JANJIC, Tomislav J.; CELAP, Milenko B.; PANOVIC, Z.F.

Determination of small quantities of mercury, silver, platinum, palladium, and gold on the paper prepared with cadmium sulfide. Glas Hem dr 25-26 no.8/10:531-534 '60/'61.

1. Faculty of Sciences, Institute of Chemistry, Beograd.

ULANOVA, T.A., red.; SPANOVSKAYA, A.P., red.; KAMERON, A.A., red.; BOBROVA, Ye.N., tekhn.red.

[Soviet railroad literature of 1957] Zheleznodorozhnaia literatura SSSR, 1957. Moskva, Vses.izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1960. 293 p.
(MIRA 13:8)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. TSentral'naya nauchno-tekhnicheskaya biblioteka.
(Bibliography--Railroads)

PRAVIKOVA, G.P.; PADNYAN, V.A., inzh., nauchno-tekhn. red.; SPANOVSKAYA, A.P., otv. za vypusk; VOROTNIKOVA, L.F., tekhn. red.

[Mechanization and automation of loading and unloading operations in railroad transportation in the U.S.S.R. and foreign countries; bibliographic index of Soviet literature] Mekhanizatsiia i avtomatizatsiia pogruzochno-razgruzochnykh rabot na zheleznodorozhnom transporte v SSSR i za rubezhom; bibliograficheskii ukazatel' otechestvennoi literatury. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 86 p. (MIRA 15:3)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. TSentral'naya nauchno-tekhnicheskaya biblioteka.
(Bibliography--Loading and unloading)
(Bibliography--Railroads--Freight)

RODOVSKAYA, M.V., otv. za vypusk; SPANOVSKAYA, A.P., red.; KHITROVA, N.A., tekhn. red.

[Railroad litterature published in the U.S.S.R. during 1958] Zheleznodorozhnaia literatura SSSR 1958. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 385 p.
(MIRA 14:8)

(Bibliography--Railroads)

SPANOVSKAYA, A.P., otv. za vypusk; GROMOV, Yu.V., tekhn. red.

[Railroad literature of the U.S.S.R. published in 1959]Zheleznodorozhnaia literatura SSSR, 1959. Moskva, Transzheldorizdat, 1962. 386 p. (MIRA 16:1)

(Bibliography--Railroads)

SPANOVSKAYA, A.P., otv. za vyp.; DROZDOVA, N.D., tekhn.red.

[Recommended reading for the track patrolman] Transzheldorizdat, 1963. 7 p. (MIRA 17:1)

1. Russia (1923- U.S.S.R.) Ministerstvo putey soobshcheniya. TSentral'naya nauchno-tekhnicheskaya biblioteka.

SPANOVSKAYA, V. D.

Amur River - Gudgeon

Classification of the Amur gudgeon. Zool. zhur. 32 No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

SPANOVSKAYA, V. D.

"Fish of the Subfamily Gobioninae of the Amur Basin. (Systematics, Biology, Significance to the Life of the Amur Ichthyofauna)." Cand Biol Sci, Chair of Ichthyology, Biology-Soil Faculty, Moscow Order of Lenin State U imeni M. V. Lomonosov, Moscow, 1955. (KL, No 11, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SPANOVSKAYA, V.D.; GRIGORASH, V.A.

Diurnal feeding periodicity of some cyprinoid fishes. Vop.ikht. 1 no.2:297-306 '61. (MIRA 14:6)

1. Laboratoriya ikhtiologii Moskovskogo gosudarstvennogo universiteta.
(Carp) (Fishes—Food)

BOGOSLOVSKIY, B.B.; GRIGORASH, V.A.; LYAGINA, T.N.; SPANOVSKAYA, V.D.

Hydrological pattern and the formation of the ichthyofauna of the Mozhaysk Reservoir according to 1960 data. Vest. Mosk. un. Ser. 5: Geog. 16 no. 3:38-45 My-Je '61. (MIRA 14:5)

1. Kafedry gidrologii sushi i ikhtiologii Moskovskogo gosudarstvennogo universiteta.
(Mozhaysk Reservoir—Hydrology) (Mozhaysk Reservoir—Fishes)

SPANOVSKAYA, V.D.

Stenophagy and eurphagy in fishes of the subfamily Gobioninae.
Zool. zhur. 40 no.10:1516-1531 O '61. (MIRA 14:9)

1. Department of Ichthyology, State University of Moscow.
(Amur River--Gobioninae) (Fishes--Food)

SPANOVSKAYA, V.D.; MAKEYEVA, A.P.

Faunistic position of Ladislavia taczanowskii Dyb. of the Amur basin. Zool.zhur. 41 no.7:1051-1055 Jl '62. (MIRA 15:11)

1. Department of Ichthyology, State University of Moscow.
(Amur Valley--Gobies)

SPANOVSKAYA, V.D.; GRIGORASH, V.A.; LYAGINA, T.N.

Dynamics of the fecundity in fishes as exemplified by the roach Rutilus rutilus (L.). Vop.ikht. 3 no.1:67-83 '63.
(MIRA 16:2)

1. Kafedra ikhtiologii Moskovskogo gosudarstvennogo universiteta.

(Roach (Fish)) (Fertility)

SPANOVSKAYA, V.D.

Feeding habits of the young-of-the-year pike (Esox lucius L.).
Zool. zhur. 42 no.7:1071-1079 '63. (MIRA 17:2)

1. Department of Ichthyology, State University of Moscow.

SPANOVSKAYA, V.D.; GRIGORASH, V.A.; MARKOV, K.P.

Ruff population dynamics. Zool. zhur. 44 no.4:561-568 '65.
(MIRA 18:6)

1. Kafedra ikhtiologii Moskovskogo gosudarstvennogo universiteta.

SPANOVSKAYA, V.D.

Mass Ligula infestation of bleak in the Moskva River. Nauch. dokl. vys. shkoly; biol. nauki no.1:27-29 '66. (MIRA 19:1)

1. Rekomendovana kafedroy ikhtiologii Moskovskogo gosudarstvennogo universiteta. Submitted December 28, 1964.

SPANOVSKAYA, V.D.; GRIGORASH, V.A.

Ichthyofauna of Spas-Klepiki lakes and its characteristics.
Trudy OGZ no.5:27-56 '63. (MIRA 17:10)

GRIGORASI, V.A.; ZAVGORODNYAYA, N.G.; SPANOVSKAYA, V.D.; FILIPPOVA, L.I.

Hydrobiological essay on lakes of the Meshchera Lowland. Trudy OGZ no.5:57-86 '63. (MIRA 17:10)

SPANOVSKIY, P.

Latvian aviators are members of the All-Union Society of Innovators and Inventors. Grashd.av 17 no.3:3 Mr '60. (MIRA 13:6)

1. Inspektor TSentral'nogo komiteta profsoyuza aviarabotnikov. (Latvia--Air pilots)

MENKOVSKIY, M.A., prof., doktor khim.nauk; SPANOVSKIY, V.S., dots., kand.ekon.nauk.; SUKHANOV, A.F., prof., doktor tekhn.nauk

Basic problems in the complete utilization of coal in the economy of the U.S.S.R. Nauch.dokl.vys.shkoly; gor.delo. no.4:251-253 '58. (MIRA 12:1)

1. Predstavleno Moskovskim Gornym institutom imeni I.V. Stalina.
(Coal--By-products) (Coal gasification, Underground)

SPANY, V.

