HORAK, Janusz, mgr inz.

Duration of maximum losses depending on the peak load duration.
Energetyka Pol 18 no. [1.e.5]:152-155   y '64.

1. Institute of Power Engineering, Department of Electric
Networks, Warsaw.

HORAK Jaromir

CZECHOSLOVAKIA/Electricity - Semiconductors   G-3

Abs Jour : Ref Zhur - Fizika, No 2, 1958, No 3794

Author   : Horak Jaromir, Machovec Mojmir, Kosek Frantisek
Inst   : Not Given
Title   : Zinc Telluride as a Semiconductor

Orig Pub : Ceskosl. casop. fys., 1957, 7, No 4, 361-368

Abstract : An investigation was made of the properties of ZnTe as a
           semiconductor. The ZnTe was synthesized in pure nitrogen at
           a temperature of 800°C. The conductivity of zinc telluride
           was measured in a temperature range from 0 to 140°C using
           a thin copper-zinc telluride-copper layer. Plots are con-
           structed for the dependence of $\log \sigma$ on $1/T$ and the activation
           energy $\Delta W = 3.94 \times 10^{-4} (\log \sigma_1 - \log \sigma_2) (1/T_2 - 1/T_1)$ electron
           volts is calculated and is found to be on the average 0.25
           ev. No photoeffect was observed in zinc telluride. The
           thermal emf was measured with a method described by Frank
           (Referat Zhur Fizika, 1956, No 10, 29062) with a Cu-ZnTe
           contact. It turned out that the value of the thermal emf
           was 0.5 mv/deg. The conductivity is of P type. Bibliography,
Card   : 1/1   18 titles.

Abs Jour : Ref Zhur - Fizika, No 5, 1958, No 11010

Author   : Horak Jaromir, Machovec Mojmir, Kosek Frantisek
Inst   : Chemical and Technological Institute, Pardubice, Czechoslovakia
Title   : Zinc Telluride, A Semiconducting Compound

Orig Pub : Chekhosl. fiz. zh., 1957, 7, No 4, 468-475

Abstract : An investigation was made of the semiconducting properties of
           single crystals of zinc telluride, obtained by evaporation of
           ZnTe powder in vacuum. The procedure of making the single
           crystals is described and data are given on the temperature
           dependence of the conductivity. By measuring the thermal emf
           if was established that the conductivity of ZnTe is of the
           p-type. No photoconductivity was observed on the investigated
           specimens.

Card   : 1/1

HORAK, J.

Measuring the radioactivity of precipitations.

P. 18.   (KRIDLA VLASTI.)   (Praha, Czechoslovakia) No. 1, Jan. 1958

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

CZ/8-52(82)-10-5/39

AUTHORS: Horák, J, Klíkorka, J and Čelíkovský, A.

TITLE: Zinc Selenides.II (O selenidu zinečnatém.II). Nature of Luminescence of Zinc Selenide (Charakter luminiscence selenidu zinečnatého)

PERIODICAL: Chemické Listy, 1958, Vol.52(82), Nr 10, pp 1872 - 1876 (Czechoslovakia)

ABSTRACT: The appearance and disappearance of red luminescence of zinc selenide, due to reduction and oxidation media and an atmosphere of inert gas (nitrogen) and vacuum were observed. The possible disturbances of the crystalline grating of cubical zinc selenide were analysed, and the disturbances which could form luminescent centres investigated. 10 samples of zinc selenide were prepared at temperatures varying from 120 - 850°C, and the luminescence under the influence of cathode rays determined. This luminescence ranges from the yellow to the infra-red region. The authors calculated that the vacancies in selenium are the most likely luminescent centres in the cubical crystalline grating of zinc selenide. Active impurities which could cause the luminescence of zinc selenide were also investigated. A very pure sample was obtained by repeated sublimation in vacuum; only Cu could be determined by spectral

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CZ/8-52(82)-10-5/39

Zinc Selenides.II.   Nature of Luminescence of Zinc Selenide

analysis. This sample showed intensive red luminescence
under the action of electrons. Riehl and Ortmann (Refs.
11 and 13) proved that some metallic ions function as
stabilisers of disturbances. During investigations of
the luminescence of ZnO and ZnS it was shown that the
luminescent centres are vacancies of oxygen or sulphur,
and that metallic impurities stabilise to a larger
or lesser degree the aforementioned disturbances in
the crystalline grating. By applying this idea to the
luminescence of ZnSe it can be stated that the lumin-
escence of zinc selenide is due to the vacancies in
selenium, and that these are stabilised by various
Card 2/3   metallic impurities. Zinc selenide was also found to

CZ/8-52(82)10-5/39

Zinc Selenides.II.   Nature of Luminescence of Zinc Selenide

be semi-conductor of type N which indicates a surplus
of cations in the zinc selenide grating. There are
13 References:3 English, 7 German, 1 Czech, 1
Japanese and 1 Russian

ASSOCIATION:Katedra anorganické chemie, Vysoká škola chemicko-tech-
nologická, Pardubice (Department of Inorganic Chemistry
Institute for Chemical Technology, Pardubice)

SUBMITTED: 16th November, 1957

Card 3/3

CZ/8/52(82)/10-27/39

AUTHORS: Horák, J., Klikorka, J. and Čelikovský, A.

TITLE: On Zinc - Selenide. III. Rectifying effect of Zn/ZnSe/Al
             cell (O selenidu zinečnatém. III. Usměrňovací efekt
             článku Zn/ZnSe/Al)

PERIODICAL: Chemické Listy, 1958, Vol 52(82), Nr 10, pp 1996-1998
             (Czechoslovakia)

ABSTRACT: The Zn/ZnSe/Al cell was examined for rectifying effect.
             This cell did not show good rectifying properties. Dia-
             gram of cell is given together with its method of
             preparation and certain results.
             There are 3 figures, 1 table and 4 references, 3 of which
             are Czech, 1 English.

ASSOCIATION: Vysoká škola chemicko-technologická, Pardubice
             (Technical University of Chemical Technology, Pardubice)

Card 1/1   3

Thermal dissociation of zinc oxide. Jiří Klikorka, Jaromír Horák, and Alex Čelikovský (Vysoká škola chem. technol., Pardubice, Czech.). *Chem. listy* 52, 2230-9 (1958).—ZnO prepd. by the dehydration of pure Zn(OH)₂ was tempered at temps. from 400 to 1400° in air at normal pressure and at a pressure of 10⁻³ mm. From its luminescence one concludes that in the temp. range 800-1400° predominantly elementary O is split out, the Zn⁺⁺ ions remaining in their normal lattice positions; their charges are compensated by the electrons which are left from the O ions.

B. Eiḋḋa

HORAK, J.

Thermal dissociation of zinc chalcogenides. Jaromir Horák and Jiří Klikorka (Vysoká Škola chem.-technol., Pardubice, Czech.). Sborník věd. prací, Vysoké Škola chem.-technol. Pardubice 1959, 59-66.—The luminescence of 10 samples of ZnO irradiated by cathode rays was studied at atm. pressure and in vacuo. The samples were previously heat-treated at 400–1400° for 30 min. Samples treated at 800–1400° exhibited a green luminescence (max. intensity at 1250°) owing to a dissocn. of ZnO and escape of O. A similar explanation was suggested for behavior of other semiconductors (ZnS, ZnSe, and ZnTe). Alexej B. Balkovec

CZECHOSLOVAKIA/Electronics - Semiconductors.   H-

Abs Jour   : Ref Zhur Fizika, No 3, 1960, 6434

Author   : Koseh, F., Horak, J., Kaspar, J.

