr.; RADOVANOVIC, Miroslav, sanitetski kapetan dr.;
        NIKOLIC, Bozidar, sanitetski potpukovnik dr.; ZISOVSKI, Angel,
        sanitetski potpukovnik dr.; SOKOLOVSKI, Borivoje, sanitetski
        kapetan I klase dr.; DORDEVIC, Dusan, sanitetski major dr.;
        STANKOVIC, Nikola, visi zdravstveni tehnicar; MANOJLOVIC,
        Borislav, sanitetski kapetan I klase; MIJUSKOVIC, Punisa,
        sanitetski kapetan I klase dr.

        Treatment of dysentery with various doses of terramycin.
        Vojnosanit. pregl. 22 no.6:388-393 Je '65.

        1. Vojnomedicinska akademija u Beogradu, Higijenski zavod,
        Epidemioloski institut; Higijensko-epidemioloski odred Skoplje;
        Armijska bolnica u Skoplju, Zarazno odeljenje; Vojnomedicinska
        akademija u Beograku, Klinika za zarazne bolesti.

ARSIC, Bogoljub, sanitetski pukovnik doc. dr.; ZISOVSKI, Angel, sanitetski
        potpukovnik dr.; MIJUSKOVIC, Punisa, sanitetski kapetan I klase dr.;
        RADOVANOVIC, Miroslav, sanitetski kapetan dr.; NIKOLIC, Bozidar,
        sanitetski potpukovnik dr.; SOKOLOVSKI, Borivoje, sanitetski kapetan
        I klase dr.; DORDEVIC, Dusan, sanitetski major dr.; MEL, David,
        sanitetski pukovnik dr.; JOKOVIC, Bozidar, sanitetski kapetan dr.;
        MILJUTINOVIC, Milan, kapetan dr.

        Clinical picture of acute bacillary dysentery in soldiers of the
        Yugoslav National Army. Vojnosanit. pregl. 22 no.6:394-397 Je '65.

        1. Zarazno odeljenje, Higijensko-epidemioloski odred u Skoplju,
        Vojnomedicinska akademija u Beogradu, Klinika za zarazne bolesti.

ZISSER, M., inzh.; IVASHOV, V., inzh.

"Zil-Moskva", a new refrigerator. Obshchestv.pit. no.10:32-34 O '60.
(MIRA 13:11)

1. Avtozavod im. Likhacheva.
(Refrigerators)

BULANKIN, I.N.; PARINA, Ye.V.; KURILENKO, R.P.; MITROFANOVA, V.M.; ZISSER, R.L.;
    SHARKEVICH, I.N.

    Metabolic changes with age under conditions of excited synthesis
    Uch.zap.KHGU 68:5-20 "56.   (MIRA 11:11)

    1. Kafedra biokhimii Nauchno-issledovatel'-skogo instituta biologii i
    biologicheskogo fakul'teta Khar'kovskogo ordena trudovogo krasnogo
    znameni Gosudarstvennogo universiteta imeni A.M. Gor'kogo.
                        (AGE) (METABOLISM)

1865. A COMATOSE FORM OF HAEMORRHAGIC ENCEPHALITIS IN A 4-
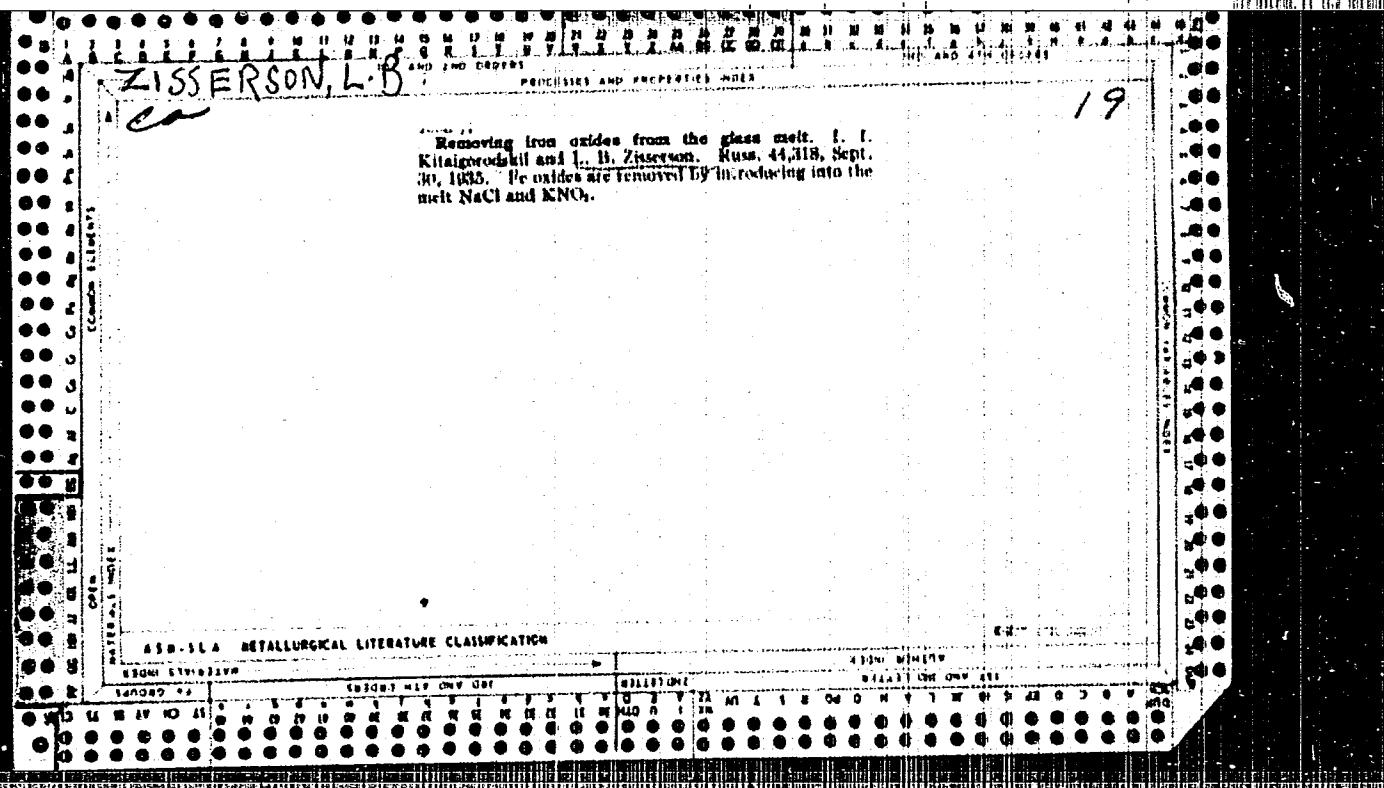   YEAR-OLD CHILD (Russian text) - Z i s s e r R. M. A. - PEDIATRIJA
    1957, 3 (73)
The disease had a peracute course with a fatal outcome in 30 hr. On puncture
the CSF was grossly haemorrhagic. At autopsy the ventricles were filled with
coagulated blood. Blood was also present below the cerebral and spinal meninges.
                                                    Najman - Zagreb (L, 7, 8)