"Electronic tension regulator for synchronous dynamos." p. 34.

TECHNICKA PRACA. (Rada vedeckych technickych spolocnosti pri Slovenskej akademii vied). Bratislava, Czechoslovakia, Vol. 7, No. 1, 1955.

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

SPANY, V.

"Simple circuit in electronic control machine performance." p. 129

TECHNICKA PRACA. (Rada vedeckych technickych spolocnosti pri Slovenskej akademii vied) Bratislava, Czechoslovakia, Vol. 7, no. 3, 1955.

Monthly List of East European Accessions Index (EEAI) LC, Vol. 8, No. 9, Sept. 1959

Uncl.

SPANY, V.

Electronic pulse registration and its use in industry; p. 508

TECHNICKA PRACA. Czechoslovakia, Vol. 7, No. 11, Nov 1955.

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

SPANY, V.

Construction of an apparatus for measuring revolutions connected to a simple electronic computer. p. 170.
Technological innovations at the Leipzig Spring Fair. p. 181.
Slovak technological terminology. p. 184.

Vol. 8, no. 4, Apr. 1956
TECHNICKA PRACA
Bratislava, Czechoslovakia

Source: East European Accession List. Library of Congress
Vol. 5, No. 8, August 1956

SPANY, V.

SPANY, V.

Design for a diode pump integrator.

p. 267 (Sdelovaci Technika) Vol. 5, no. 9, Sept. 1957, Praha, Czechoslovakia

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

SPANY, V.

The multivibrator as a frequency divider. p.10.
(Technicka Praca, Vol. 9, No. 1, Jan. 1957, Bratislava, Czechoslovakia)

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

SPANY, V.

Two basic elements of the electronic counter; a simple ating circuit and decade scaler.

P. 464 (Slaborproudy Obzpr. Vol. 18,no. 7, July 1957, Prahak Czechoslovakia)

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

SPANY, V.

"Design of a junction-type transistor divider chain and indication of its state." P. 378.

SLABOPROUDY OBZOR. (Ministerstvo presneho strojirenstvi, Ministerstvo spoju a Vedecka technicka spolecnost pro elektrotechniku pri CSAV). Praha, Czechoslovakia, Vol. 20, No. 6, June 1959.

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

SPANY, V.

New approximate approach to the design of a junction transistor-blocking oscillator. p. 429.

SLABOPROUDY OBZOR. (Ministerstvo vseobecniho strojirenstvi, Ministerstvo spoju a Ceskoslovenska vedecko-technicka spolecnost, sekce elektrotechnika) Praha, Czechoslovakia, Vol. 20, No. 7, July 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959.

Uncl.

SPANY, V.

Storage-type integrator circuit with a junction-type transistor blocking oscillator as a pulse-frequency divider. p. 565

SLABOPROUDY OBZOR (Ministerstvo vscebenibe strojirenstvi, Ministerstvo spoju a Ceskoslovenska vedecko-technicka spolecnost, sekce elektrotechnika) Praha, Czechoslovakia, Vol. 20, no. 9, Sept. 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 9, no. 2 Feb. 1960

Uncl.

SPANY, V.

Influence of stray inductivity on the relaxation oscillation time in a blocking oscillator. P 760

SLABOPROUDY OBZOR (Ministerstvo vscobenibo strojirenstvi, Ministerstvo spoju a Ceskoslovenska vedecko-technicka spolecnost, sekce elektrotechnika) Praha, Czechoslovakia, Vol. 20, no. 12 Dec. 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 9, no. 2, Feb. 1960

Uncl.

21347
Z/014/60/000/012/002/005
A205/A126

9,4310 (1139, 1154, 1159, 1161)

AUTHOR: Špány, Viktor, Engineer

TITLE: The over-saturated transistor and its performance

PERIODICAL: Sdělovací technika, no. 12, 1960, 449 - 451

TEXT: The article describes the performance of a transistor in impulse operation, with special emphasis of delay time. The author points to a special case, not yet mentioned in literature, which occurs, when the emitter junction with its recovery time t_2, behaves during the time-delay like an unsaturated collector circuit. In response to an impulse, a transistor reacts with a time delay, caused by the surplus of minority carriers in the base region. This time delay is primarily determined by the level of input signals, which cause the oversaturation of the transistor, secondarily by transistor characteristics. To calculate the time delay, it is essential to determine the inverse parameters of the transistor. The response of an unsaturated transistor to an impulse is given by an exponential equation which is generally applicable to leading and trailing edges of the response pattern of the function $\Delta f(\infty)$, which represents either a voltage or a current impulse. There is no substantial difference in the duration

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The over-saturated transistor...

of leading edges in common-emitter or common-base connection, when signal currents have the same value ($I_b \cong I_e$). The wiring of a transistor, controlled by rectangular impulses of the amplitude (E_1) till over-saturation, is shown in Figure 3. The collector junction is open (i.e. during impulse duration, the base potential of point [B] will be lower than that of the collector in point [K]). Due to the surplus of minority carriers, which float the junctions, the potential of point (K) does not drop immediately after the end of the input signal, but requires a certain time delay (t_o) till it starts dropping, and reaches the full value of the external source (E) after a certain recovery time (t_z). After the time of impulse duration (t_i), time delay (t_o) and recovery time (t_z), the transistor operates in the active region. The pulse leading-edge time (t_p) and duration of t_o and t_z are primarily determined by the cutoff current (I_s). The time delay t_o can be calculated by the equation

$$t_o = \tau \ln \frac{\varrho}{1 - \frac{I_h - I_s}{I_h - I_d}} \qquad (6)$$

or, more precisely, by the formula derived by J. L. Moll

The over-saturated transistor...

$$t_o = \frac{\bar{\omega}_{\alpha} + \omega_{\alpha i}}{\omega_{\alpha}\omega_{\alpha i}(1 - a_{\alpha i})} \ln \frac{I_1 - I_2}{(I_s/A) - I_2} \quad (7)$$

which also considers inverse transistor parameters. To verify the applicability of these equations, test measurings were made with a "1NU70" af transistor. After measuring regular parameters and the inverse cutoff frequency, the input circuit of the transistor was modified (Fig. 5) for measuring the time delay. Rectangular impulses of a length of 50 μsec and a negative amplitude of 70 v (against ground) were fed to the input (A). The diode (D) secured zero-level of input signals in the circuit; measurings were made at $R = \infty$. The time delay, calculated according to Equation 6 is 41.2 μsec, calculated according to Equation 7 it is 49.6, and the time delay, actually measured is 52.5 μsec. A very interesting effect, so far neglected in literature, was observed when the base is negatively biased. Excess holes in the base region are absorbed partly by the regular collector, partly by an artificially created collector, which, in the instance of the negative voltage influence, replaces the denser emitter junction. Later, when the collector junction is being desaturated, the response changes. The impulse duration (t_1) is followed by the time delay (t_o) which can be subdivided into periods (t_1) and (t_2). During (t_1), both junctions are oversaturated, during (t_2), the emitter

The over-saturated transistor...

junction is already desaturated (voltage drop on the resistor R), while the collector junction is still oversaturated, which appears, as if base and collector were shorted. The oscillogram shows, that the collector pattern follows the base potential throughout the entire period (t_o), and it is only after that time has elapsed, that the recovery pattern (t_z) appears also for the collector circuit. In this specific case, differences between calculated and measured time delay are even bigger than in the aforementioned experiment. There are 9 figures and 1 non-Soviet-bloc reference. The reference to the English-language publication reads as follows: R. F. Shea a ini: Transistor circuits engineering, John Willey, New York, 1958 (Abstracter's note: there seems to be a misprint in the name of the author)

S/194/62/000/009/013/100
D201/D308

AUTHOR: Spány, Viktor

TITLE: A universal thermal relay

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1962, abstract 9-2-14 ts (Czech. pat., cl. 21 g, 4/05, no. 98648, February 15, 1961)

TEXT: A relay is proposed which represents a switch-over circuit consisting of an unbalanced bridge and two transistors connected in series with the emitters connected together. A thermistor is connected into one arm of the bridge. The diagonal points of the bridge are connected to the bases of transistors; the thermistor arm conducts when the bridge becomes balanced owing to a change in the thermistor resistance. An electro-magnetic relay is placed in the collector circuit of one of the transistors. 2 figures. [Abstracter's note: Complete translation.]

