same order of magnitude as the intensities of the lines of spin-electron resonance in strong fields. Therefore, an experimental realization of paramagnetic resonance in the case of a lacking field is possible. The last chapter deals with the dependence of frequencies and intensities on the orientation of the crystal in an external static magnetic field and with that of the intensity of the lines on the direction of the polarization vector of the magnetic alternating field. This dependence is so considerable that it can be observed experimentally. There are 3 figures, 2 tables, and 14 references, 5 of which are Soviet.

ASSOCIATION: Institut fiziki Akademii nauk Ukrainskoy SSR (Institute of Physics of the Academy of Sciences, Ukrainskaya SSR)

SUBMITTED: June 21, 1958

ĐEYGEN, M.F.; ROYTSIN, A.B.

Shape and temperature dependence of electron spin resonance lines of local electron centers in crystals. Zhur.eksp.i teor.fiz. 38 no.2: 489-498 F '60. (MIRA 14:5)

1. Institut fiziki Akademii nauk Ukrainskoy SSR.
(Nuclear magnetic resonance)

S/056/60/039/004/040/048
B006/B056

24.7900 (1035, 1144, 1160)

AUTHORS: Deygen, M. F., Zevin, V. Ya.

TITLE: Spin-Lattice Relaxation of Local Electron Centers in Nonmetallic Crystals

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 4(10), pp. 1126 - 1137

TEXT: It was the purpose of the present paper to develop a theory of spin-lattice relaxation of local electron centers in nonmetallic crystals located in a strong magnetic field. In the introduction, the authors discuss the theory by Waller (Ref. 1), who assumed that the spin-lattice relaxation in strong magnetic fields is due to a change in the interatomic spacings caused by thermal lattice vibrations. This theory does, however, not suit all cases. In the present paper, the authors consider the spin-lattice relaxation as being caused by a change in the energy of the contact interaction between the spin of a localized electron and a nucleus, which is caused by thermal lattice vibrations. This relaxation mechanism has always a relaxation time τ (Ref. 4) which corresponds to a process

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Spin-Lattice Relaxation of Local Electron Centers in Nonmetallic Crystals

S/056/60/039/004/040/048
B006/B056

in which a re-orientation of the nuclear spin occurs simultaneously, which compensates the change in angular momentum. There also exists another relaxation mechanism which is due to the re-orientation of the electron spin without corresponding re-orientation of the spin of those nuclei which cause the hyperfine structure of the paramagnetic absorption lines of local electron centers (relaxation time τ_s). This division of relaxation mechanisms is reasonable also from the experimental viewpoint (for non-metals). The theory is developed in all detail for crystals in which the wave function of the localized electron can be chosen in atomic orbit approximation. The relations obtained may be considerably simplified by studying an F-center; for a KCl-type crystal, a practical example is calculated; and for an F-center of such a crystal, the maximum and minimum relaxation times are numerically determined (corresponding to the maximum and minimum sound velocities). If the two sound velocities in KCl are $v_{long} = (4.47-3.05).10^5$ cm/sec and $v_{trans} = (1.76 - 2.90).10^5$ cm/sec, the authors obtain the relaxation times $\tau_{min} = 7.6/T$ min and $\tau_{max} = 87/T$ min. For $T = 4^{\circ}K$ and $H = 3000$ oe, $\tau_{min} = 1.9$ min and $\tau_{max} = 22$ min result.

84422

Spin-Lattice Relaxation of Local Electron Centers in Nonmetallic Crystals

S/056/60/039/004/040/048
B006/B056

I. M. Dykman is mentioned. There are 12 references: 5 Soviet, 1 Japanese, 1 German, 1 British, and 4 US.

ASSOCIATION: Institut fiziki Akademii nauk Ukrainskoy SSR (Institute of Physics of the Academy of Sciences Ukrainskaya SSR). Brestskiy pedagogicheskiy institut (Brest Pedagogical Institute)

SUBMITTED: April 29, 1960

Card 3/3

DEYGEN, M. F. [Deihen, M.], doktor fiz.-matem.nauk; STRIZHAK, V. [Stryzhak, V.], kand.fiz.-mat.nauk

Glance into the future. Znan. ta pratsia no. 1:2-4 Ja '61. (MIRA 14:4)

(Atomic energy) (Low temperature research) (Astronautics)

STRIZHAK, V. [Stryzhak, V.], kand.fiz.-matem.nauk; DEYGEN, M. [Deihen, M.], doktor fiz.-matem.nauk

Let's have a look at the microcosm.... Znan. ta pratsia no.5:21-22 My '61. (MIRA 14:5)
(Nuclear physics)

28103
S/181/61/003/009/037/039
B108/B138

24.7000 (1143, 1144, 1559)

AUTHORS: Deygen, M. F., and Roytsin, A. B.

TITLE: A possibility to accomplish fieldless resonance in multilevel systems

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2876-2878

TEXT: In a previous paper the authors have shown the possibility of quantum transitions between hyperfine-structure levels in semiconductors in the absence of a magnetic field (Ref. 1: ZhETF, 36, 176, 1959). Resonance in such a system is termed fieldless resonance. When the parameters are properly chosen, such a system may be used as a two-level quantum amplifier. Unlike in Ref. 1, the authors study the possibility of allowed transitions between more than two levels. C. Slichter (Phys. Rev., 99, 479, 1955) gave an explanation suggesting that multiatomic quasimolecules are formed in crystals containing impurities. These quasimolecules are the cause that electron spin exchange interaction arises and, also without an external field, transitions become possible between the additional levels formed. A binary quasimolecule with nuclear spins I = 1/2 is