ZISSER, R. M.

ZISSER, R.M.

Comatose form of hemorrhagic encephalitis in a four-year old child.
Pediatriia no.3:73 Mr '57.   (MIRA 10:10)

1. Iz 16-y detskoy bol'nitsy (nauchnyy rukovoditel' - dotsent
H.T.Daykhes, glavnyy vrach G.G.Grunos)
        (ENCEPHALITIS)

ZISSERSON, L. B.

PROCESSES AND PROPERTIES INDEX

/9

Removing iron oxides from the glass melt. I. I. Kitaigorodskii and L. B. Zisserson. Russ. 44,118, Sept. 30, 1935. Fe oxides are removed by introducing into the melt NaCl and KNO_3.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZISSERSON, L. B.   Cand. Biolog. Sci.

Dissertation: "Methods of Executing Various Measures for Cleaning
Contaminated Linen Fabrics." Inst of General and Communal Hygiene,
Acad Med Sci USSR,19 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)

ZISSU, D.

    For wider application of compensation according to quality. p. 2.

CONSTRUCTORUL. (Ministerul Constructiilor si Industriei Materialelor

de Constructii si Uniunea Sindicatelor de Salariati din Intreprinderile de

Constructii) Bucuresti. Vol. 8, no. 331, May 1956.

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

POPESCU, M., prof.; MIRZA, A.; ZISSU, E.; TRUTA, A.

Contributions to the study of the pharmacodynamic action of sodium citrate; the reflex pharmacodynamic action of the substance. Rumanian M Rev. no.1:230-231 Ja-Mr '61.

1. Chair of Physiology of the Institute of Medicine, Timisoara. Head of the Chair: Prof. M. Popescu.
        (CITRATES pharmacology)   (REFLEX)

HERSCOVICI, J.; BOTA, T.; GAGEL, I.; DUVALMA, M.; SIRETEANU, D.; ZISSU, Rodica

Complex utilization of acetone. Rev chimie Min petr 15 no.10:595-
600 O '64.

SAGER, O.,; POPESCU, M.,; MIRZA, A.,; ZISSU, B.

Study of unconditioned interoceptive reflexes. Bul. stiint,, sect.
med. 7 no.3:789-804 July-Sept 55

1. Meembru corespondent al academiei R.P.R. (for Sager)
    (REFLEX
        interoceptive, splenic, unconditioned, in dogs)

RUMANIA / Human and Animal Physiology, Blood Circula-   T
tion. The Vessels.

Abs Jour: Ref Zhur-Biol., No 22, 1958, 101905.

Author : Popescu, M.; Mirza, A.; Zissu, E.; Weisz, S.;
Florea, I.; Carabas, M.
Inst   : Timisoara Base
Title   : The Influence of K and Ca Ions on Blood Vessels.
The Effect of Large and Small Doses and Sensibil-
ization of Vessels to the Indicated Ions.

Orig Pub: Studii si cercetari stiint. Acad. RPR. Baza Timi-
soara, Ser. stiinte med., 1956, 3, No 3-4, 57-62.

Abstract: No abstract.

Card 1/1

40

ZISSU, E.

RUMANIA / Pharmacology and Toxicology. Histamine and Antihistamine
          Drugs.   V-4
Abs Jour   : Ref Zhur - Biol., No 16, 1958, No 75772

Author   : Popescu, M.; Mirza, A.; Florea, I.; Zissu, E.; Mogosanu, A.
Inst   : Not given
Title   : Effect of K Ion, Acetylcholine and Histamine on the Blood
             Vessels of the Small Intestine.