Card 1/1

25136 P/034/61/000/009/003/004
D247/D302

9.2560

AUTHOR: Špány, Viktor, Engineer

TITLE: A symmetrical circuit with complementary transistors

PERIODICAL: Pomiary, Automatyka, Kontrola, no. 9, 1961, 382-384

TEXT: The author gives several theoretical transistor circuits using complementary transistors. The basic emitter coupled circuit is shown in Fig. 1. If voltage source u_1 and u_2 are independent then $\beta_1 i_{b1} = \beta_2 i_{b2} = i_e$ (1) and $\beta_1/\beta_2 = i_{b2}/i_{b1}$ (2) are correct. The ratio of collector currents is given by

$$\frac{i_{k1}}{i_{k2}} = \frac{\beta_2(\beta_1 - 1)}{\beta_1(\beta_2 - 1)} \quad (3)$$

and is symmetrical. An improved version of the circuit is then given with only one independent voltage source. Circuit (Fig. 1) can be used for phase discrimination. T_1 and T_2 voltages u_1 and u_2 were applied respectively (Fig. 3). Current through the

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collector of T_1 flows if $u_1 > u_2$. The angle of opening is equal to phase angle. Only in this period both transistors are conducting. Fig. 5 shows the cross modulator. Primary windings $L_1 \ldots L_4$ are wound in the same direction and black dots denote their short. Fig. 9 shows the flip flop circuit. If T_1 and T_2 are non conducting then R, R_k, R_1, R_2 make an unstable bridge and base of T_2 is positive in relation to the base of T_1. To fulfill this condition

$$R > \frac{(R_k + R_1)^2}{R_2} \qquad (5)$$

and

$$R \ll \beta R_k \gg R_2 \qquad (6)$$

must be satisfied. The application of this circuit is then shown as a thermal relay. In the design care must be taken that the potential of $b_2 > b_1$. None of these circuits has been used in practice. There are 10 figures and 1 Soviet-bloc reference.

ASSOCIATION: Słowecka polytechnika w Koszycach (Slovak Polytechnic at Koszyce)

23574

Z/039/61/022/004/003/003
E192/E382

9,2560

AUTHOR: Špány, Viktor, Engineer

TITLE: Junction Transistors in Switching (Flip-flop) Circuits

PERIODICAL: Slaboproudý obzor, 1961, Vol. 22, No. 4, pp. 231 - 239

TEXT: A large number of switching circuits based on junction transistors are reviewed. The following four types of switching circuit are distinguished:
1) circuits with transistors of the identical conductivity type, with collector coupling;
2) emitter-coupled circuits with transistors of identical conductivity type;
3) collector-coupled circuits with complementary transistors;
4) emitter-coupled circuits with complementary transistors.
With regard to the circuits of the first group the basic item is the classical bi-stable circuit shown in Fig. 1. The circuit is slightly modified by introducing small resistances into the emitters of each transistor; these resistances are

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Junction Transistors ....

bypassed with the capacitance C (Ref. 1). The purpose of this modification is the elimination of the integrating effect of the collector-base coupling capacitances which perform the memory function. The circuit of Fig. 1 also has the advantage that it is very sensitive with respect to the triggering pulses, since its input impedance is increased by connecting the resistances into the emitters. If the DC coupling in Fig. 1 is replaced by capacitive coupling, the circuit (Fig. 2) becomes a free-running multivibrator. Such a multivibrator can be either symmetrical or asymmetrical but it suffers from the integrating effect so that it is difficult to obtain the rectangular wave form at the collectors. This deficiency can be eliminated by adopting the multivibrator circuit given in Fig. 3. It is also possible to eliminate this effect by introducing suitable resistances in the emitters of the transistors. A further modification of the basic circuit will result in a monostable multivibrator (a univibrator). A this circuit of this type is shown in Fig. 6 and produces a short output pulse of stable duration. The basic circuit can also be

Junction Transistors ....

modified to produce triangular output pulses or made into a free-running multivibrator generating a symmetrical triangular waveform. The basic representatives of the second group are shown in Figs. 9 and 10; the first of these circuits is a bi-stable emitter-coupled pair, while the circuit of Fig. 10 is a bi-stable pair with limiter diodes. The operation of the circuit of Fig. 9 is as follows: first, T_2 is open and T_1 is closed; the second stable state is achieved by driving T_1 into saturation since T_2 cannot be completely closed. The basic circuit of Fig. 9 can be used to devise such systems as free-running multivibrators, Schmitt triggers, monostable circuits and high-speed bi-stable circuits. The devices based on complementary transistors are characterised by the fact that both transistors become opened (or closed) during the transition. The representative circuit with a collector-coupled pair of complementary transistors is illustrated in Fig. 18 (Ref. 14). This is a bi-stable circuit. Free-running multivibrators and monostable circuits based on this

Junction Transistors ....

complementary arrangement are also possible. A simple circuit based on complementary transistors with emitter-coupling is illustrated in Fig. 21. This is a univibrator which is triggered by an external pulse which results in the operation of an electromagnetic relay connected in the collector of T_2 . The circuit of this type can be modified into a bi-stable pair or a free-running multivibrator which can be used as a frequency divider.
There are 23 figures and 30 references: 5 Czech and 25 non-Czech.

ASSOCIATION: VŠT, Košice

SUBMITTED: January 5, 1960

Card 4/8

28397

Z/039/61/022/011/004/006
D291/D304

9.2560 (1040, 1139, 1161)

AUTHOR: Spány, Viktor, Engineer

TITLE: New coupling of two transistors with complementary symmetry

PERIODICAL: Slaboproudý obzor, v. 22, no. 11, 1961, 671-674

TEXT: The author describes the performance of a novel flip-flop in a bistable, astable, and non-regenerative state. The principle of the novel coupling, i.e. collector coupling of two complementary transistors in series with common collector, is shown in Fig. 1d. This circuit has two stable states and is, therefore, capable of regenerative action; the astable and monostable state respectively can be adjusted by the choice of circuit parameters. In its astable state, the new circuit is capable of sawtooth generation; the peak-to-peak voltage is then nearly equal to the voltage of the source feeding the circuit. Thus, the circuit performs as a "free-running" phantastron with a greater linearity than can be achieved by the negative feedback of a

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28397
Z/039/61/022/011/004/006
D291/D304

New coupling of two ...

Miller integrator. The very effective synchronization shows that the new device is suitable for impulse-frequency division. In a non-regenerative state, two complementary transistors with common collector can be used for generating triangular, trapezoidal and sawtooth pulses, eventually for multiple integration. There are 9 figures and 3 Soviet-bloc references.