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A possibility to accomplish fieldless ...

discussed. The Hamiltonian of such a system, which, for instance, may be a silicon-phosphorus quasimolecule, has the form $\hat{H}=A(\vec{S}_1\vec{I}_1+\vec{S}_2\vec{I}_2)+B(\vec{S}_1\vec{S}_2)$. A denotes the hyperfine interaction constant between electron spins S and nuclear spins I, B is the exchange interaction constant of the two electrons. The system of energy levels E_i corresponding to this Hamiltonian is the following: $\mathcal{E}_{1,2} = \frac{\beta}{4} - \frac{1}{2}$, $\mathcal{E}_{3,4} = -\frac{\beta}{4} \pm \frac{1}{2}\sqrt{1+\beta^2}$, $\mathcal{E}_{5,6} = -\frac{1}{2}(1+\frac{\beta}{2}) \pm \sqrt{1-\frac{\beta}{2}+\frac{\beta^2}{4}}$, where $\beta = \frac{B}{A}$ and $\mathcal{E}_i = \frac{E_i}{A}$. Each of the levels is characterized by the quantum number of the square sum of the spins $(\vec{S}_1 + \vec{S}_2 + \vec{I}_1 + \vec{I}_2)^2 = (\vec{F})^2$. The wave functions of each of the states, in zeroth approximation, are linear combinations of wave functions of the form $\chi(S_{z1})\chi(S_{z2})\chi(I_{1z})\chi(I_{2z})$, where the χ are the spin functions.

The matrix elements of the transitions determining the selection rules and the line intensity may be found by substituting the above wave functions

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into the expression for the perturbation operator $\hat{w}(t)=2\mu_0(\hat{S}_{1z}+\hat{S}_{2z})H_z(t)$ due to an electromagnetic wave $H(t)$ incident upon the crystal. The figure shows $\mathcal{E}_i$ versus β, the arrows indicating the allowed transitions. The levels $\mathcal{E}_6$, $\mathcal{E}_5$, $\mathcal{E}_1$, and $\mathcal{E}_2$ are the most interesting ones in the problem under investigation. When the transition $6 \longrightarrow 1$ is used as "source", radiowaves of the frequency $\Omega_{5\longrightarrow 1}$ will be generated and the signal of the radiowave with frequency $\Omega_{1\longrightarrow 2}$ will be amplified. The constant B determining the frequency of the source is estimated. For elemental crystals $B = -0.6\,\mathcal{E}\frac{\mu e^4}{\hbar^2}\frac{1}{\mathcal{E}^2}$, where $\mathcal{E}$ is the dielectric constant of the crystal and μ the effective mass of the band electron. The ground state energy of an impurity atom is $E_o = -0.5\,\mathcal{E}\frac{\mu e^4}{\hbar^2}\frac{1}{\mathcal{E}^2}$ so that $B = 1.2\,E_o$. This holds in zeroth approximation with scalar effective mass of the electron. This relation permits estimating one of these quantities when the other

is known. There are 1 figure and 4 references: 2 Soviet and 2 non-Soviet. The most recent reference to English-language publications reads as follows: R. C. Fletcher et al. Phys. Rev., 95, 844, 1954. G. Feher et al. Phys. Rev. 100, 1784, 1955. G. F. Koster et al. Phys. Rev. Lett., 4, 125, 1960.

ASSOCIATION: Institut poluprovodnikov AN USSR Kiyev (Semiconductor Institute of the AS UkrSSR, Kiyev)

SUBMITTED: June 2, 1961

ACCESSION NR: AT4016300 S/0000/62/000/000/0046/0054

AUTHOR: Vinetskiy, V. L.; Deygen, M. F.; Moroz, A. I.

TITLE: Optical properties of color centers with mirror symmetry

SOURCE: Vses. soveshch. po fiz. shchelochnogaloidn. kristallov. 2nd, Riga, 1961. Trudy*. Fiz. shchelochnogaloidn. kristallov (Physicsof alkali halide crystals). Riga, 1962 46-54

TOPIC TAGS: color center, optics, wave function, adiabatic perturbation theory, ionic crystal, alkali halide crystal, crystallography, crystal optical property, mirror symmetry

ABSTRACT: The authors have undertaken to calculate the wave function $\Psi(r, q_n)$ by consistently employing the adiabatic perturbation theory in zero-approximation. Their purpose was to give a theoretical presentation of the peculiarities which, according to the theory of pseudodegenerated electron-vibratory systems, should exist in the optical properties of the mirror-symmetrical F_2, F_2^+ and M - color centers in ionic crystals. The expression for the energy operator of an ionic crystal with a single-electron, mirror-symmetrical color center is of the form:

$$\hat{H} = T_e + V(r) + \sum_{\varkappa} c_{\varkappa} q_{\varkappa} \chi_{\varkappa}(r) + \frac{\hbar \omega_0}{2} \sum_{\varkappa} \left(q_{\varkappa}^2 - \frac{\partial^2}{\partial q_{\varkappa}^2} \right) + W(r). \quad (1)$$

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ACCESSION NR: AT4016300

This equation which is the initial step of the procedure consists of the following: the first term is the kinetic energy of the color center electron; the second and the third terms are the electron's energy of interaction with vacancies and optical vibrations, respectively; the fourth term is the optical vibration energy; and the fifth term, W(r) is the periodic potential. The article develops this equation and finally arrives at an expression for the absorption coefficient:

$$\tau_l = \sum_{p=1}^{6} \tau_{lp} = \frac{4\pi^2 e^2 \hbar \Omega_l N}{\hbar^3 c_1 n} (1 + \psi_{ab}^0 S_{ab}^0)^{-2} (1 + \psi_{ab}^1 S_{ab}^1)^{-2} \sum_{p=1}^{6} k_p T_{lp}(x_p), \quad (22)$$