Inst   : Technical or Chemical College, Pardubice, Czechoslovakia

Title   : Conductivity of Copper Tungstate

Orig Pub   : Collect. Czechsl. Chem. Communs, 1959, 24, No 6, 2034-
               2037

Abstract   : Sintered specimens of $CuWO_4$ were used to investigate the
               dependence of the conductivity on the temperature. From
               this dependence, the energy of activation was calculated;
               on the basis of the analysis of the lines and the Debye
               patterns of certain conducting specimens of $CuWO_4$, the
               strength of the Cu -- O -- W bond is evaluated.

Card 1/1

The luminescence of cadmium tungstate. J. Klikorka, I. Horák, and A. Čelikovský (Vysoká škola chemicko-technol., Pardubice, Czech.). Collection Czechoslov. Chem. Communs. 25, 388-93(1960).—Radiation intensity vs. wave length was detd. for $CdWO_4$ samples heated in air, O, H, N, and in vacuo. From the luminescence intensities and positions of resulting max. the processes are discussed which lead to the formation of luminescent samples. The effect of the presence of Cu^{++} and Mn^{++} ions on the luminescence intensity was investigated.   B. Suk

Distr: 4E2c

The conductivity of silver tungstate. J. Klikorka, A. Čelikovský, and J. Horák (Vysoká škola chemicko-technol., Pardubice, Czech.). Collection Czechoslov. Chem. Communs. 25, 587-9(1960).—The temp. dependence of the cond. of Ag_2WO_4 has an exponential character typical of semiconductors. The cond. does not depend on the partial pressure of the O. E. Exxxxx

23070

Z/037/61/000/002/002/003
E133/E435

$24,7700 (1055, 1137, 1144)$

AUTHORS: Kosek, F., Horák, J. and Kašpar, J.

TITLE: The Semiconducting Properties of Copper Tungstate

PERIODICAL: Československý časopis pro fysiku, 1961, No.2,
             pp.133-140

TEXT: The semiconducting properties of tungstates have been
inadequately studied.   So far, the reactions during the formation
of copper tungstate from metallic oxides have been studied and the
diffusion processes at the contact between copper oxide and
tungsten oxide (Ref.4: Tamman, G., Westerhold, F., Z.anorg.allg.
Chem,35 (1925),149).   Recently, the equilibrium between copper
tungstate and hydrogen as well as the thermodynamic properties of
copper tungstate have been studied (Ref.5).   The electrical
properties of sintered samples of copper tungstate were studied by
the authors.   The samples were prepared from sodium tungstate
(Merck) and copper nitrate.   From these, tungsten oxide and copper
oxide were prepared.   These were mixed and heat-treated at 800°C
for 48 hours in oxygen.   Samples 1 and 2 were prepared by this
method while another two samples (3 and 4) were prepared by mixing
the oxides into molten sodium chloride.   The melt was held at
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The Semiconducting Properties ...   E133/E435

820°C for 48 hours.   After cooling, the powdered preparation was
extracted in hot distilled water and washed in water several times.
The samples were pressed at 15000 kg/cm^2 into cylindrical shape and
heated in a quartz tube to 580°C for 4 hours in oxygen.   After slow
cooling, gold contacts were evaporated onto the samples.   These
electrodes proved ohmic between 0 and 1 Volt.   The measurements
on all samples gave identical and reproducible results.   The
conductivity σ of the samples was measured at a constant oxygen
pressure of 750 mm Hg in the temperature range from 273 to 873°K.
Fig.1 shows the results for the samples 1 to 4.   The samples
sintered at lower partial pressures (about 50 mm Hg) of oxygen
showed higher conductivity than those sintered at atmospheric
pressure of oxygen.   An investigation of the dependence of the
conductivity upon the partial pressure of oxygen was undertaken
next.   The measurements were taken only after equilibrium had
been set up, i.e. after approximately 15 hours.   σ was found to be
a linear function of the partial pressure of oxygen.   It can be
expressed by the equation

$$\sigma = \text{const} \times p_{o_2}^{-\frac{1}{x}}$$

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Z/037/61/000/002/002/003
E133/E435

The Semiconducting Properties ...

where P_{O_2} is the partial pressure of oxygen. The values of x vary between 3.48 at 703°K and 4.96 at 856°K. We might speculate that the conductivity is due to either oxygen vacancies or to copper (or tungsten) ions or atoms in interstitial positions. In the monoclinic lattice, the second possibility seems rather unlikely. Assuming that the conductivity is due to the electrons from oxygen anions, we can calculate the conductivity as a function of partial pressure of oxygen and find that the probable mechanism is given by equation 1:

(1) oxygen molecule $\rightleftharpoons$ oxygen atom + (oxygen vacancy)$^{+}$ + e^{-}

(2) oxygen molecule $\rightleftharpoons$ oxygen atom + (oxygen vacancy)$^{++}$ + 2e^{-}

At higher temperatures, a second mechanism (equation 2) might come into action. This assumption is supported by the fact that the dependence of log σ upon 1/T changes at about 693 to 753°K (Fig.1). Measurements of the thermoelectric e.m.f. as a function of temperature supported the assumption that copper tungstate is an n-type semiconductor. The view that oxygen vacancies determine the conductivity of copper tungstate is in agreement with

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Z/037/61/000/002/002/003
The Semiconducting Properties ...   E133/E435

Landsberg et al (Ref.11) and Pschera and Hauffe (Ref.12).
The luminescent properties of cadmium tungstate also point to
oxygen vacancies as the most likely defects in this substance,
which is isomorphous with $CuWO_4$.   There are 5 figures and
13 references: 4 Soviet-bloc and 9 non-Soviet bloc).

ASSOCIATION: Vysoká škola chemickotechnologická, Pardubice
             (School of Chemical Technology, Pardubice)

SUBMITTED: April 28, 1960

Card 4/5

23071

Z/037/61/000/002/003/003
E133/E435

26.2421   9.4300 (1164, 1385)

AUTHORS: Čermák, K. and Horák, J.

TITLE: Photovoltaic Effect on a Thin Film of Cadmium Telluride

PERIODICAL: Československý časopis pro fysiku, 1961, No.2,
pp.141-148

TEXT: The photovoltaic effect of cadmium telluride has recently
aroused interest because of the possibility of its use in solar
batteries.   Various authors reported measurements of the photo-
voltaic effect between cadmium telluride and various thin surface
layers.   The present authors studied the photovoltaic effect of
thin films of p-type cadmium telluride evaporated onto a metallic
substrate.   The cadmium telluride was evaporated onto a layer of
either tellurium or aluminium and the second contact was formed by
metallic cadmium.   The cadmium telluride contained less than
0.001% of Cu, Pb and Si.   The evaporation was carried out at room
temperature at 10^{-5} mm Hg.   The area of the layers was about
0.5 or 1 cm^2 and the thickness 0.6μ and 0.2 μ.   The resistivity
of the layer was approximately 10^8 ohm cm.   Three samples were
used for the measurements: a) Te-CdTe-Cd (smaller resistance);
b) Te-CdTe-Cd (larger resistance);   c) Al-CdTe-Cd.

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Z/037/61/000/002/003/003
E133/E435

Photovoltaic Effect ...