Orig Pub   : Fiziol. norm. si patol., 1957, 4, No. 2, 105-110

Abstract   : In tests with perfusion of the loop of the small intestine
             of dogs in situ under narcotics, it is shown that K ion,
             acetylcholine and histamine (I) contract the intestinal ves-
             sels and the vessels of the muscular membrane of the intest-
             ines. The introduction into the perfusate of atropine hin-
             ders the effect of acetylcholine on the intestinal vessels;
             and the introduction of antergan, the effect of I. The ab-
             sorption from the intestine of I, in the opinion of the
             authors, exerts a tonic effect on the walls of the vessels.
             -- E. M. Sheynbaum.

Card 1/1

10

LAZEANU, M., dr; PANA, I., dr.; ZISSU, I., dr.; IONESCU, H., dr.

Otopathic fistulous paralabyrinthitis. (Clinical and radio-
logical considerations). Otorinolaringologie (Bucur) 10 no.1:
41-47 Ja-Mr'65.

1. Lucrare efectuata in colaborare de catre clinicile de
O.R.L. si radiologie ale F.P.S.M.F., Spitalul "Coltea",
Bucuresti.

ZISSU, I, Dr.

GEORGESCU, Amilcar, Conf.; ZISSU, I, Dr.

The value of radiological findings in duodenitis. Med. int., Bucur.
10 no.3:419-426 Mar 58.

1. Lucrare efectuata in Clinica de radiologie I.P.S.M.F., Bucuresti.
        (DUODENITIS, diagnosis
            x-ray)

HUNGARY

LEB, Dr Jozsef, and ZISZI, Dr Kleoniki, Department of Pediatric Surgery
(Gyermeksebeszeti Osztaly), (Chief Physician: Dr Janos DENES), Istvan Hospital
in Budapest (Fovarosi Istvan Korhaz).

"Injuries of the Pancreas in Childhood"

Abstract: In childhood, injuries to the pancreas are very rare. Over a period
of eight years authors met only with two such cases. On the basis of
their own experience and of cases described in the literature, they summarize
the clinical aspects of the syndrome and the therapy to be administered, then
describe their own two cases in detail. On the basis of their experience they
consider early surgical intervention important; even in the case of a sure
diagnosis exploration is necessary to exclude the possibility of other
injuries. Finally they stress the importance of the administration of
Trasylol in the case of traumatic pancreatitis. 22 References, predominantly
Western.

1/1

3

CZECHOSLOVAKIA

KOCIAN, J., MD; LAJOHY, L., MD; ZITA, C., MD

Internal Medicine Ward of the Hospital (Vnitrni oddeleni nemocnice), Prague (for all)

Prague, Prakticky lekar, No 11, 1963, pp 418-419

"General Principals in Treatment of Green Mushroom Poisoning - Amanita phalloides."

ZITA, Cestmir

Effect of the pure substances of the chamomille volatile oils on heat
burns. Cas. lek. cesk. 94 no.8:203-208 18 Feb 55.

1. Z farmakologickeho ustavu lek/fak. KU v Prase
   (BURNS, experimental
      eff. on chamomille volatile oils, in guinea pigs)
   (PLANTS, effects
      chamomille volatile oils, on exper. heat burns in guinea
      pigs)
   (OILS
      chamomile volatile oils, eff. on exper. heat burns in
      guinea pigs)

ZITA, Z.

NEMEC, J.; POLAK, H., NEUWIRTH, J.; ZITA, Z.; BLAZKOVA, P.

Present concepts on leukocyte motility in vitro. Cesk. fysiol. 6 no.3: 397-403 Aug 57.

1. III. interni klinika lekarske fakulty Karlovy university, Praha.
(LEUKOCYTES,
motility in vitro (Cz))

ROSKINA, R.S., kand.tekhn.nauk; ZITAR, E.A.

Structural material for ladles of inclined elevators. Khim.prom.
no.5:428-429 Jl-Ag '60.   (MIRA 13:9)
        (Hoisting machinery)   (Steel--Testing)

KUNDZINYA, I.A. [Kundzina, I.]; ZITARE, I.Ya. [Zitare, I.]

Local application of olivomycin in treating cancerous ulcers. Antibiotiki
8 no.12:1113-1116   D '63.   (MIRA 17:10)

1. Latviyskaya respublikanskaya klinicheskaya bol'nitsa imeni Stradynya
i Institut eksperimental'noy i klinicheskoy meditsiny AN Latviyskoy SSR,
Riga.

ZITAROV, S.P., inzhener; ESIK, A.K., inzhener.

Preparing screw flights for MP-21 screw presses. Masl.-zhir.prom. 18 no.10:
29 '53.   (MLRA 6:11)

1. Kaganskiy maslozavod.   (Extraction apparatus)

2, Tel, O. D.

137-1958-2-2489

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 2, p 43 (USSR)

AUTHORS: Morozenskiy, L.I., Zitel', O.D.. Granat, I.Ya.