где

$$k_1 = k_2 = 2 z_{aa}^2; \; k_3 = z_{ab}^2 + z_{ba}^2; \; k_4 = k_5 = 2 z_{aa} (z_{ab} + z_{ba}); \; k_6 = 2 z_{ab} z_{ba};$$

$$T_{lp}(x_p) = t_p I_l(a_p); \; t_1 = t_3 = S_{aa}^2; \; t_2 = t_6 = S_{ab}^2; \; t_4 = t_5 = S_{aa} S_{ab};$$

$$x_p = \sqrt{n(n+1)}\, a_p.$$

It is seen that the absorption curve consists of six bands whose form and temperature dependence were analyzed in equation (1) above. A comparison shows that the frequency ratios of the six R-bands observed in alkali halide crystals are in good agreement with the expected theoretical ratios. Orig. art. has: 24 formulas and 1 table.

ASSOCIATION: Institut fiziki AN Ukrainskoy SSR (Physics Institute, Academy of Sciences of the Ukrainian SSR)

Card 2/3

40889

24.7050

S/181/62/004/009/026/045
B104/B186

AUTHORS: Glinchuk, M. D., and Deygen, M. F.

TITLE: Some properties of the electron-nuclear resonance of local electron centers near the surface of a non-metallic crystal

PERIODICAL: Fizika tverdogo tela, v. 4, no. 9, 1962, 2521-2529

TEXT: This paper deals with the frequency spectrum of the nuclear resonance of electrons. The spin Hamiltonian of a system of k nuclei interacting with an external static magnetic field $\vec{H}$ and a localized electron has the form

$$\hat{\mathcal{H}}_1 = -\frac{\mu_k}{I_k}(\vec{H}\vec{I}_k) + a_k(\vec{I}_k\hat{S}) + \sum_{p,q} D_{kpq} I_{kp} \hat{S}_q, \quad (1),$$

where μ_k is the nuclear magnetic moment, I_k is the amount of the nuclear spin, $\vec{I}_k$ is the nuclear spin vector, $\hat{S}$ is the electron spin operator, a_k is the Fermi constant of the hyperfine interaction, and D_{kpq} is the

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coupling constant of the dipole interaction. In addition to the Fermi constant, this Hamiltonian possesses five independent parameters. This number is reduced by reference to the symmetry properties of the problem. For the symmetry groups C_{6v}, C_6, C_4, C_{4v}, C_3, and C_{3v}, Eq. (1) has the form

$$\mathcal{H}_I = -\frac{\mu_k}{I_k}(HI_k) + a_k(I_k\hat{S}) + D_{k1}[(I_k\hat{S}) - 3I_{k3}\hat{S}_3]. \qquad (3).$$

This Hamiltonian has two independent parameters. The Hamiltonian of group C_{2v},

$$\mathcal{H}_I = -\frac{\mu_k}{I_k}(H\hat{I}_k) + a_k(\hat{I}_k\hat{S}) + b_{k1}[(\hat{I}_k\hat{S}) - 3I_{k1}\hat{S}_1] + b_{k2}[(\hat{I}_k\hat{S}) - 3I_{k2}\hat{S}_2], \qquad (4)$$

$$b_{k1} = -\frac{1}{3}(2D_{k1} + D_{k2}); \; b_{k2} = -\frac{1}{3}(D_{k1} + 2D_{k2}). \qquad (4a),$$

contains three independent parameters, and that of groups C_2 and C_2 contains four. The electron nuclear resonance frequencies can be written as

$$h\nu_k = \left| M_s \left[\sum_{p=1}^{3} \Delta_{kp}^2 \right]^{1/2} \right| \quad (5),$$

where M_s is the quantum number of projections of the electron spin onto the field. Then, the Hamiltonian (3) is given by

$$\left[\sum_{p=1}^{3} \Delta_{kp}^2 \right]^{1/2} = \left(-\frac{\mu_k H}{I_k M_s} + a_k + D_{k1} \right) \left[1 - 6\varepsilon_k \left(1 - \frac{3}{2}\varepsilon_k \right) (\varepsilon_{3k} H_0)^2 \right]^{1/2},$$

$$\varepsilon_k = \frac{D_{k1}}{-\frac{\mu_k H}{I_k M_s} + a_k + D_{k1}} \quad (6'),$$

and the Hamiltonian (4) is given by

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$$\left[\sum_{p=1}^{3}\Delta_{kp}^2\right]^{1/2}=\left\{\left[-\frac{\mu_k H}{I_k M_e}+a_k+b_{k1}+b_{k2}\right]^2-\right.$$
$$-6\left[-\frac{\mu_k H}{I_k M_e}+a_k+b_{k1}+b_{k2}\right]\left[b_{k1}(\tau_{1k}\mathbf{H}_0)^2+b_{k2}(\tau_{2k}\mathbf{H}_0)^2\right]+$$
$$\left.+9\left[b_{k1}^2(\tau_{1k}\mathbf{H}_0)^4+b_{k2}^2(\tau_{2k}\mathbf{H}_0)^4\right]\right\}^{1/2}. \qquad (7),$$

where τ_p is the drift along the principal axis, and $\vec{H}_0$ is that along the magnetic field $\vec{H}_0$. It may be seen that the angular dependence of the frequencies is determined by $(\tau_3\vec{H}_0)$ in the case of (6), and by $(\tau_1\vec{H}_0)$, $(\tau_2\vec{H}_0)$ in the case of (7). The possible number of lines depends on the nature of the defect, the type of lattice, and on how the electron is localized. In an alkaline halide crystal, the electron has a small radius of state and the coupling constants quickly decrease with increasing