All the cells showed non-linear d.c. characteristics both in the dark and under illumination. The maximum resistance occurs when the cadmium contact is positive. This is in agreement with the assumption of a p-type layer of CdTe which is also in agreement with the thermoelectric and photoelectric e.m.f.'s. The samples were highly unstable. From a.c. measurements of the resistance and capacity, it seems established that a barrier layer of the Schottky type exists in the cells. The internal resistance found from measurements of the photoelectric e.m.f. was 4.65×10^4 ohm for sample (a). The photoelectric current has been found linearly proportional to the absorbed radiative energy within the full spectral range. The photovoltaic e.m.f. increases linearly with absorbed energy up to about 10 mV but shows a tendency to saturate at higher energies. Samples studied by the present authors did not show a maximum in their photosensitivity within the range of the wavelengths investigated, while commercial CdTe cells do show a maximum within this range. There are 7 figures and 11 references: 3 Soviet-bloc and 8 non-Soviet-bloc.

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23071

Z/037/61/000/002/003/003
Photovoltaic Effect ...   E133/E435

ASSOCIATION: Katedra fysiky, katedra anorganické chemie,
            Vysoká škola chemicko-technologická, Pardubice
            (Chair of Physics, Chair of Inorganic Chemistry,
            School of Chemical Technology, Pardubice)

SUBMITTED: July 29, 1960

Card 3/3

HORAK, J.; KOSEK, F.

Photovoltaic effect of zinc telluride.. Coll Cz Chem 28 no.1:173-130 Ja '63.

1. Institut fur allgemeine und anorganische Chemie und Physikalisches Institut, Technische Hochschule fur Chemie, Pardubice.

HORAK, Jaroslav, inz., CSc.

    Contribution to the problem of the future yield of Czechoslovak
    forests. Les cas 9 no. 12: 1105-1124 D '63.

    1. Vedecka laborator biogeocenologie a typologie lesa,
       Vysoka skola zemedelska, Brno.

HORAK, Jaroslav

Cupulometric findings in patients with chronic otitis media and positive fistula syndrome. Cesk. otolar. 9 no.4:218-222 Ag '60.

1. Otolaryngologicka klin. Karlovy university v Praze, predn. akademik Antonin Precechetel.
(OTITIS MEDIA diag.)
(VESTIBULAR APPARATUS physiol.)
(EAR dis.)

HORAK, Jaroslav

Cupulometric findings in patients treated with streptomycin. Cesk.
otolar 10 no.5:270-275 O '61.

1. ORL klinika fak. vseob. lek. University Karlovy, predn. prof. MUDr.
K. Sedlacek.

(STREPTOMYCIN toxidol)　(COCHLEA pharmacol)
(ACOUSTIC NERVE pharmacol)

VEJVALKA, J.; HORAK, J.

Injuries of the triangular bone of the wrist. Acta chir. orthop.
traum. cech. 31 no.5:422-426 O '64.

1. II chirurgicka klinika fakulty vseobechneho lekarstvi Karlovy
University v Praze (prednosta prof. dr. J. Lhotka).

HORAK, Jaroslav

Vestibular recruitment. Cesk. otolaryn. 11 no.4:240-243 Ag '62.

1. Klinika nemoci usnich, nosnich a krcnich fak. vseob. lek. Karlovy
university v Praze, prednosta prof. dr. K. Sedlacek.
(VESTIBULAR FUNCTION TESTS)

HORAK, J.

Subjective cupulometry in vertige. Cesk. otolar. 11 no.5:287-290 '62 .

1. Otolaryngologicka klinika fakulty vseobecneho lekarstvi University Karlovy v Praze, prednosta prof. dr. K. Sedlacek.
(VERTIGO)

CEPICKA, Jan; TOMANEK, Rostislav; HORAK, Jaroslav.

Contribution of psychiatry and otorhinolaryngology to the
problem of congenital syphilis. Acta Univ. Carol. [Med.]
(Praha) 10 no.2:165-170 '64

1. Psychiatricka klinika fakulty vseobecneho lekarstvi Uni-
versity Karlovy v Praze (prednosta: prof. MUDr. Vl. Vondracek,
DrSc.); Klinika usniho, nosniho lekarstvi fakulty vseobecneho
lekarstvi University Karlovy v Praze,(prednosta: prof. MUDr.
K.Sedlacek)

HORAK   Jaroslav, inz.

Meeting of the Commission of Glass and Ceramic Industry of the
International Trade Union of Chemical Industry. Sklar a keramik
15 no.2:35-36   F '65.

1. Chariman of the Commission of Glass and Ceramic Industry of
the International Trade Union of Chemical Industry.

21(3)

CZECH/3-59-9-20/39

AUTHOR: Horák, J. and Koldovský, M.

TITLE: Artificial Radioactivity of the Atmosphere (Umělá radioaktivita ovzduší)

PERIODICAL: Křídla Vlasti, 1959, Nr 9, pp 16 and 17 (CSR)

ABSTRACT: Authors explain, for the benefit of Civil Defense workers, the origin of artificial radioactivity and the method to measure the amount of radioactivity. There are 2 photos and 3 diagrams.

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Horák, Jiří

PHASE I BOOK EXPLOITATION   CZECH/5120

Meteorologie pro sportovní letce (Meteorology for Sports Flyers) Prague, Naše vojsko, 1960. 241 p. 4,000 copies printed. (Series: Knihovnice svazarmu, sv. 5)

Ed.: Karel Zelený; Assistant Editors: For Ch. 2: Mojmír Prokop, Doctor; Ch. 3: Theoretical pt.)Mojmír Prokop, Doctor, and Ivan Černoch, Chs: 4, 6, and 7: Oldřich Kostka, Doctor; Chs.: 5 and 15: Ladislav Ráta, Doctor; Chs.: 8 and 9: Jaroslav Kopáček, Doctor; Ch.: 10: Milan Koliovský and Jiří Horák; Chs.: 11-14: Jiří Förchtgott, Doctor; Resp. Ed.: Jiří Mik.

PURPOSE: This book is intended for sports plane and glider pilots.

COVERAGE: The book, composed to meet the needs of the aeroclubs of Svaz pro spolupráci s armádou (Union for Cooperation With the Army), discusses the principal types of weather phenomena likely to be encountered in flight. The measurement of meteorological elements is described. Meteorological phenomena of particular interest to glider pilots, viz., convection, turbulence, mountain currents, etc., are treated in some detail. Synoptic maps and weather reports are briefly described. Review questions accompany each chapter. No personalities are mentioned. There are 42 references: 7 Soviet, 21 English, 6 Czech, 4 German, and 2 Polish.

Card 1/12

39205

S/263/62/000/004/006/009

1004/1204

AUTHOR: Vokoun, Josef and Horák, Jiří

TITLE: Dosing device for small amounts of liquids

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. 32. Izmeritel'naya tekhnika. no. 4, 1962, 31, abstract 32.4.218 P. Czech. patent, class, 59 a, 5; 42 e, 9, no. 95602, June 15, 1960

TEXT: A device for dosage of small amounts of liquids (0 to 0.5 cm³) with an accuracy of ± 0.001 cm³ is described. At the beginning of the operation cycle, pistons (P) 1 and 2 (cf. figure) remain in their initial positions, to the left and to the right of the opening 7 of the inlet channel 8 at a precisely determined distance from a calibrated edge 9 located in a plane A perpendicular to the axis of the tube 3. This distance is established by means of a measuring screw 4 with a stop 5 pressed to it firmly. When P 1 is displaced in relation to P 2, which is kept in the initial position by the spring 6, the distance between the ends of both P pistons decreases and the excess of liquid passes into the channel 8. When the end of P 1 passes over the edge 9, the removal of the excess liquid stops and the amount of liquid which remained in the tube 3 corresponds to the predetermined dose. Further displacement of P 1 causes a displacement of P 2, which compresses the spring 6; as a result the dose of the liquid flows into the opened channel 10, after which the ends of P 1 and P 2 will touch one another. The device may be used in pharmaceutical, chemical and food industries, for lubrication, injection of fuel into combustion chambers, etc.