TITLE: Phenomena Discovered With Radioactive Tracers During a Study
          of the Solidification Process in Steel Ingots (Yavleniya, obnaru-
          zhennyye metodom radioaktivnykh indikatorov pri issledovanii
          zatverdevaniya stal'nykh slitkov)

PERIODICAL: V sb.: Fiz.-khim. osnovy proiz-va stali. Moscow, AN SSSR,
          1957, pp 765-780. Diskus., pp 781-791

ABSTRACT: A study was made of the phenomenon of the displacement of
          metal during solidification of an ingot and of what causes it. Ex-
          periments were conducted on ingots with a large N/D value with
          the aid of the radioactive isotopes S^{35}, P^{32}, and W^{185}, which
          had first been dissolved in molten metal and then were poured into
          either the upper or the lower part of the ingot. The distribution
          of the isotope was determined by autoradiography of longitudinal
          templets of the ingots under study. The steel used in the experi-
          ments was 30KhNZA, which had been cast into vertical ingots
          measuring 270x270x2600 mm, and steel 45 in ingots 250x250x
          4000 mm, which were cast in an inclined mold. It became evident
Card 1/3

137-1958-2-2489

Phenomena Discovered With Radioactive Tracers (cont.)

that the tracers were not evenly distributed throughout the ingots, that instead they formed alternating bands which were parallel to the crystallization front. On a sulfur print these bands did not show up. The dispersion of the tracers occurred only in a downward direction and at great speeds, which reached 20 m/min. These phenomena resulted neither from an isotope exchange nor from convection currents, but were attributed to a shrinkage of the metal at the moment it crystallizes. According to this hypothesis the currents in the molten metal caused by the shrinkage develop most fully only at those sections of the crystallization front at which the vertical component of the hydrostatic pressure of the metal on the sides is either an upward one or equals zero. The greater the coefficient of shrinkage, the N/D ratio, and the crystallization rate, the greater will be the speed of the flow. The motion exhibited by the metal was linked to the structure of the ingot which was characterized by the fact that the orientation of the secondary axes of the dendrites in the half-section adjoining the upper face of the inclined ingot coincided with the direction of the currents, notwithstanding the orientation of the primary axes. Moreover, in the inclined ingot the macrostructure was asymmetrical; this also was accounted for by the action of the currents in the ingot metal, which were moving

Card 2/3

137-1958-2-2489

Phenomena Discovered With Radioactive Tracers (cont.)

> at different speeds along the top and bottom faces of the ingot. The
> currents in the metal, which descend near the crystallization front,
> could be one of the causes of the extra-axial chemical heterogeneity
> (the "branches") which develop. The foregoing hypothesis tends to
> support the position which holds that, as the angle of taper of ingots
> which broaden upward increases, the "branches" show up less sharp-
> ly, for this corresponds to the reduced flow of metal along the cry-
> stallization front.
>
> V.N.

1. Steel—Solidification   2. Steel—Displacement—Theory

Card 3/3

Theory of Mixed Queuing Systems

2

Zítek, František. Zur Theorie der gemischten Warte-
systeme. Apl. Mat. 2 (1957), 154–159. (Czech. Rus-
sian and German summaries)

1·F\W

The probability of loss and the distribution of delays
are determined for a "mixed" queuing system with n
servers and r places for waiting customers. The system is
mixed in the sense that, if r persons are waiting, new
arrivals are sent away, i.e., are lost; otherwise they join
the queue. Holding or service times have a negative ex-
ponential distribution, service is in order of arrival, and
customers arrive in a Poisson process.   *V. E. Beneš.*

Statistics

Probability

16

CC
1/1

On the Duration of Linear Processes

Žiták, František. Sur la durée des processus linéaires.
Czechoslovak Math. J. 8(83) (1958), 122–130. (Russian
summary)

The author names "essential interval of a linear
stochastic process" the set of values of t (constituting, as
shown, an interval) for which the law of the process
remains indefinitely divisible (i.d.). Given two elements
$\psi_1(s) = \psi(s, t_1)$ and $\psi_2(s) = \psi(s, t_2)$ $(t_1 < t_2)$ corresponding to
i.d. laws (where $\varphi(s, t) = \log p(s, t)$, $\varphi(s, t)$ being at any
instant t the characteristic function) the question is put to
find the greatest real r_0 for which $\psi_1 - r_0\psi_2$ also corre-
sponds to an i.d. law. The answer is

$$ r_0 = \inf_{\substack{x \in R_1 \\ h > 0}} \frac{\mathscr{G}_1(x+h) - \mathscr{G}_1(x)}{\mathscr{G}_2(x+h) - \mathscr{G}_2(x)} = \inf_{\substack{B \in \mathscr{B} \\ m_2(B) > 0}} \frac{m_1(B)}{m_2(B)}, $$

where $\mathscr{G}_1(x)$ and $\mathscr{G}_2(x)$ are the nondecreasing functions of
finite variation figuring in the canonical representation of
$\psi_1(s)$ and $\psi_2(s)$, respectively, and m_1, m_2 are the measures
induced by $\mathscr{G}_1(x)$ and $\mathscr{G}_2(x)$ on the system of Borel
sets of R.

One example concerning Brownian movements and
another concerning Poisson's process show the usefulness
of the notion of "essential interval", or "duration", of a
linear process.   O. Onicescu (Bucharest)

ZITEK, V.

Standardization of nondestructive testing method. p. 20.

VYNALEZY A NORMALISACE, OCHRANNE ZNAMKY, CHANENE VZORY. (Urad pro vynalezy a normalisaci)
Praha, Czechoslovakia
Vol. 3, no. 3, Mar. 1959.

Monthly list of East European Acessions (EEAI), LC, Vol. 8, no. 7
July 1959
Uncl.

ZITKA, B.