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distance from the defect. It is sufficient to allow for the hyperfine interaction with localized electron centers in the immediate neighborhood. In crystals with electrons having large radii of state it is necessary that the interaction with the coordination spheres at larger distances be taken into account. The results are illustrated by an analysis of the spectrum for the first and second coordination spheres of F-centers in the NaCl-type lattice and of the spectrum of a paramagnetic defect for atoms of the first coordination sphere in the diamond-type lattice. It is shown that the frequency depends on the orientation of the crystal in the magnetic field, and that the particularities of the spectrum and of the angular dependence of the frequencies make it possible to separate the surface states from the body states. There are 1 figure and 6 tables.

ASSOCIATION: Institut poluprovodnikov AN USSR, Kiyev
(Institute of Semiconductors AS UkrSSR, Kiyev)

SUBMITTED: May 7, 1962

24.4400
24.7000

S/181/63/005/002/005/051
B104/B186

AUTHORS: Glinchuk, M. D., and Deygen, M. F.

TITLE: Theory of local electron centers near a semiconductor surface

PERIODICAL: Fizika tverdogo tela, v. 5, no. 2, 1963, 405 - 416

TEXT: The Schrödinger equation $(\hat{H} + V)\psi = E\psi$ is solved using methods due to C. Kittel and A. Mitchell (Phys. Rev., 96, 1488, 1954) and to J. Luttinger and W. Kohn (Phys. Rev., 97, 869, 1955). The behavior of a localized electron characterized by an effective volume mass is studied in adiabatic approximation. $\hat{H}$ is the Hamiltonian of the subsystem and can be written in the form $\hat{H} = T_E + V_i + V_p + V_e$, where T_E is the operator of the kinetic energy of the electron, V_i the energy of the interaction of an electron with a hole, V_p the energy of the interaction of an electron with the inert part of the polarization of the dielectric, and V_e the energy of interaction of an electron with its image. V is the electron energy potential in the field produced by holes and by polarization of the crystal; it is assumed

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Theory of local electron centers...

that V varies little within a distance having the same order as the lattice constants. The wave function and the ground state energy of an electron at a localized center near the surface of the crystal are calculated. The thermal dissociation and photodissociation energies of an electron at a localized electron center are calculated as functions of the distance of the electron center from the surface of the crystal (Fig. 3). It is furthermore shown that the work function is proportional to the surface concentration of the localized electron centers, and inversely proportional to the effective electron mass. Maximum shift of the g-factor is achieved when the magnetic field is parallel to the surface. There are 4 figures and 1 table.

ASSOCIATION: Institut poluprovodnikov AN USSR, Kiyev (Institute of Semiconductors AS UkrSSR, Kiyev)

SUBMITTED: August 6, 1962

S/181/63/005/002/005/051
B104/B186

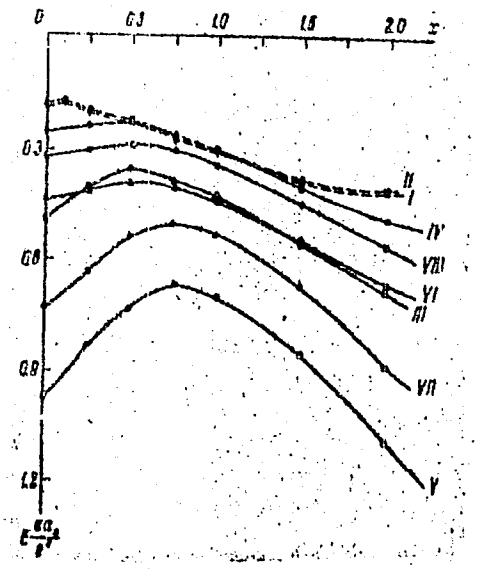

Fig. 3. Photodissociation energy of an electron at a localized electron center in Ge (I), Si (II), CdS (III), NaCl (V) and Cu_2O (VII), and thermal dissociation energy of an electron for CdS (IV), NaCl (VI) and Cu_2O (VIII) as functions of the distance from the surface.

Card 3/3

S/181/63/005/004/025/047
B102/B186

AUTHORS: Deygen, M. F., and Korobko, G. V.

TITLE: Theory of paramagnetic relaxation of F-centers in arbitrary magnetic fields

PERIODICAL: Fizika tverdogo tela, v. 5, no. 4, 1963, 1126 - 1131

TEXT: The paramagnetic relaxation time τ is calculated for local electron centers on the basis of the hyperfine mechanism of contact and dipole-dipole interactions between electron spins and lattice; the applied magnetic field is assumed constant and of arbitrary strength. The wave function of the system is formulated in adiabatic approximation, the electron part of the wave function of the F-centers is described in molecular-orbit approximation. The calculations are made also for the case of zero field strength, temperature being assumed to be low enough so that a restriction to single-phonon processes represents a good approximation. The results obtained indicate that τ for weak magnetic fields will be larger by several orders of magnitude than in the case of strong fields; τ will also depend on the orientation of the field with respect to the crystal. Numerical calculations were carried out for KCl, for the case of strong (3 koe) and of weak

fields (H=0). The following results were obtained:

$\tau_{min}^{cont} \sim 2.7/T$ sec; $\tau_{max}^{cont} \sim 4/T$ min;

$\tau_{min}^{dip} \sim 22.5/T$ min; $\tau_{max}^{dip} \sim 33.3/T$ hrs.

Both contact and dipole-dipole mechanisms may not cause considerable line broadening.