[Abstracter's note: Complete translation.]

Card 1/2

Dosing device for...

S/263/62/000/004/006/009
1004/1204
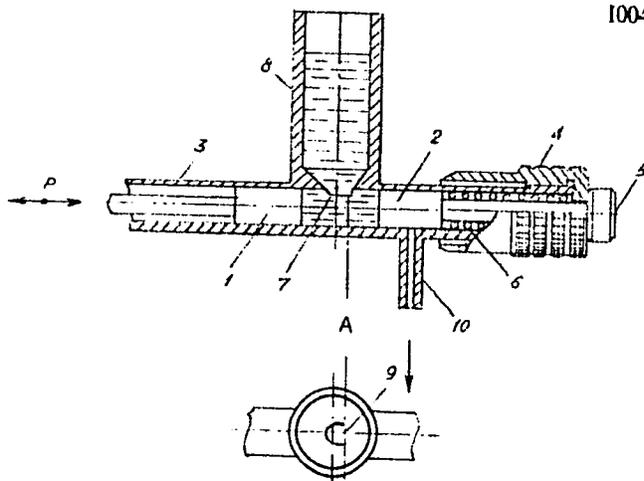
Figure

Card 2/2

HORAK, Jiri, akademik

Meeting of the Permanent Council of the International Union of
Anthropological and Ethnological Sciences in Prague. Vestnik CSAV
71 no.5:548-551 '62.

HORÁK J. and MALÝ V. 1. por.-gyn. Kl. a Úst. org. zdrav. KU, Praha.
Vztah menarche ke vzniku karcinomu rodidel. The relation between
menarche and genital carcinoma ČSL. GYNAEK. 1955, 2 (106-
108) Graphs 1 Tables 2

This is an exact mathematical analysis of the age of menarche of 2,000 women
treated for carcinoma of the corpus or cervix uteri or for ovarian carcinoma, and
of 1,000 control cases from the obstetrical service. The menarchal age in the
cancer group is significantly higher than in the control series. No explanation is
offered for this fact, but its importance for the detection of early genital carcinoma
is emphasized.

Rohan – Valašské Meziříčí (X, 5, 16)

1975. HORÁK J., STASTNÝ J. and MÁLEK J. I. Porodnické a Gynekol. Klin.,
Karlovy Univ., Praha. *Poměry leukocytů a lymfocytů v průběhu spontánní-
ho porodu. The relation of leucocytes and lymphocytes du-
ring spontaneous delivery ČAS.LÉK.ČES. 1956, 95/13 (350-362)
Graphs 8

It was found that the number of leucocytes increases two days prior to delivery.
At the beginning of delivery the number of white cells reaches a value of 15,000 to
25,000 and drops to normal during labour. The number of lymphocytes decreases
to as little as 5% during labour. The relation of leucocytes and lymphocytes is
illustrated by several graphs. The authors think it of practical value that the in-
crease of leucocytes and the relative decrease of lymphocytes make it possible to
ascertain the biological commencement of the delivery sooner that it can be esta-
blished clinically.   Kriz - Brno

CZECHOSLOVAKIA/Human and Animal Physiology (Normal and   T-3
              Pathological), Blood. Formed Elements.

Abs Jour   : Ref Zhur - Biol., No 16, 1958, 74650

Author   : Stastny, Jiri; Malek, Jiri; Horak, Jiri
* Inst   : -
Title   : Quantitative Changes of Leukocytes and Lymphocytes in
               Pathological Breeds.

Orig Pub   : Casop. lekaru ceskych, 1956, 95, No 13, 362-365.

Abstract   : No abstract.

      * Z. I. PORODNIKE A GYNEKOLOGICKE KLINKY KARLETY UNIVERSITY V

        PRAZE, PREDNISTA PROF. DR. KAREL KLAS,

Card 1/1

Abs Jour   : Ref Zhur - Biol., No 2, 1958, 8486

Author   : Jiri Malek, Jiri Horak and Jiri Stastny
Inst   : -
Title   : The Relationship of Biological Processes Connected with
               Birth to the White Blood Cell Fraction.

Orig Pub   : Casop. lekaru ceskych, 1956, 95, No 16, 434-438

Abstract   : The daily cycle of fluctuations in the number of leukocy-
               tes, eosinophils and lymphocytes was studied in 205 partu-
               rient women and their newborn infants, whose births were
               both normal and pathological. The lymphocytic reaction
               was more marked than the general leukocytic one.

Card 1/1

STASTNY, Jiri, MUDr.; HORAK, Jiri, MUDr.

Effect of hydrogenated ergot alkaloids on mammary gland in the first days of puerperium. Cesk. gyn. 22[37] no.1/2:131-136 Jan 58.

1. por.-gyn. klinika KU v Praze, prednosta prof. Dr K. Klaus.
J. S., Praha 2, Apolinarska 18.
        (ERGOT ALKALOIDS, eff.
            lactation in early puerperium (Cz))
        (PUERPERIUM,
            eff. of hydrogenated ergot alkaloids on lactation
            in early puerperium (Cz))
        (LACTATION, eff. of drugs on
            hydrogenated ergot alkaloids in early puerperium (Cz))

TRNKA, V.; FANTOVIA, B.; HORAK, J.; STASTNY, J.

Follow-up of the permanent effects of antibiotic therapy of gynecological
inflammations by means of a clinical investigation method. Cesk. gyn.
23[37] no.7:555-558 Oct 58.

1. I. gyn. klinika KU v Praze, prednosta prof. dr Karel Klaus.
        (GYNECOLOGICAL DISEASES, ther.
            antibiotics in inflamm., follow-up (Cz))
        (ANTIBIOTICS, ther. use.
            gynecol. inflamm., follow-up (Cz))

HORAK, Jiri

Sexual-gynecological problems in women after abdominal hysterectomy and supravaginal amputation of the uterus. Cesk. gyn. 26 [40] no.5:378-382 ❄ .'61.

1. I gyn. por. klin. KU Praha, prednosta prof. MUDr. Karel Klaus, Dr. Sc.
(HYSTERECTOMY)   (SEX BEHAVIOR)

HORAK, Josef

Bezpecnost prace v zemedelstvi. (Safety of Work in Agriculture. 1st ed. illus.)
Prague, SZN, 1957. 101 p. Vol. 13 of the series Knihovnicka zemedelce (Little
Library for Farmers).

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Cesk. rentgenol. 16 no.3:165-170 Je '62.

1. Rentgenove oddeleni Ustredni vojenske nemocnice v Praze, predn.
dr. F. Sykora.
(SPLEEN dis)   (CYSTS radiog)

HORAK, Josef; SISTEK, Josef

Our experiences with biligrafin in hysterosalpingography. Cesk.
rentgenol. 15 no.4:277-279 '61.

1. Rentgenologicke a gynekologicke oddeleni Ustredni vojenske nemocnice,
Praha-Stresovice.
                    (HYSTEROSALPINGOGRAPHY)

FRYBA, L.; HORAK, J.

Fractionated sialography.   Cesk. rentgen. 17 no.2:128-131 Mr '63.

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Coll Cz Chem 28 no. 12:3257-3263 D '63.