Problem of magnetic control in heat treatment of steel. p. 41

Friction welding. p. 33

STROJIRENSTVI (Minsiterstvo tezkeho strojirenstvi, Ministerstvo presneho strojirenstvi
a Ministerstvo automobiloveho prumyslu a zemedelskych stroju)
P raha, Czechoslavakia
Vol. 9, no. 1, Jan. 1959

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 7
July 1959
Uncl.

ZITKA

ZELENKA, V.; ZITKA; JIRASEK, J.

Effect of cortisone & sodium salicylate on the course of anaphylactic
shock in guinea pigs; determination of electrographic changes,
myocardial values of potassium and lactic acid, Quick's test, lipoids
& vitamin C in adrenal glands. Cas. lek. cesk. 96 no.42:1354-1359
18 Oct 57.

1. Ustav pathologicke fysiologie lek. fak. KU, prednosta prof. Dr
J. Hepner. III. interni klinika lek. fak. KU, prednosta akademik
J. Charvat. Ustav pro embryologii lek. fak. KU, prednosta prof. Dr
Z. Frankenberger. V. Z., Praha 2, Albertov 4.
        (ALLERGY, exper.
            eff. of cortisone & sodium salicylate in guinea pigs (Cz))
        (CORTISONE, eff.
            in exper. allergy in guinea pigs (Cz))
        (SODIUM SALICYLATE, eff.
            same)

POLAK, H.; NEMEC, J.; NEUWIRTH, J.; BLAZKOVA, P.; ZITA, Z.

Effects of gamma globulin on the motility of human leukocytes.
Cesk. epidem. mikrob. imun. 6 no.3:188-191 May 57.

1. Hematologicka laborator III. interni kliniky KU v Praze,
prednosta akademik J. Charvat.
(GAMMA GLOBULIN, eff.
on leukocyte motility (Cz))
(LEUKOCYTES
eff. of gamma globulin on motility (Cz))

POLAK, H.;NEUWIRTH, J.;NEMEC, J.;ZITA, Z.;BLAZKOVA, P.

Effect of temperature on the ameboid mobility of leukocytes. Cas.
lek. cesk. 96 no.19:569-573 10 May '57.

1. III. interni klinika KU v Praze, prednosta adak. J. Charvat.
    (LEUKOCYTES
        eff. of temperature on ameboid mobility (Cz))
    (TEMPERATURE, eff.
        on ameboid mobility of leukocytes (Cz))

ZITEK, F.

"The theory of mixed systems of mass service."

p. 154(Institute of Mathematics, Czechoslovak Academy of Sciences) Vol. 2, no. 2, 1957

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 5, May 1958

ZITEK, F

"Parameter-dependent Burkill integrais."

CASOPIS PRO PESTOVANI METEMATIKY, Praha, Czechoslovakia, Vol. 84, no. 2,
May 1959

Monthly list of East Europe Accessions (EEAI), LC, Vol. 8, No. 6, Sept 59
Unclas

ZITEK, Frantisek

"Decomposition of superpositions of distribution functions" by
Pal Medgyessy. Reviewed by Frantisek Zitek. Aplikace mat 7 no.1:
78-80 '62.

ZITEK, Frantisek (Praha)

The 33d meeting of the International Statistical Institute.
Cas pro pes mat 87 no.1:121 '62.

ZITEK, Frantisek (Praha)

Fifth International Mathematics Olympiad. Cas pro pest mat
89 no.1:128 F '64.

ZITEK, Frantisek (Prague)

Members of National Research Institute of Heat Engineering
in Prague awarded 1964 Klement Gottwald State Prize. Chekhosl
mat zhurnal 15 no.1:163-164 '65.

ZITEK, Frantisek (Praha)

"General mathematics. Elementary synthesis" by M. Godefroy.
Reviewed by Frantisek Zitek. Cas pro pes mat 87 no.2:233-234
'62.

26320
Z/026/61/006/002/003/004
D231/D304

34.1300

AUTHOR: Zítek, František

TITLE: On determining the articulation index

PERIODICAL: Aplikace matematiky, v. 6, no. 2, 1961, 124-134

TEXT: The author considers here some mathematical aspects of determining the articulation index, with syllabic articulation as a main subject, and defined as follows: The operator dictates a series of syllables which are then passed through electro-acoustic frequency filters, and subsequently received by a number of listeners. Then syllabic articulation S = probability of identification of any syllable after passing it through the frequency filters. If variations, mechanical or personal are disregarded, the dependence of S on the frequency interval or band width $\langle f_1, f_2 \rangle$ which is passed by the filtering channel, i.e. $S = S (\langle f_1, f_2 \rangle)$ emerges. In practice, some finite interval $\langle f_0, f_\infty \rangle$ is taken, e.g. $f_0 =$ 100 Hz, f_∞ = 10 kHz. Then S is a positive function of the interval and defined in it. Denoted as a function of 2 real variables