ASSOCIATION: Vysoká škola technická, Košice (Institute of Technology in Kosice)

SUBMITTED: May 24, 1961

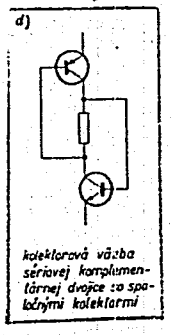

Fig. 1d. Collector coupling of two complementary transistors in series, with common collector.

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35276
Z/039/62/023/004/005/010
D291/D303

9,4310 (1139, 1150, 1159)

AUTHOR: Špány, Viktor, Engineer

TITLE: Oscilloscopy of the transistor amplification factor

PERIODICAL: Slaboproudý obzor, v. 23, no. 4, 1962, 218-223

TEXT: The article describes an instrument for oscilloscopic indication of the transistor current-amplification factor $\beta = f(I_b)$ by a novel method using the derivation of the transfer characteristics $I_k = f(I_b)$. The instrument is based on an oscilloscope circuit for indicating $\alpha = f(I_E)$ by the well-known modulation principle, described in Rider-Uslan (Ref. 1: Encyclopedia on cathode-ray oscilloscopes and their uses. London: Chapman and Hall, 1959, pp 19-16). The novel circuit is modified inasmuch as the modulation-signal source, filters, the frequency filter, and the demodulator are omitted. The transistor input is excited by saw-tooth waves which also serve as time base. The output signal of the collector is derived and the function $\beta = f(I_b)$ is presented on the oscilloscope tube. The described circuit is suitable for measuring n-p-n

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transistors and can easily be adjusted for measuring of p-n-p transistors. The author now gives a more detailed description of the instrument circuitry, its calibration and experimental results achieved in measuring the current-amplification factor of TESLA 103NU70 transistors. In conclusion the author states that the described method permits a comparison and determination of optimum current-amplification of transistors, and the indication of dependencies $I_k = f(I_b)$ and $\beta = f(I_b)$ by mere switch-over. It is especially suitable for transistors with small cut-off frequencies, since the basic sawtooth frequency lies near the motion-picture frequency and a modulation frequency of some kc is not required. There are 12 figures and 3 references, 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Rider-Uslan: Encyclopedia on cathode-ray oscilloscopes and their uses. London: Chapman and Hall, 1959, pp 19-16.

ASSOCIATION: Vysoka škola technická, Košice (Institute of Technology, Košice)

SUBMITTED: January 5, 1962

Card 2/2

Z/042/63/000/003/001/002
E140/E135

AUTHOR: Špány, Viktor, Docent Engineer

TITLE: Tunnel diode as frequency divider

PERIODICAL: Elektrotechnický časopis, 14 no.3, 1963, 113-122

TEXT: The author first shows that the tunnel diode frequency divider functions better in an astable regime than as a monostable frequency divider. In this case variations in supply voltage about an optimal value at which the derivative of the frequency/voltage curve vanishes will alter primarily the duty cycle and not the frequency. Synchronization of one edge of the pulse only is recommended, and the circuit of Fig.10 is derived. This circuit is claimed to give a stable 10:1 frequency ratio for variations of supply voltage of 50% and duty cycle in the range $2/3 < S < 3/2$.
There are 11 figures.

ASSOCIATION: Vysoká škola technická v Košiciach
(Technical High School, Košice)

SUBMITTED: September 27, 1962

Card 1/2

SPANY, Viktor, doc., inz.

Binary divider with tunnel diodes. Slaboproudy obzor 24 no.5:286-290 My '63.

1. Vysoka skola technicka, Kosice.

Z/039/63/024/002/002/006
E140/E163

AUTHOR: Špány, Viktor, Docent, Engineer

TITLE: Analysis of monostable and astable regimes of tunnel diode circuits

PERIODICAL: Slaboproudý obzor, v.24, no.2, 1963, 77-82

TEXT: This is a straightforward graphico-analytical analysis of some well-known tunnel diode circuits, with experimental observation of waveforms as represented by photographed oscillograms.
There are 15 figures and 1 table.

ASSOCIATION: Vysoká škola technická, Košice
(Technical High School, Košice)

SUBMITTED: September 17, 1962

Card 1/1

SPANY, Viktor, doc., inz.

Tunnel diode behavior during large-signal circuits. Slaboproudy obzor 24 no.6:335-339 Je '63.

1. Vysoke skola technicka, Kosice.

ACCESSION NR: AP4029394 Z/0039/64/025/004/0216/0218

AUTHOR: Spany, Viktor (Shpany*y, V.)(Docent, Engineer)

TITLE: New ring counter with tunnel diodes

SOURCE: Slaboproudy obzor, v. 25, no. 4, 1964, 216-218

TOPIC TAGS: ring counter, tunnel diode, trigger pulse, pulse amplitude, pulse duration, current supply, counting circuit, transistor, counter

ABSTRACT: The design and performance of a ring counter with tunnel diodes is described. Compared with the ring counters of known and published types, this counter is not sensitive to amplitude and duration of the triggering pulse, nor to current supply variations. Another advantage is in the easy design of the counting chain and the small number of semiconductor devices necessary for its working. Fig. 1 of the Enclosure is the basic schematic. Orig. art. has: 1 figure.

Card 1/3

ACCESSION NR: AP4029394

ASSOCIATION: Vysoka skola technicka, Kosice (Higher Technical School)

SUBMITTED: 12Oct63 DATE ACQ: 01May64 ENCL: 01

SUB CODE: EC NO SOV REF: 004 OTHER: 000

Card 2/3

ACCESSION NR: AP4029394

ENCLOSURE: 01

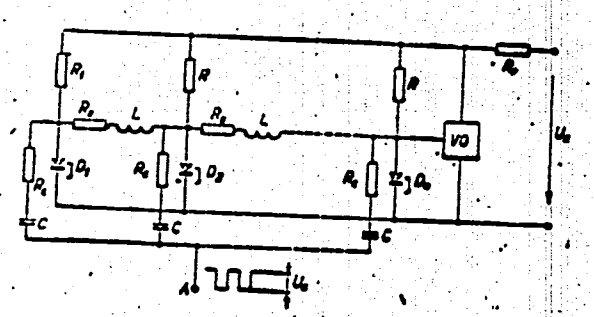


Fig. 1. Schematic of the ring counter

Card 3/3

SPANY, Viktor, doc. Inz.

Silicon diode with negative resistance. Slaboproudy obzor 25 no. 7:435-436 Jl '64.

1. Higher School of Technology, Kosice.

SPANY, Viktor, doc. inz.

Computing chain with tunnel diodes. El tech cas 15 no.10:586-593 '64.

1. Chair of Electrical Engineering of the Higher School of Technology in Kosice.

SPANY, V.; SEFARA, J.; SOLTESZ, T.; TIMCAK, G.

Automatic control of water level by a transistor relay.
Sbor VST Kosice 1:185-189 '64.

1. Scientific Circle of Students affiliated with the Chair of Electrical Engineering of the Higher School of Technology, Kosice. Submitted June 3, 1963.