1. Militarakademie A. Zapotocky, Brno und Institut fur
    Kernforschung, Rez bei Prag.

HOLOWIECKI, K., HORAK, J.; D. MARYNOWICZ, H.

The elaboration of the method of obtaining 4,4-dipyridyl,   a chin
9:177-181 '64.

The elaboration of the method of receiving 2,4,2',4',2''-
pentamethoxy-triphenyl carbinol from resorcine and sodium   icylate.
Ibid.;163-188

1. Central Institute of Mining, Katowice. Presented Nov. 1   .

HORAK,J.; OKAC,A.

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pyrogallolsulfonic acid. Coll Cz Chem 29 no.1:188-196 Ja'64

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HORAK, Josef; RUZICKA, Vlastimil, doc.

Study on kinetics of catalytic dehydrogenation of ethanol on copper
catalyst. Sbor chem tech no.3, part 1:329-364 '59.

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Praha.

HORAK, J.

Distr: 4E2c(1)/4E3d

4
EW (BW)
JAU (NB)

/Reaction of phosphine and of phosphorous acid with aldehydes. I. Reaction of phosphine with benzaldehyde V. Ettel and J. Horak. Vysoka skola chem.-technol. Prague. Collection Czechoslov. Chem. Communs 23, 1151-8 ...in the presence of HCl PH₃ added to the CO group ...Bzl added ... ...were ... EtOH. PH₃ from ... g P passed in ... at 25-30° ... mixt shaken, kept 12 hrs at 20°, distd at 2 mm, the product chilled, and recrystd from 50 ml EtOH give 35 g, 1 = 158.5-9.0°. During the passage of PH₃, 10-40% cryst side-product, C₁₄H₁₄O₂P, m 110° (spd), which was apparently a cyclic acetal of BzH and bis(α-hydroxybenzyl)-phosphine, ν 2305 (P-H bond), and 1100 cm.⁻¹ (COC), no OH bonds. In a medium of alc HCl, the air took part in the reaction to give 80-90% tris(α-methoxybenzyl)-phosphine, m. 80-3° (MeOH), 85% bis(α-ethoxy)benzyl-phosphine, m. 107-11° (EtOH), and 65% bis(α-isopropoxy-benzyl)phosphine, m 70-4° (MeOH under N). BzH with PH₃ in PrOH and BuOH failed to give cryst. compds. and yielded instead, oily products, presumably bis(α-pro-poxybenzyl)phosphine and bis(α-butoxybenzyl)phosphine.

L. J. Urbanek

Mω

ETTEL, V.; HORAK, J.

Reaction of phosphines and phosphoric acids on aldehydes. Part
2: New derivates of dibezylphosphoric acid and of tribenzyphos-
phine oxide. Coll Cz Chem 26 no.8:1949-1957 '61.

1. Institut fur organische Technologie, Technische Hochschule
fur Chemie, Prag.

ETTEL, V.; HORAK, J.

Reaction of phospines and hypophosphorous acids on aldehydes.
Part 3: Reaction of phosphines and hypophosphorous acids with
chloral. Coll Cz Chem 26 no.8:2087-2089 '61.

1. Institut fur organische Technologie, Technische Hochschule
fur Chemie, Prag.

HORAK, J.; ETTEL, V.

Reaction of phosphine and hypophosphorous acids with aldehydes. Part 4:
Kinetic study of the interreaction of phosphine with formaldehyde and
benzaldehyde. Coll Cz Chem 26 no.9:2401-2409 '61.

1. Institut fur organische Technologie, Technische Hochschule fur
Chemie, Prag.

(Phosphine)   (Hypophosphorous acids) (Formaldehyde)
                   (Benzaldehyde)

HORAK, J.; ETTEL, V.

Reaction of phosphine and hypophosphorous acids with aldehydes.
Part 5: Research on interreaction of hypophosphorous acids with
formaldehyde and benzaldehyde. Coll Cz Chem 26 no.9:2410-2417 '61.

1. Institut fur organische Technologie, Technische Hochschule fur
Chemie, Prag.

(Phosphine)   (Hypophosphorous acids)   (Formaldehyde)
(Benzaldehyde)

CZECHOSLOVAKIA

HORAK, J.

Institute of Organic Technology of the Technical Higher
School of Chemistry (Institut für organicche Technologie,
Technische Hochsuhule für Chemie), Prague

Prague, Collection of Czechoslovak Chemical Communications,
No 9, 1963, pp 2328-2335

"On Reactions of Trichlormethansulfenylchloride and its
Derivatives I. Solvolysis of Trichlormethansulfenyl-
chloride."

SUTORY, Karel, MUDr.; KYCHLER, Ludek; HORAK, Josef; DOUBKOVA, Dagmar.

Evaluation of the test with Lugol solution. Vnitrni lek. 11
no.6:545-553 Je'65.

1. Vnitrni oddeleni okresni nemocnice v Novem Meste na
Morave (prednosta: MUDr. Karel Sutory).

HORAK, Josef

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Ja '63.

1. Vedouci technologie, Zavody prumyslove automatizace, montanni
zavod, Praha.

HORAK, J.

Some sources of raw materials for glass in Moravia, p. 247, SKLAR A
KERAMIK (Ministerstvo lehkeho prumyslu) Praha, Vol. 4, No. 9, Sept.
1954

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

HORAK, J.

Declaration of the Scientific-Technical Council and workers of the
research institutes of the Ministry of Light Industry, p. 253,
SKLAR A KERAMIK (Ministerstvo lehkeho prumyslu) Praha, Vol. 4,
No. 10, Oct. 1954

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

HORAK, J.

Reduction of working hours in the Moravia Glassworks in Kyjov. p.162.
(Sklar A Kermik, Vol. 7, No. 6, June 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC. Vol. 6, No. 9, Sept. 1957. Uncl.

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their   H-13
Application. Ceramics. Glass. Binding Materials. Concrete

Abs Jour : Ref Zhur - Khim., No 24, 1958, No 82425

Author   : Horak J.
Inst   :
Title   : Operational Problems of Glass Decolorization

Orig Pub : Skalr a keramik, 1958, 8, No 3, 76-78

Abstract : Experiments conducted at the Moraviya glass plant (Kiyev,
           CDR) on the decolorization of cut glass (CG) are described.
           CG is being produced in crucibles of approximately 120 kg
           capacity from a mix containing (in kg): 75 - sand, 12 dolomite,
           25-98% Na_2CO_3, 5-80-85% K_2CO_3, and 0.5 - sulfate. 110 gr
           of KNO_3 plus 40 gr of As_2O_3 plus 30 gr of decolorizing agent
           (D) consisting of 2.6 kg of borax plus 92 gr of boron
           selenide plus 6 gr CaO are also added. From the above batch,
           98.5 kg of CG are obtained. The average life of a crucible
           is approx. 6 melts. It has been noted from actual experience

Card   : 1/2

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CZECHOSLOVAKIA / Chemical Technology. Chemical Products   H
and Their Application. Ceramics. Glass. Bind-
ing Materials. Concrete.

Author   : Horak J.
Inst   : Not given.
Title   : Homogeneity of Colorless Glass and its Effect on
the Quality of Glass Containers.

Orig Pub: Sklar a keramik, 1958, 8, No 9, 262-264; No 10,
311-312.