Card 1/6

26320
S/026/61/006/002/003/004
D231/D304

On determining the articulation index

$S(f_1, f_2)$ it is defined in $f_0 \leqslant f_1 \leqslant f_2 \leqslant f_\infty$,

$$\lim_{f \to f1, f' \to f2, f \leqslant f'} S(f, f') = S(f_1, f_2) \tag{1}$$

and for any $f, f_0 \leqslant f \leqslant f_\infty$, $S(f, f) = 0$. Also S is monotonic increasing and

$$0 \leqslant S(f_2, f_3) \leqslant S(f_1, f_4) \leqslant S(f_0, f_\infty). \tag{2}$$

but is not additive, and this leads to a new measure, the articulation index defined by N.R. French and J.C. Steinberg (Ref. 2: Factors governing the intelligibility of speech sounds: Journal Acoust. Soc. Amer. 19, 1947, 90-119) as $A = A(f_1, f_2)$, an additive function of the interval defined in $\langle f_0, f_\infty \rangle$ i.e. for $f_0 \leqslant f_1 \leqslant f_2 \leqslant f_3 \leqslant f_\infty$.

$$A(f_1, f_2) + A(f_2, f_3) = A(f_1, f_3) \tag{3}$$

is true and is a single valued function of S.

$$A(f_1, f_2) = \phi [S(f_1, f_2)]. \tag{4}$$

where $\phi(x)$ is a real continuous increasing function of one variable defined for $0 \leqq x \leqq S(f_0, f_\infty)$, $\phi(0) = 0$, $\phi[S(f_0, f_\infty)] = A(f_0, f_\infty) = 1$

Card 2/6

26320

Z/026/61/006/002/003/004
D251/D304

On determining the articulation index

The conditions for the existence of the index are now considered and it is shown that the necessary and sufficient condition for $\emptyset$ to exist is that $S(f_1,f_2) = \psi_0[B(f_1,f_2)]$, $f_0 \leqq f_1 \leqq f_2 \leqq f_\infty$, (5)

where B = a finite, positive, continuous and additive function of the interval defined in $\langle f_0, f_\infty \rangle$, $0 < B(f_0,f_\infty) < \infty$ and $\psi_0 =$ a positive increasing and continuous function, which maps $\langle 0, B(f_0, f_\infty) \rangle$ on $\langle 0, S(f_0, f_\infty) \rangle$. Next the following theorem is stated and proved: Function S is of the type Eq. (5) if, and only if, for $f_0 \leqslant f_1 \leqslant \ldots \leqslant f_4 \leqslant f_\infty$.

$$[S(f_1,f_2) = S(f_3,f_4)] \Leftrightarrow [S(f_1,f_3) = S(f_2,f_4)] . \quad (8)$$

is true and Lemma 1: Let for some $f_1 f'' \in \langle f_0, f_\infty \rangle$, $S(f_1,f'') > 0$. Then $\exists$ at least one $f', f < f' < f''$ such that

$$S(f,f') = S(f',f'') \qquad (12)$$

and $\qquad\qquad 0 < S(f,f') < S(f,f'') \qquad (13)$

Lemma 2: If for $d_1, d_2 \in D$; $f_1, f_2, f_3 \in F$, $\psi(d_1) = S(f_1,f_2)$ and

Card 3/6

26320
Z/026/61/006/002/003/004
D231/D304

On determining the articulation index

$\Psi(d_2) = S(f_2, f_3)$ then $\Psi(d_1 + d_2) = S(f_1, f_3)$. Lemma 3: Function Ψ is continuous at the point 0, is proved and from it, it follows that Ψ is continuous on D. There also exists an inverse function $\emptyset = \Psi^{-1}$ also defined on the interval $\langle 0, S(f_0, f_\infty) \rangle$, continuous and strictly increasing. The author now proves that A is continuous, increasing and additive function of the interval defined in $\langle f_0, f_\infty \rangle$. Lemma 4: For any $f \in \langle f_0, f_\infty \rangle$ ∃ a sequence $\{\lambda_n\}$ from F such that $\lambda_n \to m(f)$. Another form of Eq. (8) is derived for a finite number of intervals, as follows: Let for the intervals of the type $\langle f_0, f \rangle$ and $\langle f_1, f_\infty \rangle$

$$H(f) = S(f, f_\infty), \quad D(f) = S(f_0, f) \tag{21}$$

Then Eq. (8) becomes

$$[H(f_1) = D(f_2)] \Leftrightarrow [H(f_2) = D(f_1)] \tag{22}$$

in terms of H and D. If Eq. (21) only, then Eq. (22) is a necessary condition for the existence of $\emptyset$. Finally, J.C. Burkill's (Ref. 1: Functions of intervals; Proceed. London Math. Soc., Ser. II. 22

Card 4/6

Z/026/61/006/002/003/004
D231/D304

On determining the articulation index

(1924), 275-310) integration is used to define another measure of intelligibility. If $\mathcal{S}$ (f',f") is a Burkill integral of S in $\langle f',f"\rangle \subset \langle f_0, f_\infty \rangle$ and if S is of the type Eq. (5), then its Burkill integral $\mathcal{S}$ exists if and only if the RHS derivative of ψ_0 exists at the point 0. Then

$$A(f_1, f_2) = \frac{\mathcal{S}(f_1, f_2)}{\mathcal{S}(f_0, f_\infty)} \tag{28}$$

A is proportional to $\mathcal{S}$ of S if a) S is of the type (5) and b) $0 < \psi_0' (0+) < \infty$. This interpretation corresponds more closely to that of French and Steinberg. In conclusion it is stated that the existence of articulation index or more exactly the existence of $\emptyset$ from Eq. (4) is not obvious, and the condition Eq. (8) should be verified in each particular case. Although Eq. (28) is impracticable, it shows the possibility of obtaining a better definition of the articulation index along the lines of French and Steinberg. In that case $\psi'(0+)$ would have to be defined in physical terms. Although the format theory $\overline{/}$ Abstracter's note: Not defined $\overline{/}$ was

Card 5/6

26320

Z/026/61/006/002/003/004

On determining the articulation index   D231/D304

not considered here, it was shown that Eq. (8) is important in this case, as it is the only condition for the relation between A and S and vice-versa to be single valued. There are 3 references: 1 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: J.C. Burkill: Functions of intervals: Proceed, London Math. Soc., Ser. II, 22 (1924) 275-310; N.R. French, J.C. Steinberg: Factors governing the intelligibility of speech sounds; Journal Acoust. Soc. Amer. 19 (1947) 90-119.