L 38310-66

ACC NR: AP6028003 SOURCE CODE: CZ/0042/65/000/009/0513/0526

AUTHOR: Spany, Viktor(Docent; Engineer; Candidate of sciences; Kosice)

ORG: Mechanical Engineering Faculty, Institute of Technology, Kosice (Strojnicka fakulta, Vysoka skola technicka) 36 B

TITLE: Limiting cycle of oscillators

SOURCE: Elektrotechnicky casopis, no. 9, 1965, 513-526

TOPIC TAGS: electronic oscillator, electronic component, relaxation oscillator, electronic circuit

ABSTRACT: The article describes a new method for the calculation of the principal parameters of the limiting cycle of oscillators, that is, the amplitude and frequency. An example of a relaxation oscillator with a single reactance element is also given; although with that oscillator the amplitude of the oscillations is defined, it is possible to draw general conclusions about the behavior of the circuit from the expressions for the period duration. This paper was presented by J. Stransky. Orig. art. has: 13 figures and 62 formulas. [Based on author's Eng. abst.] [JPRS: 34,691]

SUB CODE: 09/SUBM DATE: 01Apr65/ORIG REF: 002

Card 1/1 ZC

0912 1719

ACC NR: AP6031563 SOURCE CODE: CZ/0039/65/026/008/0469/0475

AUTHOR: Spany, Viktor (Docent; Engineer) 28

ORG: Technical Institute, Kosice (Vysoka skola technicka) B

TITLE: Quality of active circuit elements

SOURCE: Slaboproudy obzor, v. 26, no. 8, 1965, 469-475

TOPIC TAGS: electronic circuit, circuit design

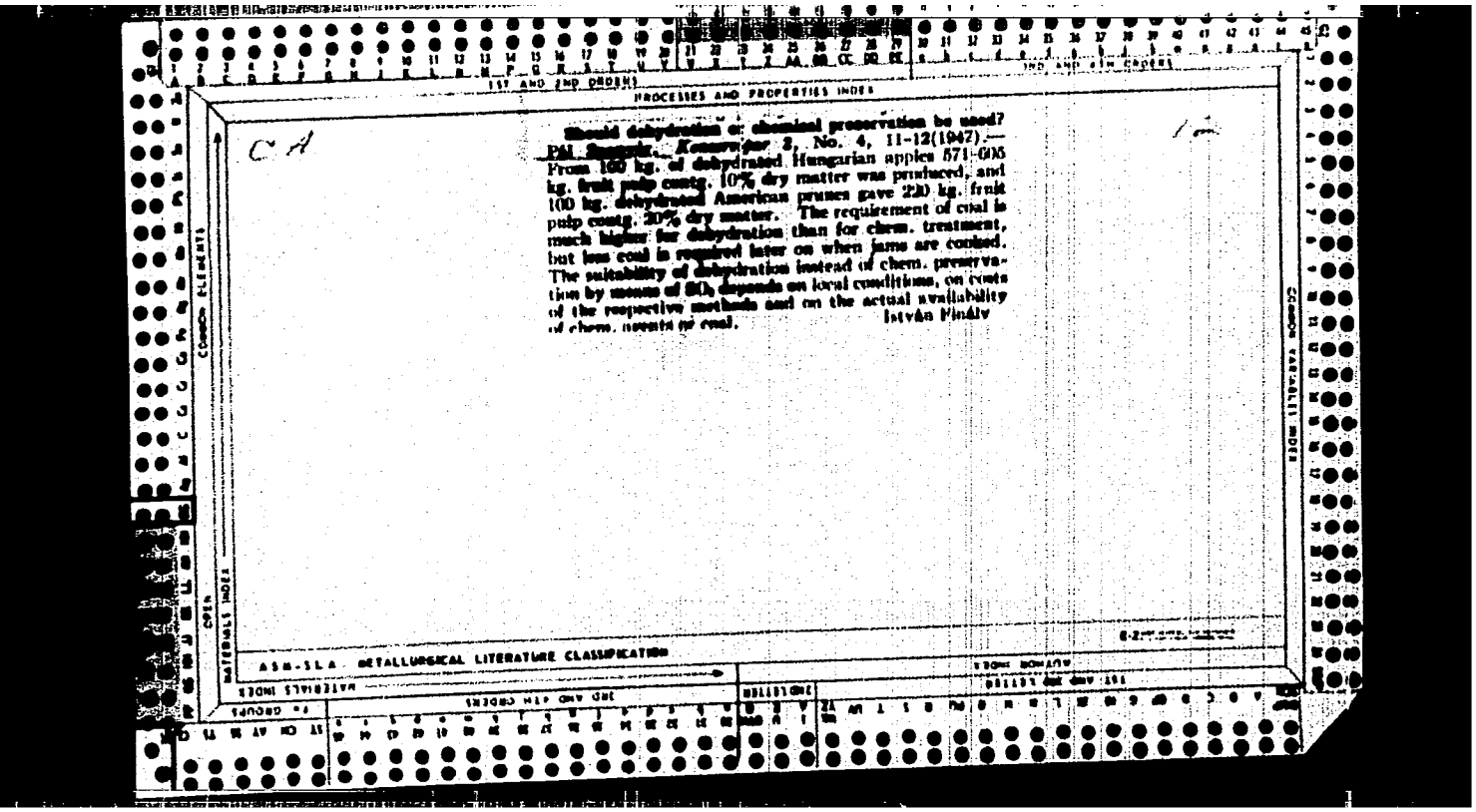
ABSTRACT: The article contains a formulation of the principles to be applied in the designing of dual circuit diagrams with regard to the active elements. The dualization of the graphic interpretation of corresponding circuits is explained with concrete examples. Orig. art. has: 15 figures and 5 formulas. [Based on author's Eng. abst.] [JPRS]

SUB CODE: 09 / SUBM DATE: 25Oct63 / ORIG REF: 002 / OTH REF: 002

Card 1/1 dh

UDC: 621.392.3

0919 0378



CA

Should dehydration or chemical preservation be used? Pál Szegedi. *Konzerviper* 2, No. 4, 11-12(1947).—From 100 kg. of dehydrated Hungarian apples 571-605 kg. fruit pulp contg. 10% dry matter was produced, and 100 kg. dehydrated American prunes gave 220 kg. fruit pulp contg. 30% dry matter. The requirement of coal is much higher for dehydration than for chem. treatment, but less coal is required later on when jams are cooked. The suitability of dehydration instead of chem. preservation by means of SO_2 depends on local conditions, on costs of the respective methods and on the actual availability of chem. agents or coal. István Hindy

SPANYÁR PÁL

The significance of reductones in the biological appraisal of foods. Pál Spanyár (Inst. Research., Budapest). *Acta Chim. Acad. Sci. Hung.* 3, 395–412(1953).—A method is given for eliminating the effect of reductones as well as the substances formed in the process of enzymic browning which interfere with the detn. of ascorbic (I) and dehydroascorbic (II) acids in foodstuffs. Both I and II are detd. as the 2,2'-bipyridine deriv., II is completely decompd. in NaOH at 20° in 30 min., and the reductones are detd. as the 2,4-dinitrophenylhydrazone by adding 3 ml. 4% CCl_3COOH and 1 ml. of 2,4-dinitrophenylhydrazine reagent to 1 ml. of ext. with stirring and keeping at 37° for 15 min.; the turbidity is measured in a nephelometer. The amt. of reductones increases with an increase in the amt. of sugar, amino acids, org. acids, the duration of the reaction, the temp., and the pH value. Amino acids yield dark brown reductones, and the color does not change in 18 days when kept at 2°, the pH of the soln. diminishes with an increase in the amt. of reductones formed, and the presence of PO_4 encourages reductone formation but it is not connected with its buffering action. The coloring capacity of the osazone ppt. of II is 11–27 times greater than that of a similar quantity of the reductone-osazone ppt., and the mol. wt. of the reductones examd. is presumably 10–30 times higher than that of II. The method is suitable for the detn. of I and II, resp., while eliminating the interfering effect of biologically ineffective compds. (reductones). O. L. B.