ASSOCIATION: Institut poluprovodnikov AN USSR Kiyev (Institute of Semiconductors AS UkrSSR, Kiyev)

SUBMITTED: November 21, 1962

DEYGEN, M.F.; GLINCHUK, M.D.

Excitons near the surface of a homopolar crystal. Fiz. tver. tela 5 no.11:3250-3258 N '63. (MIRA 16:12)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

DEYGEN, M.F. [Deihen, M.F.]; GLINCHUK, M.D. [Hlynchuk, M.D.]

Optical properties of local electron centers near the surface of a semiconductor. Ukr. fiz. zhur. 8 no.10:1075-1084 O '63. (MIRA 17:1)

1. Institut poluprovodnikov AN UkrSSR i Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR, Kiyev.

DEYGEN, M. F.; ZEVIN, V. Ya.; MAYEVSKIY, V. M.; ROYTSIN, A. B.

"Some problems of paramagnetic resonance of local centers on semiconductors."

report submitted for Intl Conf on Physics of Semiconductors, Paris, 19-24 Jul 64.

L 6827-65 EWT(l)/EWT(m)/EPC(t)/EWP(q)/EWP(b) IJP(c)/APGC(b)/AFWL/ASD(a)-5/
AS(mp)-2/SSD/ESD/RAEM(c)/RAEM(i)/AFMDC/ESD(ga)/ESD(t) JD
ACCESSION NR: AP4044950 S/0181/64/006/009/2756/2761

AUTHORS: Deygen, M. F.; Mayveskiy, V. M.; Zevin, V. Ya.; Vitrikhovskiy, N. F.

TITLE: Electron paramagnetic resonance of Mn++ in CdS

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2756-2761

TOPIC TAGS: manganese, cadmium sulfide, electron paramagnetic resonance, absorption spectrum, angular dependence, spectrometry

ABSTRACT: Earlier investigations of the EPR absorption spectrum of Mn^{++} in CdS did not take into account the angular dependence of the EPR absorption spectrum, and in particular did not lead to an experimental separation of the constants a of the cubic field and F of the axial field. The angular dependences of the EPR frequency were carefully studied in the present investigation, using synthetic CdS and an EPR spectrometer with high frequency of the magnetic field

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(425 kcs modulation frequency), operating in the 3 cm band. The samples were placed in a rectangular cavity operating in the H_{102} mode. Theoretical relations are derived for the angular dependence of the EPR frequency by representing the spin Hamiltonian describing the trigonal-symmetry field in the form of a sum of an axial field and a cubic field, has led to good agreement with experiment, and the constant of the cubic component of the crystal field was determined for the first time. Its absolute value is $|a| = (3.3 \pm 0.4) \times 10^{-4}$ cm^{-1}. The axial-field constant, assuming that a is positive, is $F \approx 1 \times 10^{-4}$ cm^{-1}. The EPR method has also confirmed that silver serves as an acceptor when used to dope CdS. "The authors thank G. V. Korobko and Ye. V. Tsy*perovich for help with the calculations, L. I. Datsenko, M. Ya. Skorokhod, and A. D. Tkalenko for x-ray orientation of the crystals, and M. A. Ruban for consultation on electronic problems." Orig. art. has: 3 figures, 4 formulas, and 1 table.

L 6827-65

ACCESSION NR: AP4044950

ASSOCIATION: Institut poluprovodnikov AN UkrSSR, Kiev (Institute of Semiconductors, AN UkrSSR)

SUBMITTED: 09Apr64 ENCL: 00

SUB CODE: OP, NP NR REF SOV: 004 OTHER: 020

Card 3/3

L 16338-65 EWT(1)/T/EEC(b)-2 IJP(c)

ACCESSION NR: AP5000680 S/0181/64/006/012/3715/3717

AUTHORS: Ruban, M. A.; Devgen, M. F.

TITLE: Observation of electron nuclear double resonance of F-centers in KCl

SOURCE: Fizika tverdogo tela, v. 6, no. 12, 1964, 3715-3717

TOPIC TAGS: F center, electron nuclear double resonance, potassium compound, optical density

ABSTRACT: The authors present electron nuclear double resonance spectra (ENDOR) obtained with apparatus developed at the Institut poluprovodnikov AN UkrSSR. The measurements in coordination spheres I and II were made at room temperature, at F-center concentrations 6×10^{17} cm^{-3}. The concentration was estimated by measurements of the optical density. The coloring of the samples was additive. The magnetic field did not have to be modulated to

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L 16338-65

ACCESSION NR: AP5000680

5

observe the ENDOR signal, owing to the small relaxation time ($\leq 10^{-5}$--10^{-6} sec) at room temperature for the F-centers in KCl. The authors state that earlier ENDOR measurements were limited by the sensitivity of the apparatus, but give no references to their own apparatus. "The authors thank V. I. Bezrukhko for providing the samples and Yu. S. Gromov, P. T. Levkovskiy, and V. M. Mayevskiy for help with constructing the equipment." Orig. art. has: 2 figures.

ASSOCIATION: Institut poluprovodnikov AN UkrSSR, Kiev (Institute of Semiconductors, AN UkrSSR)

SUBMITTED: 07Jul64 ENCL: 00

SUB CODE: SS, NP NR REF SOV: 000 OTHER: 005

Card 2/2

DEYGEN, M.F.; ROYTSIN, A.B.

Orientation of nuclei. Zhur. eksp. i teor. fiz. 47 no.1: 294-295 Jl '64. (MIRA 17:9)

1. Institut poluprovodnikov AN UkrSSR.

DEYGEN, M.F.; MAYEVSKIY, V.M.; ZEVIN, V.Ya.; VITRIKHOVSKIY, N.I.