SUBMITTED: April 28, 1960

Card 6/6

ZITEK, Frantisek

"Works on the mathematical theory of mass services" by A. Ya. Khinchin. Reviewed by Frantisek Zitek. Aplikace mat 9 no.2: 152-153 '64.

ZITEK, Frantisek

On the convergence of sequences of stochastic processes.
Cas pro pest mat 88 no.3:283-294 Ag '63.

1. Matematicky ustav, Ceskoslovenska akademie ved, Praha 1,
Zitna 25.

S/044/62/000/002/055/092
C111/C444

AUTHOR: Zitek, František

TITLE: On the solvability of a stochastic differential
              equation

PERIODICAL: Referativnyy zhurnal, Matematika, no. 2, 1962, 8,
              abstract 2V39. ("Chekhosl. mat. zh.,", 1958, 8, no. 3,
              473-482)

TEXT: One investigates questions of the solvability of a type
of stochastic differential equations. The investigation bases on the
theory which has been developed by the author in his preceding
paper (RZh. Mat, 1961, 9B46).

[Abstracter's note: Complete translation.]

Card 1/1

ZITEK, Frantisek

Note on the theory of incoming current. Cas pro pest mat
88 no.2:209-210 '63.

1. Matematicky ustav, Ceskoslovenska akademie ved, Praha 1,
Zitna 25.

ZITEK, F. (Praga)

On measuring by comparison. Zastos mat 6 no.1:43-50 '61.

1. Instytut Matematycany Czechoslowackiej Akademii Nauk.

(Mensuration)   (Information theory)   (Game theory)

ZITEK, F.

Zítek, František. On estimating transition probabilities.
Apl. Mat. 2 (1957), 251–257. (Czech. Russian and
English summaries)
Methods of estimation of transition probabilities in a
homogeneous two-state Markov chain are considered.
Lange's solution is valuable only if n_i (the number of
transitions from the state i to any other) is fixed. Advan-
tageous properties of Haldane's method for estimates are
given. Confidence intervals for transition probabilities are
constructed using confidence intervals for the parameter
of the binomial distribution. Different methods of
estimation are illustrated by a numerical example.
                                    J. Janko (Prague).

ZITEK, F.

Zítek, František. On a theorem of Korolyuk. Czecho-
slovak Math. J. 7(82) (1957), 318–319. (Russian.
English summary)
In a stationary stream of events, let μ be the expected
number of events per unit time, and let λ be the limit, as

$t \to 0$, of probability that at least one event occurs in time
$t)/t$. According to a theorem of Korolyuk [Hincin, Trudy
Mat. Inst. Steklov. 49 (1955); MR 17, 276], if (A) only one
event can occur at a time, then $\mu = \lambda$. The author proves
that, if $\mu < \infty$, the condition (A) is both necessary and
sufficient that $\mu = \lambda$. If $\mu = \infty$, then (A) implies that
$\mu = \lambda$, but there are processes not satisfying (A) for which
$\mu = \lambda = \infty$.   J. L. Doob (Urbana, Ill.)

ZITEK, F.

Certain analogs of the noncentral t-test. p. 38.
(APLIKACE MATEMATIKY, Vol. 2, no. I, 1957, Praha, Czechoslovakia.)

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

ZITEK, F.

Estimating transition probabilities. p. 251

(Institute of Virology - Czechoslovak Academy of Science) Vol. 2, No. 4, 1957

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

VRKOC, Ivo; ZITEK, Frantisek (Prague)

Laureates of the 1964 Klement Gottwald State Award. Cas pro pest
mat 89 no.4:495-498 O '64.

1. Institute of Mathematics of the Czechoslovak Academy of Sciences,
Prague 1, Zitna 25 (for Vrkoc).

ZITEK, F. (Praga)

On measuring by comparison. Zastos mat 6 no.1:43-50   '61

ZITEK, Josef

The seventieth birthday of Professor Alois Gregor.   Meteor
zpravy 15 no.3/4:53-54 Ag '62.

1. Reditel Hydrometeorologickeho ustavu.

ZITEK, J.

4th National Meteorologic Conference.

P. 16.   (VODNI HOSPODARSTVI) (Praha, Czechoslovakia) No. 1, Jan. 1958

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

ZITEK, Josef

       Tasks of our hydrometeorology. Vodni hosp 12 no.11:439-440
N '62.

       1. Hydrometeorologicky ustav, Praha.

ZITEK, V.

"Some concrete tasks for standardization in the field of highway trans-
portation." p. 17.

VYNALEZY A NORMALISACE, OCHRANNE ZNAMKY, CHRANENE VZORY. (Urad pro
vynalezy a normalisac). Praha, Czechoslovakia, Vol. 3, No. 4, Apr. 1959.