SZI YU, P. ; KISSA, J.

"Factors in the evaluation of foodstuffs containing ascorbic acid" p. 178, (ELELM MEZI IPAR, Vol. 7, no. 5, May 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2, No. 11, Nov. 1953, Uncl.

SZALVAR, P.

"Preliminary conditions in producing hip products containing vitamin C" p. 193, (ELELMEZESI IPAR, Vol. 7, no. 6, June 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, L.C., Vol. 2, No. 11, Nov. 1953, Uncl.

SPANYAR, P.

(12)

47. **Quantitative analysis of ascorbic and dehydroascorbic acid in the presence of reductones** — *Aszkorbinsav és dehidroaszkorbinsav mennyiségének meghatározása redukt onok jelenlétében* — P. Spanyár, M. Kiszel and I. Demel. (Hungarian Journal of Chemistry — *Magyar Kémiai Folyóirat* — Vol. 59, 1953, No. 5, pp. 143–148, 6 figs., 2 tabs.)

The total reducing power of ascorbic acid and of reductones was determined by the *Schulek* α, α'-dipyridyl method. In order to determine the reducing power of reductones, first the reductive effect of ascorbic acid must be done away with. An extract is made with glacial acetic acid to which ammonium acetate is added. At *p*H 5 and 40° C the destruction of ascorbic acid takes place within two hours. In the presence of the destroyed ascorbic acid the reductive power of the reductones could also be determined by the *Schulek* α,α'-dipyridyl method. The real ascorbic acid content corresponds to the difference between the values obtained by the original α,α'-dipyridyl method and the modified method. The real quantity of dehydroascorbic acid is also determined in two steps. The total amount of dehydroascorbic acid and of the interfering substances can be determined by the *Roe* 2,4-dinitrophenylhydrazine method. If the material to be investigated is allowed to stand in an alkaline medium at *p*H 10.4 for 30 minutes at a temperature of 20° C the dehydroascorbic acid will decompose while the interfering substances remain unchanged. The true value of dehydroascorbic acid is obtained if these substances are determined by the *Roe* method, the results are expressed in terms of dehydroascorbic acid and this value deducted from that arrived at by the original method. *P. S.*

SPANYAR, P.

"Aspects in Selecting Sites Suitable for the Establishment of New Canning Plants", P. 193, (ELELMEZESI IPAR, Vol. 8, No. 7, July 1954, Budapest, Hungary)

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

SPANYAR, P.

SPANYAR, P. - Elelmezesi Ipar - Vol. 9, no. 5, May 1955.

New solution for continuous sterilization. p. 155.

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

SPANYAR, PAL

HUNGARY/Physical Chemistry - Electrochemistry. B-12

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 20786

Author : Pál Spanyáa, Jánosné Kevei, Józefné Kiszel.
Inst : -
Title : On the Methods of Polarographic Result Evaluation.

Orig Pub : Élelm. ipar, 1955, 9, No 11, 326-332.

Abstract : A method of polarographic determination of concentration by polarographing solutions with the addition of the same substance in known concentrations was developed. It was established that the best results were obtained, if the added solutions had been also polarographed additionally. The possibility of determination of very low substance concentrations is shown.

Card 1/1

SPANYAR, P.; KISZEL, M.; KEVEI, E.

A method for the separation and polarographic determination of substance of biological activity present in foods in minute concentrations. In German. p. 295. (Acta Chimica, Vol. 9, No. 1/4, 1956, Budapest, Hungary)

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

SPANYAR, P.

SPANYAR, P. Determination of capsaicin content. p. 52. Vol. 10, no. 2, Feb. 1956. Budapest, Hungary.

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

SPANYAR, P.

102. Simultaneous determination of nitrite and nitrate in pickling liquors by polarography. P. Spanyár, J. Kevei, J. Kiszel. *Elelmezési Ipar*, Vol. 10, 1956, No. 3, pp. 68–71, 5 figs., 4 tabs.

In hydrochloric acid media the nitrous acid liberated from the nitrite reacts quantitatively with the alcohol present and the reaction proceeds in a quantitative manner even at extremely high dilutions suitable for polarographic determinations. The ethyl nitrite produced by the reaction may be expelled from the system by means of a neutral gas stream. By utilizing this reaction the nitrite and nitrate content of a substance may be determined simultaneously by a polarographic procedure. There is a suitable polarographic method for the simultaneous estimation of total nitrite and nitrate. After the elimination of nitrite the nitrate concentration may be determined by the same polarographic procedure. The difference between the two experimental values yields the quantity of nitrite present. The method elaborated in detail was found suitable for the estimation of 50 to 150 μg of total nitrite-nitrate contained in 0.5 ml samples with an accuracy of 8% for each component. The proteins present in a sample are precipitated by the addition of the alcohol necessary for the determination and therefore this method proved especially suitable for the estimation of nitrate and nitrite in pickling liquors.

SPANYAR, P.; INCZEDY, A.

Real vitamin C content in plants used in the food industry. p. 311.
(Elelmezesi Ipar, Vol. 1[illegible], no. 10/12, Oct./Dec. 1956. Budapest, Hungary)

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

SPANYAR, P.; KEVEI, E.; KISZEL, M.

Determination of capsaicin content. In German.