Electron paramagnetic resonance of Mn^{2+} ions in CdS. Fiz. tver. tela 6 no.9:2756-2761 S '64.

(MIRA 17:11)

1. Institut poluprovodnikov AN SSSR, Kiyev.

RUBAN, M.A.; DEYGEN, M.F.

Observation of double electron-nuclear resonance in F-centers in KCl. Fiz. tver. tela 6 no.12:3715-3717 D '64 (MIRA 18:2)

1. Institut poluprovodnikov AN UkrSSR, Kiyev.

L 24570-66 EWT(1) IJP(c) WW/GG

ACC NR: AP6009669 SOURCE CODE: UR/0181/66/008/003/0826/0831

55
53
13

AUTHORS: Deygen, M. F.; Ruban, M. A.; Gromovoy, Yu. S.

ORG: Institute of Semiconductors AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR)

TITLE: Electron-nuclear double resonance of F centers in KCl at room temperature (first and second coordination spheres)

SOURCE: Fizika tverdogo tela, v. 8, no. 3, 1966, 826-831

TOPIC TAGS: color center, nuclear resonance, electron paramagnetic resonance, angular distribution, potassium chloride, hyperfine structure

ABSTRACT: The purpose of the investigation was a detailed study of the angular dependence of the frequencies of the electron-nuclear double resonance (ENDOR) of F centers of KCl at room temperature, the determination of more accurate values of the hyperfine constants, and the determination of the constants that describe the quadrupole interaction of a localized electron with nuclei of the second

Card 1/3

L 24570-66
ACC NR: AP6009669

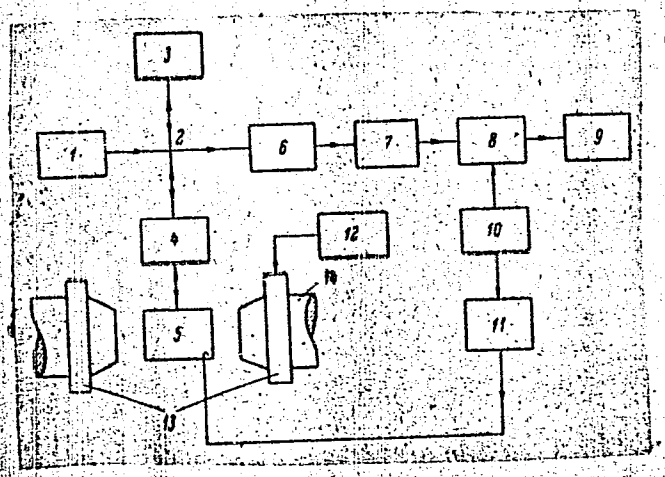

Fig. 1. Simplified block diagram of ENDOR setup. 1 -- Microwave generator, 2 -- twin-T bridge, 3 -- compensating arm, 4 -- adjustable coupling, 5 -- resonator with sample, 6 -- superheterodyne receiver, 7 -- selective low frequency amplifier, 8 -- phase sensitive detector, 9 -- automatic recorder, 10 -- low frequency modulator, 11 -- generator for supplementary rf signal, 12 -- current stabilizer, 13 -- electromagnet coils, 14 -- electromagnet.

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coordination sphere. The ENDOR spectrometer used registered stationary signals (Fig. 1) and its main component was a superheterodyne EPR spectrometer operating in the 3-cm band. The measurements were made at room temperature in a magnetic field uniform to within 10^{-5} G/cm, with a current stabilized to 10^{-6}. The sensitivity of the EPR spectrometer to a signal from standard DPPH was of the order of 10^{12} at a microwave power of 1 -- 2 mW and a time constant of 4 seconds. The measurements were made with additively colored KCl crystals with F-center concentration 10^{17} -- 10^{18} cm^{-3}. The experiments yielded the resolution of the quadrupole triplets in the first and second coordination sphere in different external static magnetic fields. The contact and the dipole-dipole constants of the hyperfine interaction and the constants of the quadrupole interaction are determined and tabulated. The results agree with those obtained by others with fair accuracy. The authors thank A. A. Shatalov and V. V. Udod for supplying the samples. Orig. art. has: 5 figures, 5 formulas, and 3 tables.

SUB CODE: 20/ SUBM DATE: 28Jul65/ ORIG REF: 003/ OTH REF: 001

ACC NR: AP6036984 (A, N) SOURCE CODE: UR/0181/66/008/011/3354/3362

AUTHOR: Glinchuk, M. D.; Grachev, V. G.; Deygen, M. F.

ORG: Institute of Semiconductors AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR)

TITLE: Spin-lattice relaxation of exchange-interacting impurity centers

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3354-3362

TOPIC TAGS: spin lattice relaxation, impurity center, cubic crystal, hyperfine structure, color center, crystal symmetry, electron spin

ABSTRACT: The authors consider the spin-lattice relaxation of pairs of impurity centers (the isolated center has an electron spin 1/2) in crystals of cubic syngony, and show that for such systems, allowance for exchange interaction can noticeably change the relaxation time and its dependence on the magnetic field. An expression is derived for the time of spin-lattice relaxation of the impurity centers with allowance for the hyperfine and exchange interactions. The dependence of the relaxation time on the magnetic field is obtained and on the value of the exchange interaction. The reason for the decrease of the relaxation time with increasing exchange is explained. The results of the theory are compared with experimental data on the relaxation of clusters of F-centers in KCl and of phosphorus atoms in silicon. In both cases the theory agrees with experiment. It is shown that the temperature dependence of the relaxation time of clusters is the same as that for isolated centers. The value of exchange interaction is estimated for the spin-lattice relaxation of the F-centers.