Abstract: The deciding effects on the quality of glass con-
tainers has chemical composition of glass, shape
of a container, wall thickness, internal stresses,
and homogeniety of glass. Colorless glass used in
the manufacture of glass containers contains (in
%): 70-74 SiO_2 up to 3 of Al_2O_3 and Fe_2O_3, 9-12 of

Card 1/4

H-22

Abstract: CaO and MgO, and 14-16 of alkaline oxidis. For
the evaluation of glass homogeniety (GH), it is
being done with the aid of polarized light. For
the determination of products' uniformity, ring
samples immersed in benzene or chlorbenzene are
used. The described method permits an orientation
determination of GH with five gradations of the GH
degree proposed. However, the presented classifi-
cation suffers in accuracy and in the subjective-
ness. The product uniformity may also be deter-
mined through chemical analyses of samples obtained
from various portions, and also through the control
of glass density determined by the Nayt and Daff's
method. In the latter instance, densities of the

Card 2/4

HORAK, Josef, inz.; KRASL, Antonin

Effect of internal stress on the heat resistance of white
packing glass. Sklar a keramik 12 no.3:72-73 Mr '62.

1. Sklarny Moravia, narodni podnik, Kyjov (for Horak).
2. Obalove a lisovane sklo, narodni podnik, Dubi u
Teplic (for Krasl).

Z/039/60/021/02/003/037
E192/E535

AUTHOR: Horák, Július

TITLE: Directional Couplers Made of Waveguides Perpendicular
            to Each Other

PERIODICAL: Slaboproudý obzor, 1960, Vol 21, No 2, pp 72-78

ABSTRACT: Directional couplers are very often used in waveguide
            techniques. By means of the couplers it is possible to
            take some of the power from the main waveguide into a
            branching waveguide. The main parameters of the direction-
            al couplers are: the coupling loss and the directivity.
            The coupling is defined by

$$V = 10 \log \frac{P_1}{P_4} \qquad (1)$$

where P_1 is the power at the input (see Fig 1) and P_4 is
the power at the output 4, it being assumed that the
direction of the propagation in the main waveguide is from
1 to 2 (see Fig 1). The directivity is defined by

$$S = 10 \log \frac{P_4}{P_4'} \qquad (2)$$

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E192/E535

Directional Couplers Made of Waveguides Perpendicular to Each Other

where P'_4 is the power at the output 4 when the propagation direction in the main waveguide is from 2 to 1. The directivity can be achieved by several methods. In the following it is shown that comparatively simple wideband directional couplers can be obtained by combining 2 waveguides perpendicularly to each other and by providing the coupling hole between them (Fig 1). The functioning of this system is investigated analytically. It A rectangular waveguide shown in Fig 2 is considered. is assumed that when the electromagnetic wave propagates in the z direction, the field is given by Eqs (3); for the propagation direction -z, the field components are expressed by Eqs (4). The excitation of electromagnetic field by a hole can be investigated on the basis of the Bethe theory (Ref 1). According to this theory a small coupling hole between two waveguides can be regarded as dipoles which excite the electromagnetic waves propagating in both directions from the hole. Under the assumption

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Directional Couplers Made of Waveguides Perpendicular to Each Other

that the wave in the main waveguide propagates in the
direction p (see Fig 3) the propagation constants for the
secondary waveguide which is perpendicular to the main
one, are given by Eqs (5). In these A^+ is the
propagation constant for the wave which propagates in the
direction z while A^- is the propagation constant
for the direction -z. The quantities to be determined in
these equations are the so-called polarization coefficients.
These depend on the shape of the coupling hole. The
coefficients for circular, rectangular and cross-shaped
holes are indicated in Table 1. Thus it is found that the
propagation constants for the case of the circular hole
are given by Eqs (8), while for the cross-shaped hole they
are expressed by Eqs (9). The coupling loss for the
circular waveguide can be expressed by Eq (11) and the
directivity by Eq (12). The functions F_E and F_H in
these equations are defined by Eqs (10). Eqs (11) and (12)
Card 3/4   were used to design a directional coupler for the wave VC

Directional Couplers Made of Waveguides Perpendicular to Each Other

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length of 6 cm. The results are indicated in Figs 5 and
6. It was found however that coupling losses of about
20 dB could not be obtained by means of a circular hole.
For this purpose a cross-shaped hole was employed. The
coupling loss and the directivity of this type of
coupler are indicated in Figs 9 and 10. In special cases
it is possible to employ couplers based on 2 cross-shaped
holes. A coupling system at 20 dB with two cross-shaped
holes is illustrated in Fig 17. On the basis of the
theory and some experimental results it is concluded that
it is possible to design a directional coupler in such a
manner that the coupling loss over the whole bandwidth
of the waveguide will be practically constant and the
directivity will be higher than 10 dB.
There are 18 figures, 1 table and 11 references, 2 of
which are Czech and 9 English.

ASSOCIATION: TESLA Pardubice, n.p.   (TESLA State Factory of
             Pardubice)

SUBMITTED: October 1, 1959
Card 4/4

87982
Z/039/61/022/001/005/006
E192/E382

9.1310 (and 2604, 2904, 1144)

AUTHOR: Horák, Július

TITLE: Power Transfer Through a Cut-off Attenuator

PERIODICAL: Slaboproudý obzor, 1961, Vol. 22, No. 1,
        pp. 31 - 36

TEXT: The work is devoted to the investigation of the
characteristic of a reflection-type waveguide attenuator.
In the analysis it is assumed that the walls of the wave-
guides are ideally conducting and the medium inside the
waveguides is lossless. The propagation constant for the
waveguide is given by:

$$\gamma = \frac{2\pi}{\lambda_k} \sqrt{1 - \left(\frac{\lambda_k}{\lambda}\right)^2} \qquad (5)$$

where λ_k is the critical wavelength for the guide and
    λ is the wavelength of the source.

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Z/039/61/022/001/005/006
E192/E382

Power Transfer Through a Cut-off Attenuator

When $\lambda_k > \lambda$, the waveguide is overcritical and γ is an imaginary quantity so that the wave propagates without attenuation. In the undercritical case when $\lambda_k < \lambda$, γ is a real quantity and the amplitude of the wave is heavily attenuated. The power transmitted in an undercritical waveguide can be expressed by:

$$P_p = - X_o \left| I_p^+ \right|^2 \left| \Gamma_{pk} \right| e^{-2\gamma(\ell - z)} \sin \varphi \qquad (17)$$

where X_o is the characteristic impedance of the guide,

   I_p^+ is the current amplitude,

   Γ_{pk} is the reflection coefficient and

   φ is the phase of the reflection coefficient.

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Z/039/61/022/001/005/006
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Power Transfer Through a Cut-off Attenuator

The above formula is applied to the analysis of the system shown in Fig. 4. Here, the undercritical section having a wave impedance jX_o is connected between two sections having wave impedance R_o . The impedance of the load referred to the input of the undercritical section is Z_k and the impedance of the source referred to the section is Z_v . The reflection coefficient is now given by:

$$\Gamma'_{pk} = \left| \Gamma_{pk} \right| e^{j\varphi} = \frac{Z_k - jX_o}{Z_k + jX_o} \tag{18}$$

and the power transmitted is expressed by: $4H$

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Z/039/61/022/001/005/006
E192/E382

Power Transfer Through a Cut-off Attenuator

$$P_p = \frac{2R_o \left|I_n^+\right|^2 \left|\Gamma_{pk}\right| e^{-2\gamma\ell} \sin \Theta \sin \varphi}{\left|1 - \left|\Gamma_{pk}\right| e^{j(\varphi+\Theta)-2\gamma\ell} - \Gamma_{nv}(\left|\Gamma_{pk}\right| e^{j\varphi-2\gamma\ell} - e^{j\Theta})\right|^2} \qquad (32)$$

where Θ is defined by:

$$e^{j\Theta} = \frac{R_o - jX_o}{R_o + jX_o} \qquad (23) \ .$$

In practice, the impedances of the source and the load are matched so that $Z_v = Z_k = R_o$ and Eq. (32) can be simplified since $\varphi = \Theta$. The maximum power transfer to the system occurs when $\ell = 0$, i.e. when the load is connected directly to the source. The ratio of the maximum power to the power