P. 137, (Acta Chimica) Vol. 11, no. 1/2, 1957, Budapest, Hungary

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

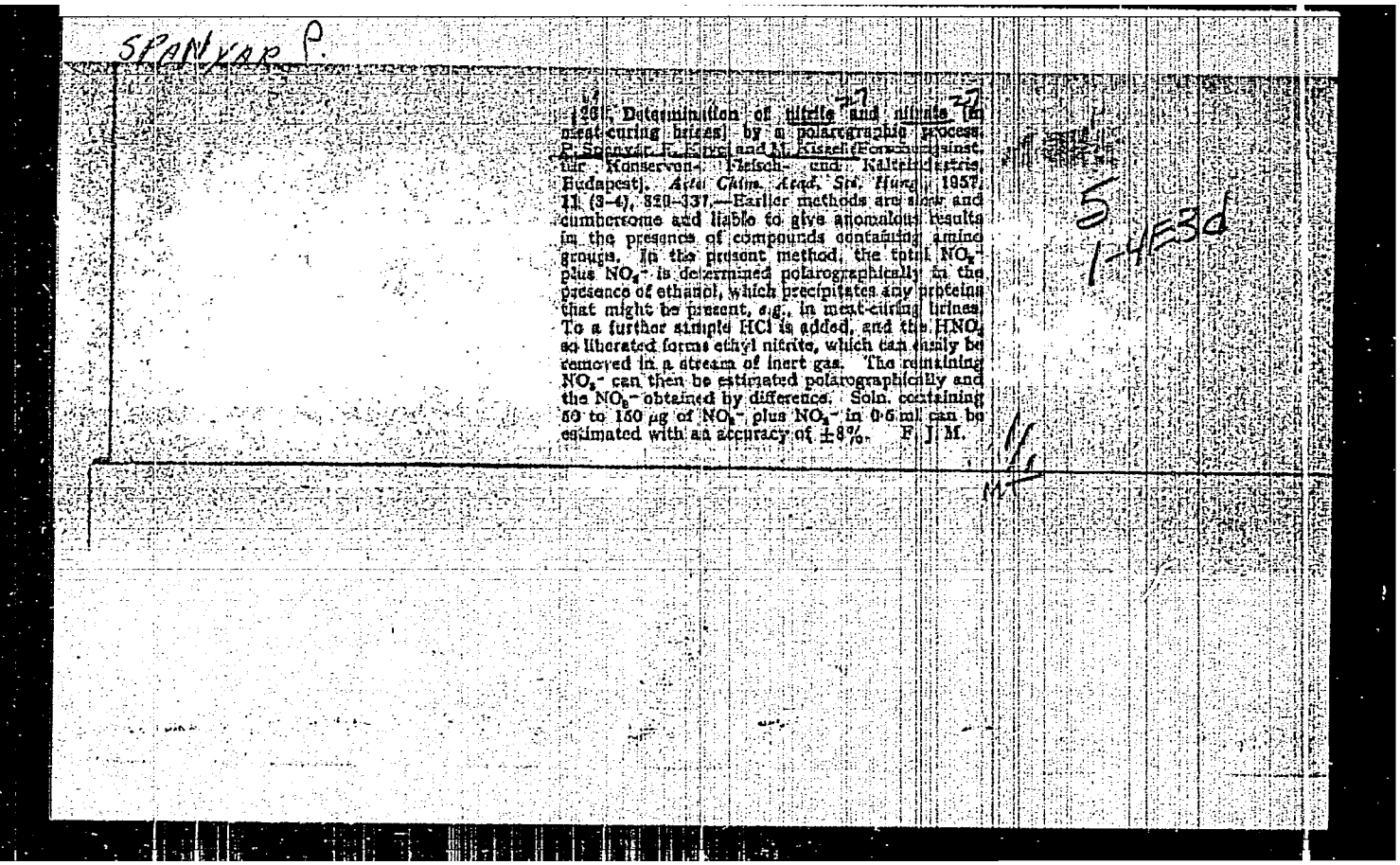
SPANYAR, Pal

Changes of vitamin C and reductones in food plants and foods. Elelm ipar 11 no.2:38-41 ap '57.

SPANYAR, Pal; INCZEDY, Anna

Determination of lycopene content in tomatoes. Elelm ipar 11 no.3/4: 74-76 Je-Jl '57.

1. Konzerv-,Hus- es Hutoipari Kutato Intezet.



STANVAP P.

[26] Determination of nitrite and nitrate [in meat-curing brines] by a polarographic process. P. Spencer, L. Kiss, and M. Kissel [Forschungsinst. für Konserven-, Fleisch- und Kältetechnik, Budapest]. *Acta Chim. Acad. Sci. Hung.*, 1957, 11 (3–4), 329–337.—Earlier methods are slow and cumbersome and liable to give anomalous results in the presence of compounds containing amino groups. In the present method, the total NO_2^- plus NO_3^- is determined polarographically in the presence of ethanol, which precipitates any protein that might be present, e.g., in meat-curing brines. To a further sample HCl is added, and the HNO_2 so liberated forms ethyl nitrite, which can easily be removed in a stream of inert gas. The remaining NO_3^- can then be estimated polarographically and the NO_2^- obtained by difference. Soln. containing 50 to 150 μg of NO_2^- plus NO_3^- in 0·6 ml. can be estimated with an accuracy of ±3%. F. J. M.

5 1-4F3d

SPANYAR, Pal, dr.

The effect of heat transmission on the composition and biological value of foods. Elelm ipar 13 no.7:212-216 Jl '59.

SPANYAR, Pal; KEVEI, Janosne; BLAZOVICH, Marta; DEMEL, Ervinne; KUTZ, Vaszilijne

Requirements for preserving vitamin C in fruit juices and refreshing drinks. Konzerv paprika no.6:189-193 N-D '62.

1. Kozponti Elelmiszeripari Kutato Intezet.

LORINCZ, Ferenc, dr.; SPANYAR, Pal, dr.; KIESELBACH, Gyula, dr.; KAZAR, Jeno

Development in the Hungarian meat-industry standards. Szabvany kozl 14 no.3:59-61 Mr '62.

SPANYAR, Ye.; BALAZ, V.; LOMSKY, R.

Our experience in treating hirsutism with cortisone and prednisone.
Probl. endok. i gorm. 6 no. 3:111-116 My-Je '60. (MIRA 14:1)
(HYPERTRICHOSIS) (CORTISONE) (PREGNADIENEDIONE)

CZIGLINA, Vilmos; SPANYI, Erno; SZEPESI, Karoly

Insulation of irrigation canals. Vizugyi kozl no.4:519-548 '59.

CZIGLINA, Vilmos, okleveles mernok; MARTON, Jozsef, okleveles mernok; SPANYI, Erno, okleveles mernok

Watertight curtains and cutoffs. Vizugyi kozl no.3:431-459 '62.

1. Tatabanyai Szenbanyaszati Troszt csoportvezeto fomernoke (for Cziglina). 2. Orszagos Vizugyi Foigazgatosag Vizepitoipari Foosztalyanak fomernoke (for Marton). 3. Foldmero es Talajvizsgalo Vallalat nyugalmazott tervezo mernoke (for Spanyi).

SPANYI, I.

Walter Wundt's Hydrography; a bood review.

P. 245, (Foldrajzi Ertesito) Vol. 6, no. 2, 1957, Budapest, Hungary

SO: Monthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

EXCERPTA MEDICA Sec 6 Vol 13/3 Internal Med. Mar 59

1726. EFFECT OF BLOOD-SUGAR VARIATIONS ON GASTRO-DUODENO-JEJUNAL KINETICS - L'influence des modifications de la glycemie sur la cinétique gastro-duodéno-jéjunale - Sparchez T., Stoichitza S., Stanciu O., Gheorghiescu B. and Ifrim L. V. Clin. Méd., Hôp. Vasile Roaita, Bucarest - ARCH. MAL. APPAR. DIG. 1958, 47/3 (135-144) Graphs 4

The relationship between blood sugar and the dynamics of digestion in man is based, according to Pavlov's conception, on the 'alimentary centre'. There is a triple connection between glucose and the dynamics of digestion: (a) a rise of blood sugar brings about an inhibition of digestive kinetics, and a fall of blood sugar reinforces digestive kinetics (by modification of the excitability of the alimentary centre). (b) Introduction into the duodenum or jejunum of a hypertonic glucose solution causes inhibition of gastric motility by a reflex mechanism. (c) Introduction of a hypertonic glucose solution into the duodenum or the small intestine is followed by inhibition of motility of the small intestine (due to direct action of the glucose on the digestive canal). The close connection between blood sugar and digestive kinetics has made it possible to perfect a physiological test (viscerographic test) which shows the value of vagotomy in man and distinguishes between the hypoglycaemic

1726

syndrome of gastrectomized patients and the syndrome of rapid evacuation. The close relationship between blood sugar and the kinetics of digestion holds out the prospect of an interesting study of the mechanism which produces hunger.

SPARCHEZ, Z.