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ACC NR: AP6036984

The procedure employed for the calculations can be used also for crystal fields with different symmetry and for different values of the electron spin. Orig. art. has: 2 figures and 32 formulas.

SUB CODE: 20/ SUBM DATE: 03Mar66/ ORIG REF: 004/ OTH REF: 005

Card 2/2

S/078/62/007/001/002/005
B127/B110

AUTHORS: Gulia, V. G., Nemkova, O. G., Deykalov, V. K.

TITLE: Precipitated lanthanum vanadates

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 1, 1962, 84-87

TEXT: Composition and properties of precipitated lanthanum vanadates were investigated. Finely dispersed precipitates, the color of which depends on the pH, are formed by the reaction of a lanthanum salt solution with an ammonium vanadate solution. A dark-red precipitate, insoluble in 40 % acetic acid, but soluble in dilute mineral acids, develops at pH = 1-2. From solutions < 0.05 N, no precipitate forms any more, the solutions turn dark raspberry-red, and the color disappears during dilution. At pH = 6.2, a yellow precipitate is separated (La : V = 3 : 2), which, when kept in mother liquor, is turned into crystals of vivid orange-red color (La : V = 1 : 2) after 3 - 4 days. The pH of the mother liquor is reduced; during the first 24 hr it drops from 2.9 to 3.2 and reaches 4.09 after four days. The results of potentiometric titration (valve potentiometer ЛП-5 (LP-5))

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agreed with those of conductometric titration. The composition of the precipitate proved to depend on the manner of pouring together: When pouring ammonium metavanadate into lanthanum nitrate, the ratio of La : V is 1 : 1 in the resulting precipitate; when pouring lanthanum nitrate into ammonium metavanadate, the La : V ratio is 1 : 3. This is illustrated by the reaction equations $La(NO_3)_3 + NH_4VO_3 + H_2O = LaVO_4 + NH_4NO_3 + 2HNO_3$, $2LaVO_4 + 3HNO_3 = LaHV_2O_7 + H_2O + La(NO_3)_3$, $La(NO_3)_3 + 3NH_4VO_3 = La(VO_3)_3 + 3NH_4NO_3$. V. I. Spitsyn is thanked for advice. There are 4 figures and 5 non-Soviet references. The three references to English-language publications read as follows: W. O. Milligan, L. M. Watt, H. H. Rachford. J. Phys. and Colloid Chem., 53, 227 (1949), A. Wold, R. Ward. J. Chem. Soc., 76, 1029 (1954), H. T. S. Britton, G. Welford, J. Chem. Soc., 1-6, 761 (1940).

SUBMITTED: December 26, 1960

Card 2/2

DEYKE, Petre (Bukharest)

Current theoretical problems in geography. Izv. Vses. geog. ob-va 94 no.1:83-91 Ja-F '62. (MIRA 15:3)
(Geography)

DEYKHMAN, Ye.K.

[Wool from new breeds of sheep, and its classification by quality] Sherst' ovets novykh porod i opredelenie ee kachestva. Moskva, TSentrosoiuz, 1958. 108 p. (MIRA 13:7)
(Wool)

DEYKHMAN, Ye.K.; DEYEV, V.N.; KOCHETOVA, O.V.

Fine sheep wool. Standartizatsiia 27 no.9:41-46 S '63. (MIRA 16:10)

DEYKINA, T. V.

Zvenigorodskaya, V. M., Vasilevskaya, L. S., Deykina, T. V., "Colorimetric Determination of Uranium in Phosphorites" p. 16 in book Methods of Determining Radioactive Elements in Mineral Raw Materials, 1958, 68pp.

DEYKINA, Ye. [Deikina, IE.]

With countrymen of the great Taras. Znan. ta pratsia no. 3:2-5 Mr '61. (MIRA 14:5)

(Shevchenko, Taras, 1814-1861)
(Shevchenkovo (Zvenigorodka District)—Description)

DEYKINA, Ye. [Deikina, IE.]

Toward dawn. Znan.ta pratsia no.8:13-14 Ag '62. (MIRA 15:12)
(Railroads—Employees)

L 40291-66 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD

ACC NR: AR6014580 SOURCE CODE: UR/0081/65/000/021/G012/G012

40
13

AUTHOR: Deykova, Z. Ye. 27

TITLE: Current methods for boron determination and their accuracy

SOURCE: Ref. zh. Khimiya, Abs. 21G82

REF SOURCE: Dokl. Mosk. s.-kh. akad. im. K. A. Timiryazeva, vyp. 103, 1965, 459-464

TOPIC TAGS: boron, photometric analysis

ABSTRACT: Comparative evaluation of the sensitivity of the photometric methods for determination of B by using alizarin, quinalizarin, acetylquinalizarin, carmine, chromotrope 2B, curcumin, aluminon, azomethine H, 1,1'-dianthrimide, and Crystal Violet was performed, and evaluation of their suitability in determinations of B in soil and plants is offered. It was concluded that the method employing 1,1'-dianthrimide gives most accurate results. A. Nemodruk [Translation of abstract]

SUB CODE: 07

DEYKUN, V.K.

Kinematics of ALP-1-type machines for the oxygen cutting of steel. Trudy VNIIAvtogen no.1:22-42 '53. (MIRA 12:10)
(Gas welding and cutting--Equipment and supplies)

LEYKUN, V. K.