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E192/E382

Power Transfer Through a Cut-off Attenuator

transmitted through the attenuator (for the matched case) is now given by:

$$\frac{P_{max}}{P_p} = \frac{1 + e^{-4\gamma\ell} - 2\, e^{-2\gamma\ell} \cos 2\varphi}{4\, e^{-2\gamma\ell} \sin^2 \varphi} \qquad (37).$$

If this formula is expressed in db, the attenuation is given by:

$$L = 8.686\, \gamma l + 10 \log \frac{1 + e^{-4\gamma\ell} - 2\, e^{-2\gamma\ell} \cos 2\varphi}{4 \sin^2 \varphi} \qquad (40).$$

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E192/E382

Power Transfer Through a Cut-off Attenuator

The first term in this formula and the denominator of the second term represent a linear attenuation (which is directly proportional to the length of the attenuator) while the second term represents a nonlinear increment. A graph of the attenuation $L(\gamma \ell)$ is given and the magnitude of the non-linearity is plotted for various values of X_o/R_o. The graph of the optimum values of X_o/R_o for a given nonlinearity $\triangle$ is evaluated. It is found that the lowest nonlinearity is achieved when $X_o/R_o \approx 2.414$. The problem was also investigated experimentally at wavelengths ranging from 25 - 72 mm and it was found that the theory was in good agreement with experiment. There are 8 figures and 5 non-Czech references.
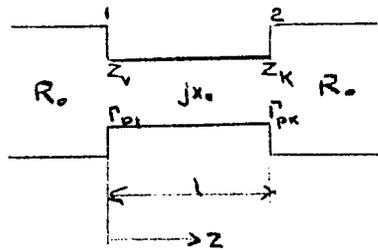
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Z/039/61/022/001/005/006
E192/E382

Power Transfer Through a Cut-off Attenuator

Fig. 4:

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E192/E382

Power Transfer Through a Cut-off Attenuator

ASSOCIATION: Tesla Pardubice n.p. - Výzkum a
               vývoj radiotechniky
               (Tesla Pardubice State Enterprise -
               Department of Radioengineering Research)

SUBMITTED: July 27, 1959

Card 8/8

35160
Z/039/62/023/001/003/007
D291/D505

9.6000 (1040, 1159)

AUTHORS: Horák, Julius, Vebr, Milon, and Stolpa, Milivoj

TITLE: Cavity wavemeters with direct frequency reading

PERIODICAL: Slaboproudý obzor, v. 23, no. 1, 1962, 29 - 35

TEXT: The article describes the development of a prototype
resonant-cavity wavemeter for direct frequency reading in the 3 cm
band, type MLL, developed by the TESLA Pardubice, National Enterprise,
Research and Development Plant in Opočínek. The MLL wavemeter is an
improved version of the QHV 222 11-12 wavemeter for the 3 cm band and
resembles the design of the wavemeter produced by the Hewlett-Packard
Company, described in Ref. 2 (Proc. IRE, October 1958, p. 214), with
the exception that it is considerably simpler in design, whereby the
tolerance is reduced to a minimum by direct coupling of the cavity
piston to a scale on the drum. This drum turns together with the pis-
ton in the cavity. To keep the instrument's dimensions to a minimum,
the cavity is placed inside the drum and the rectangular waveguide is

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Cavity wavemeters with ... $L/039/62/023/001/005/007$
                                    D291/D503

coupled to the bottom of the cavity by an elliptical aperture. After
a more detailed description of the design and the requirements impos-
ed on the accuracy of the instrument, results of test measurements
are listed. It was found that the electrical specifications of the
MLL wavemeter are in basic agreement with those of the CXY 252 tt-10
cavity wavemeter. The calibration curve of the MLL wavemeter also re-
presents the scale of the drum, necessitating an extreme precision,
especially as regards cavity dimensions, however, the resultant in-
crease in production costs is offset by the simple operation and ra-
pid frequency reading as confirmed in laboratory tests. There are 10
figures, 1 table and 4 references: 1 Soviet-bloc and 3 non-Soviet-
-bloc. The references to the English-language publications read as
follows: Electronic Engineering, Sept. 1957, p. 155; Proc IRE, Octo-
ber 1958, p 21A; Montgomery: Technique of microwave measurements.
MIT, Radiation Laboratory Series, New York 1945.

ASSOCIATION: TESLA Pardubice, n.p., výzkumný a vývojový závod Opoč-
                ínek (TESLA Pardubice, National Enterprise, Research

Card 2/3

Cavity wavemeters with ...

3/039/62/023/001/003/007
D291/D303

and Development Plant in (podének)

SUBMITTED: July 4, 1961

Card 3/3

HORÁK, J.; ZBIROVSKY, M.

Reactions of trichloromethanesulfenyl chloride and its derivatives.
Pt. 3. Coll Cz Chem 29 no.9:2194-2205 S '64.

1. Technische Hochschule fur Chemie, Prague.

HORAK, J V·

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: /not given/

Affiliation: /not given/

Source: Bratislava, <u>Geograficky Casopis</u>, Vol XIII, No 3, 1961, pp 233-234.

Data: "Terminology for Maps, Particularly Historical Maps. A Discussion
Held in the Historical Institute of the Czechoslovak Academy of
Sciences, 15, November 1960."

Authors: <u>HORAK</u>, J.V.
          VANIS, J.

HORAK, K.

The manufacture of gypsum and gypsum prefabricated parts from Opave. p. 411

STAVIVO ('Ministerstvo stavebnictvi) Vol. 34, No. 11, Nov. 1956

Praha, Czechoslovakia

SOURCE: East European List (EEAL) Library of
Congress, Vol. 6, No. 1, January 1957

HORAK, K.

Pillar and chamber mining with scrapers in the J. Stetka Mine at Chrustenice.
p. 73. (Rudy, Vol. 5, No. 3, Mar 1957, Praha, Czechoslovakia)

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

HORAK, K.

TECHNOLOGY

periodicals: RUDY Vol. 6, no. 9, Sept. 1958

HORAK, K. Main problems of prospecting, mining, and ore dressing in
Barrandium. p. 298.

Monthly List of East European Accessions (EEAI) LC Vol. 8, no. 5
                                        May 1959, Unclass.

HORAK, K.; AIMA, J.

Reverse and zero reactance of electric circuits.
p. 474. SOVETSKA VEDA: ENERGETIKA. (Ceskoslovenska
akademie ved. Technicka sekce) Praha. Vol. 4,
no. 4, 1956.

SOURCE: East European Accessions List, (EEAL),
Library of Congress. Vol '? no. 12,
December 1956

HORAK, K.

HORAK, K.   400 kv. electric lines in the USSR.   p. 614,   Vol 4,   no. 5,
1956 SOVETSKA VEDA: ENERGETIKA
Praha, Czechoslovakia

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

HORAK, K.

Study of electrical engineering in our technical universities.
(Supplement) p. T1. ELEKTROTECHNICKY OBZOR. (Ministerstvo
strojirenstvi a Ministerstvo paliv a energetiky) Praha.
Vol. 45, No. 1, Jan. 1956

SOURCES: EEAL - LC Vol. 5, No. 10 Oct. 1956

HORAK, K.