"Management of Oak Reserves Intended for Seed Production." p. 34
(Revista Padurilor, Vol. 68, No. 9, Sept. 1953, Bucuresti)

SO: Monthly List of East European Accessions, Library of Congress, March 1954, Uncl. Vol. 3, No. 3

LYUBINSKIY, N.I.; SHIRYAYEV, I.N.; KNIZHNIKOV, M.G.; GLADYSHEV, S.S.; KIVER, V.F.; SPARIN, V.I., agronom

Use advanced cultivation practices for sunflowers. Zemledelie 27 no.4:47-51 Ap '65. (MIRA 18:4)

1. Orenburgskaya oblastnaya sel'skokhozyaystvennaya opytnaya stantsiya (for Lyubinskiy). 2. Predsedatel' kolkhoza imeni Kirova, Oktyabr'skogo rayona, Orenburgskoy oblasti (for Shiryayev). 3. Predsedatel' kolkhoza "Pamyat' Il'icha" Dinskogo rayona, Krasnodarskogo kraya (for Knizhnikov). 4. Glavnyy agronom kolkhoza "Pamyat' Il'icha", Dinskogo rayona, Krasnodarskogo kraya (for Gladyshev). 5. Starshiy agronom Pologskogo proizvodstvennogo upravleniya, Zaporozhskoy oblasti (for Kiver).

SPARIN, V.I., agronom

Sunflower for silage. Zemledelie 27 no.4:51 Ap '65. (MIRA 18:4)

SPARING, O.

Conditions and requirements of wool finishing plants in Yugoslavia. p. 85. Vol. 5, No. 2, Feb. 1956. TEKSTIL. Zagreb, Yugoslavia.

SOURCE: East European Accessions List, (EEAL) Library of Congress, Vol. 5, No. 8, August, 1956.

DRAGING, O.

Protection of wool from moths and beetles. p. 672. TEKSTIL. (Drustvo inzenjera i tehnicara tekstilaca Hrvatske) Zagreb. Vol. 5, no. 8, Aug. 1956.

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

BATMANOV, N.Ya.; SPAROVOY, V.M.

Bilateral surgical interventions in pulmonary tuberculosis. Grud. khir. no.4:71-76 Jl-Ag '62. (MIRA 15:10)

1. Iz sanatoriya imeni A.P.Chekhova (glavnyy vrach V.V.Aleksandrovskaya) Yalta. Adres avtorov: g. Yalta, sanatoriy im. A.P.Chekhova.
(TUBERCULOSIS)
(LUNGS--SURGERY)

USSR/General and Special Zoology. Insects. Insect and Mite Pests. Fruit and Berry Crop Pests. P

Abs Jour : Ref Zhur-Biol., No 20, 1958, 92263

Author : Sparsiashvili, D. G., Modebadze, V. P.
Inst : -
Title : The Agrotechnical Method of Controlling the Spider Mite.

Orig Pub : Vinodeliye i vinogradarstvo SSSR, 1957, No 4, 42-43

Abstract : Mites which hibernated under the loose bark of the grapevine move to the leaves (about 95 percent of them to the first three bottom leaves of the shoot). Upon removal between 10 and 20 May of all leaves (and burying them in the ground), the

Card : 1/2

SPARTAK, S.M.

Putting Leninism into effect. Nauka i pered. op. v sel'khoz. 7 no.11: 61-64 N '57. (MLRA 10:11)

(Soviet Central Asia--Agriculture)

SPARTAK, S.

Exhibition in Tallinn. Nauka i pered. op. v sel'khoz 8 no.12:62-65. D '58. (MIRA 12:1)

(Tallinn--Agricultural exhibitions)

SPARTAK, S.

Skill and diligence. Nauka i pered. op. v sel'khoz. 18 no.2:20-22 F '58. (MIRA 11:3)

(Estonia--Swine)

SPARTAK, S.(Rakvere, Estonskaya SSR)

Features of the new life. Nauka i pered.op.v sel'khoz. 9 no.8:68-71 Ag '59. (MIRA 12:12)
(Rakvere District--Collective farms)

SPARTAKOV, A.

Work with dosimetric devices. Voen. znan. 40 no.8:27-28 Ag '64.
(MIRA 17:11)

SPARTAKOV, A. A.

USSR/Physics - Aerosol particles dipole moment FD-2983

Card 1/1 Pub. 146 - 24/28

Author : Spartakov, A. A.; Tolstoy, N. A.

Title : Rigid dipole moment of aerosol particles

Periodical : Zhur. eksp. i teor. fiz., 29, September 1955, 385

Abstract : New methods of investigating electro-optical phenomena in hydrophobe colloids (N. A. Tolstoy, P. P. Feofilov, DAN SSSR, 66, 617, 1949; N. A. Tolstoy, DAN SSSR, 100, 893, 1955) which are based on the study of the modulation of light passing perpendicularly to the lines of an electric field through a planar condenser fed by rectangular voltage impulses show that colloidal particles in aqueous media possess rigid dipole moments of quite considerable magnitude. It is assumed that this rigid dipole moment is caused by spontaneous orientation of water molecules adsorbed on the surface of the particle, which have a rigid dipole. The unipolarity (in the mean) of this orientation permits one to liken the water film adsorbed on the particle to a surface piezoelectric. The present writers carried out similar experiments with aerosol, and found that the electrooptical properties of the mist can be perfectly similar to the properties of hydrophobe colloids. They state that the establishment of the dipolarity of mist particles can possess significance for the explanation of the mechanism governing the aggregation of noncharged particles in mists.

Institution : Leningrad Technical Institute

Submitted : May 12, 1955

SPARTAKOV, A. A.

468

Permanent dipole moment of aerosol particles. A. A. Spartakov and N. A. Tolstoi. *Soviet Phys., JETP* 2, 329(1956)(Engl. translation).—See *C.A.* 50, 3034g.
B. M. R.

TOLSTOY, N.A.; SPARTAKOV, A.A.; KHIL'KO, G.I.

Electrooptical properties of lyophobic colloids. Part 1: Statement of the problem, principal methods and results. Koll. zhur. 22 no. 6:705-716 N-D '60. (MIRA 13:12)

1. Leningradskiy tekhnologicheskiy institut imeni Lensoveta, Kafedra fiziki.
(Colloids--Optical properties)

L 9887-66 EWT(1)/EWT(m)/T DS/WW

ACC NR: AP5027681 SOURCE CODE: UR/0051/65/019/005/0826/0828

AUTHOR: Tolstoy, N. A.; Spartakov, A. A.; Trusov, A. A.

ORG: none

TITLE: Electro-optical effect in a rotating electrical field and a stable electrical dipolar moment in colloidal particles

SOURCE: Optika i spktroskopiya v. 19, no. 5, 1965, 826-828

TOPIC TAGS: colloid chemistry, electric field, electric effect, thermal optic effect, dipole moment

ABSTRACT: In a dispersion medium containing polar molecules (as in water), colloidal particles of different nature caused a sharply expressed electro-optical effect when this colloidal solution was placed in a field of alternating rectangular electrical pulses. This effect was associated with a change in time of the orientation of colloidal particles. The latter caused a changeable dichroism which was, as a rule, conservative, and not consumptive. A comparison of light-modulation curve phases with the electrical voltage curve indicated that colloidal particles

1/2

UDC: 535.347

L 9887-66
ACC NR: AP5027681

in a polar dispersion medium possess a stable electric dipolar moment. The scanning of the light modulation curve on a oscillograph gave a Lissajous figure of the second order. Dichroism in oriented particles could be determined by polarization measurements of the collodial solution in a laminar flow. Orig. art. has: 1 figure.

SUB CODE: 07/ 20/ SUBM DATE: 13Apr65/ NR REF SOV: 004/ OTHER: 000

2/2