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

ZITKA, B.;SOBRA, K.;HERMOCH, V.

"Changes of the State of Electrodes in Condensed Discharge." p. 305,
(CESKOSLOVENSKA CASOPIS PRO FYSIKY, Vol. 4, No. 3, June 1954, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

ZITKA, B.; ROSKOVEC, V.

On the pulse switching of Mn-Fe ferrites. Chekhosl fiz
zhurnal 13 no.11:858-859 '63.

1. Ustav fyziky pevnych latek, Ceskoslovenska akademia ved,
Praha.

The permanent effect and magnetic after-effect in magnesium manganese ferrite. Jaroslav Brož, Svatopluk Krupička, and Bohumil Sedlák (Czech.-Acad. Sci., Prague) Czechoslov. J. Phys. 9, 359-361(1959)(in English); cf. Bar, C.A. 52, 10569/. — An unusable permeur effect is found in Mg Mn ferrite at a temp. of −195°. Its connection with the magnetic after-effect is investigated. The analysis carried out on the basis of Néel theory shows that both effects are a result of the same diffusion process. The exptl. results also show that 180° Bloch walls are displaced when the sample is magnetized.   A. Krembholz

CZECH/37-59-2-2/20

AUTHORS: Jaromír Brož, Svatopluk Krupička, Bohumil Zítka

TITLE: The Perminvar Effect and Magnetic After-effect in Magnesium Manganese Ferrite

ABSTRACT: Some ferro-magnetic materials show a hysteresis curve with a characteristically narrow central part. The permeability of these materials in weak fields is practically independent of the field. These materials are called "Perminvars" (Ref 1). The theory of the perminvar effect has been studied by Kionlin (Ref 2). A stable perminvar effect can only be observed if the demagnetisation is carried out at a temperature sufficient for diffusion processes to occur rapidly and, thereafter, the material is cooked so that the stabilised state "freezes in". The diffusion processes leading to the stabilisation of the demagnetised state also lead to magnetic after-effects of the Richter type (Refs 4, 5). A connection between the two effects has been experimentally determined for a-iron (Refs 6, 7) and for some ferrites (Refs 8,9,10). In the present work we have

Card 1/4

CZECH/37-59-2-2/20

The Perminvar Effect and Magnetic After-effect in Magnesium
Manganese Ferrite

investigated some of the conditions for the existence of
the perminvar effect and its connections with relaxation
effects.   We have used a ferrite of composition
$Mg_{0.75}Mn_{0.35}Fe_{1.8}O_4$.   The theory of magnetic after-effects
has been worked out by Néel for α-iron containing some
interstitials (mainly carbon). Although in the case of
ferrites, no exact model of the diffusion processes is
known, the general results of Néel's theory can, neverthe-
less, be used.   Let us assume (Ref 7) that the behaviour
of the sample in a magnetic field can be described on the
basis of the motion of a single effective Bloch-wall.
This is equivalent to assuming that each wall moves under
the action of a mean magnetic field depending on the mean
magnetic induction of the sample "B".   The mean effective
field of the magnetic after-effect can then be written as:

$$h(t, B) = h_{\infty}(B) G(t) \tag{8}$$

Card
2/4

If we determine the value of the effective field $h(t)$
from the perminvar effect according to Eq (9), for two
stabilising times t_0, t, we obtain Eq (12):

CZECH/37-59-2-2/20
The Perminvar Effect and Magnetic After-effect in Magnesium
Manganese Ferrite

$$h(t) - h(t_0) = \frac{h_\infty(B)}{1/\chi_\infty - 1/\chi_0}(1/\chi(t) - 1/\chi(t_0)). \qquad (12)$$

The measurements were taken at a temperature of -195 °C.
The time-dependence of the permeability was measured with
a field intensity of 10 mOe and at a frequency of
200 kc/s. The hysteresis curve was determined by normal
oscillographic methods with a magnetic field of amplitude
H_m and frequency 50 c/s. Our experiments have shown
that the perminvar effect is observed if the sample is
demagnetised after cooling to liquid nitrogen temperature
and after a certain time, necessary for the stabilisation
of the demagnetised state, the magnetising field is
applied. The observed effect was not stable. The
instability was independent of the speed of cooling the
sample. If, on the other hand, the sample was demagnetised
at room temperature and afterwards cooled to liquid
nitrogen temperature, a weak perminvar effect occurred if
the cooling was slow, while it was not observed if the
Card 3/4   sample was cooled rapidly. The optimum field for
observing the effect was 0.60 Oe and this was used for

CZECH/37-59-2-2/20

The Perminvar Effect and Magnetic After-effect in Magnesium
Manganese Ferrite

> subsequent measurements. The change in the perminvar
> effect with the stabilising time t is shown in Fig 4B
> (plate, p 222a). Fig 4C shows the dependence of the
> effect on the duration ϑ of the magnetising field.
> From these measurements, the magnitudes H_p and h (see
> Eq (9) and Fig 3) were determined. h is shown in
> Fig 5 as a function of t and ϑ. This figure also
> shows the decrease of the permeability after demagnetisa-

Card 4/4 tion. All these curves show similar characteristics.
There are 7 figures and 14 references, of which 6 are
English, 1 Czech, 4 German and 3 French.

ASSOCIATION: Ústav technické fysiky ČSAV, Praha
(Institute Tech. Phys., Ac. Sc., Prague)

SUBMITTED: August 7, 1958