O. Weisser and F. Schulz's Elektroenergetika (Electric Power); a book review.

P. 607. (ELEKTROTECHINICKY OEZOR) (Praha, Czechoslovakia) Vol. 6, no. 11, Nov. 1957

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

HORAK, K.

Notes on articles written by J. Sedlak concerning the resistance of long
electric-power lines; also remarks by J. Sedlak. p. 489.

ELEKTROTECHNICKY OBZOR. (Ministerstvo tezkeho strojirenstvi a Ceskoslovenske
vedecka technicka spolecnost pro elektrotechniku pri Ceskoslovenske akademii
ved) Praha, Czechoslovakia. Vol. 48, no. 9, Sept. 1959.

Monthly list of East European Accessions (EEAI) LC, vol. 9, no. 1, Jan. 1960.

Uncl.

HORAK, K.

Matrix symbols for designing tied-in electric networks.
El tech cas 13 no.9:564-568 '62.

HORAK, Karel, inz.

Calcualtion of a complicated network system by means of a digital computer. El tech obzor 51 no.12:642-651 D '62.

1. Vysoka skola dopravni.

HORAK, L.

Some interesting geologic profiles at construction sites in Prague and
its suburbs. p. 180.
(Casopis Pro Mineralogii A Geologii, Vol. 2, no. 2, 1957. Praha, Czech-
oslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 10, October 1957. Uncl.

CZECHOSLOVAKIA

HOLUB, Vaclav, MUDr; HORAK, Ladislaw, MUDr.

Department of Neurology, Childrens' Hospital, Faculty of Medicine
UJEvP (Neurologicke oddeleni detske nemecnice lekarake fakulty UJEvP).Brno,
- (for both, Holub-Chief).

"Effect of mivaline in clinical runs of some muscular and nervous
disorders."

B/035/62/000/011/046/079
A001/A101

AUTHOR: Horák, Ladislav

TITLE: Railroad transition curve

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             13, abstract 11G101 ("Geod. a kartogr. obzor", 1962, v. 8/50,
             no. 5, 84-88, Czech)

TEXT: The author recommends the following method of calculating a rail-
road transition curve having the shape of a cubic parabola

$$P = \frac{x^3}{6rl} = \frac{x^3}{6\omega} \cdot$$

To secure a smooth transition of a railroad way into a circular curve, it is ne-
cessary that the center of the latter would be located on the common normal to
it and to the transition curve. Curvature of transition curve is the same for
all radii of the curves; curves with different radii, e.g. r_1 and r_2 (see Fig-
ure 1) are joined with the transition curve at points ZO_1 and ZO_2 located at

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distances $l_1 = np_1 = \frac{\omega}{r_1}$ and $l_2 = np_2 = \omega/r^2$ from the beginning ZP of the transition curve. Here $\omega = rl = 11.8 \, nv^2$, where $n = 10V$ and V is velocity. The ordinate of the end ZO of the transition curve is determined from the expression:

$$y \div k = \frac{l^2}{6r} = \frac{l^3}{6\omega} \, ,$$

and tangent of angle β, formed by the tangent with the abscissa axis, is the first derivative of the transition curve equation:

$$y' = \frac{x^2}{2rl} = \frac{x^2}{2\omega} = \text{tg} \, \beta \, .$$

For the end ZO of the transition curve $\beta = \lambda$, and $\text{tg} = \frac{1}{2r} = \frac{l^2}{2\omega}$. The coordinates of center S of the curve located on the normal at the point of joining the transition and circular curves have the values $x_s = 1 - r \cdot \sin\lambda$, $y_s = k + r \cdot \cos\lambda$. Radius ρ of the transition curve curvature is determined from the expression:

$$\rho = \frac{(1+y'^2)^{3/2}}{y''} \, ,$$

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where $y'' = \dfrac{x}{rl}$ is the second derivative of the transition curve equation,

$\rho_x = \dfrac{lr}{x \cdot \cos^3 \beta}$, and for point ZO the radius $\rho = \dfrac{r}{\cos^3 \beta}$. In order to eliminate bending of the curve at point ZO, caused by the difference in curvature radii of the transition and circular curves, values of curvature radii ρ are presented in the tables proposed by the author. Circular curves with the given radius r are joined into a single transition curve in spots nearest to the maximum value of radius ρ, but in no case at the point of transition curve calculated for the tabular value of radius r. The transition curve length along the axis of railway is equal to

$$l_o = 1 + \frac{l^3}{40r^2} = 1 + \frac{l^5}{40\omega^2}$$

(Figure 2); polar angle δ, the angle in the beginning ZP of the transition curve between the main tangent and direction to the end ZO of the transition curve, is determined from the expression:

$$tg\,\delta = \frac{k}{1} = \frac{1}{6r} = \frac{l^2}{6\omega} ;$$

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the length of secant d between individual points of the transition curve is equal to

$$d = \sqrt{(k_2-k_1)^2 + (l_2-l_1)^2} \; ;$$

angle τ between the common tangent t' to both curves and secant in direction to ZP is equal to difference $\lambda - \delta$; the projection length of the tangent onto the abscissa axis

$$s_t = \frac{k}{tg\lambda} = \frac{l^2}{6r} \cdot \frac{2r}{l} = \frac{l}{3} \; ;$$

distance between point T and ZP: $b = l - s_t = \frac{2}{3} l$; distance between point T and ZO: $z = \frac{s_t}{\cos\lambda} = \frac{k}{\sin\lambda}$; the length of the tangent to the whole curve with two-sided transition curves of the same length: $t_o = x_s + y_s \cdot tg \frac{\alpha}{2}$; the total length of the whole curve with transition curves: $d_o = 2l_o + r \cdot arc\ (\alpha-2\lambda)$ where α is external angle of extreme tangents. The tables proposed by the author do not call for any calculations while performing a railroad surveying. To survey the junction of circular and transition curves one has to calculate
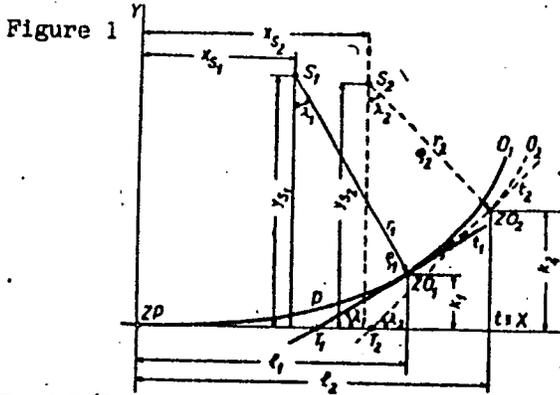
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the position of the center of the circular curve on the common normal, lengths
of tangents and the length of the circular curve along the axis of railway. These
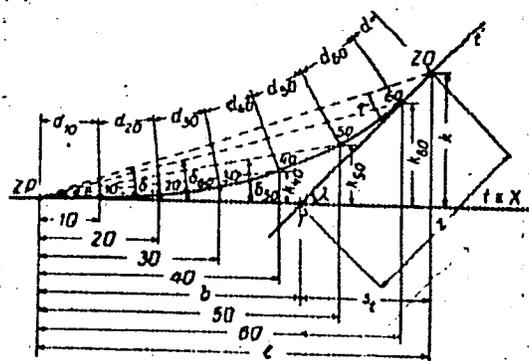tables can be used also for a detailed surveying of transition curves.

N. Modrinskiy

[Abstracter's note: Complete translation]

Figure 1

Figure 2

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