4489. Golovka Dlya Vyrezki Flantsev. (M), 1954. 4s. s Ill. 22sm. (Vsesoyuz. Nauch.-Issled. In-t Avtogennoy Obrabotki Metallov Vniiavtogen Glavkisloroda MVHT SSSR. Inform. Listok No. 53). 2,500 Ekz. B. Ts.-Cost. Ukazan V Podstroch Primech.-(54-15867zh) 621. 791. s. 054,[illegible]

SO: Letopis' Zhurnal'nykh Statey, Vol. 37, 1949

DEYKUN, V.K.

ANTONOV, I.A., kand.tekhn.nauk; ANTOSHIN, Ye.V., inzh.; ASINOVSKAYA, G.A., inzh.; VASIL'YEV, K.V., kand.tekhn.nauk; GUZOV, S.G., inzh.; DEYKUN, V.K., inzh.; ZAYTSEVA, V.P., inzh.; KAZHEKOV, P.P., inzh.; KALAN, Yu.B., inzh.; KOLTUNOV, P.S., kand.tekhn.nauk; KOROVIN, A.I., inzh.; KRZHECHKOVSKIY, A.K., inzh.; KUZNETSOVA, Ye.I., inzh.; MATVEYEV, N.N., tekhnik; MOROZOV, M.Ye., inzh.; NEKRASOV, Yu.I., inzh.; NECHAYEV, V.D., kand.tekhn.nauk; NINBURG, A.K., kand.tekhn.nauk; SPEKTOR, O.Sh., inzh.; STRIZHEVSKIY, I.I., kand.khim.nauk; TESMENITSKIY, D.I., inzh.; KHROMOVA, TS.S., inzh.; TSEUNEL', A.K., Inzh.; SHASHKOV, A.N., kand. tekhn.nauk, dots.; SHELECHNIK, M.M., inzh.; SHUKHMAN, D.Ya., inzh.; EDEL'SON, A.M., inzh.; VOLODIN, V.A., red.; UVAROVA, A.F., tekhn.red.

[Machines and apparatuses designed by the All-Union Institute of Autogenous Working of Metals] Mashiny i apparty konstruktsii VNIIAvtogen. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1957. 173 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut avtogennoi obrabotki metallov, no.9)
(Gas welding and cutting--Equipment and supplies)

DEYKUN, V. K., Engineer

"A 'UGV' Device for Hardening Small-Module Gears."

paper presented at the Sverdlovsk Regional Conference on Gas-Flame Metal Working and Electric-Gas Processes, Sverdlovsk, 14-16 May 1958, Sponsored by VNIIAvtogen.

DEYKUN, V.K., insh.

Investigating the kinematic accuracy of RSSh-type machines for oxygen cutting. Trudy VNIIAvtogen no.6:3-25 '60.
(MIRA 13:8)
(Gas welding and cutting--Equipment and supplies)

DEYKUN, V.K., inzh.

Design of gas regulators. Trudy VNIIAvtogen no.6:89-101 '60.
(MIRA 13:8)
(Gas welding and cutting--Equipment and supplies)

DEYKUN, V.K., inzh.

Static characteristics and methods of calculating gas regulators. Trudy VNIIAVTOGENMASH no.12:68-100 '65.
(MIRA 18:11)

CZECH

Determination of sulfur in gas works purification material. Cestmir Deyl. *Palivo* 35, 7-8(1955).—This method eliminates [illegible] with CS_2, and tar does not interfere. The principle of this method is that S is sol. in CS_2 and has the tendency to adhere to filter paper owing to capillary action. Purification material (1 g.) is weighed into a crucible and active charcoal (a few mg.) added. Then a filter paper strip 2-cm. wide is bent over the rim of the crucible and a few drops of CS_2 dropped in. The crucible is covered with a lid and allowed to stand for a period of 4 hrs. Occasionally addnl. CS_2 is added. Then the strip is allowed to dry on a glass cover and weighed. J. L.

DEYL, M.

"Vegetation in the Environs of Labut Near Tachov." p. 57 (CASOPIS; ODDIL PRIRODOVEDNY, Vol. 122, No. 1, 1953) Prague, Czechoslovakia

SO: Monthly List of East European Accessions, Library of Congress, Vol. 3, No. 4, April 1954. Unclassified.

DEYL, MILOS.

Vyvoj rostlin a ystem jednodeloznych. The evolution of the plants and the taxonomy of the Monocotyledons. Praha, Nakl. Narodniho musea, 1955. 143 p. (Prague. Narodni museum. Sbornik B: Prirodovedny, v. 11, no 6) (In English. Tr. from the Czech. illus., bibl., index.)

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

LIMPOUCH, B., inz.; DEYL, O., inz. CSc.

Development of cyclone furnaces in Czechoslovakia. Strojirenstvi 14 no.6:425-434 Je '64.

1. Research Institute of Electric Equipment, First Brno Machine Factory, Zavody Klementa Gottwalda, Brno.

NEMECEK, Jan, inz.; DEYL, V., inz., dr.

Problem of noise of railroad operation in designing railroad lines.
Zel dop tech 9 no.12:363-365 '61.

DEYL, Viktor, inz., dr.

Modernization of our rail tracks; a discussion. Zel dop tech 10 no.7:216 '62.

DEYL, Y.

Deyl, Y.; Novacek, J. Survey of Czechoslovak standards for weak-current electrical engineering. (Supplement) p.P21

SLABOPROUDY OBZOR. Vol. 15, No. 4, April 1954. Prague.

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 5, No. 6, June 1956, Uncl.

DEYL, Yvo, inz.

Report on the activity of the International Electrotechnical Commission no. 21:Accumulators. Normalizace 12 no. 3: 72-74 Mr '64.

1. Office of Standardization and Measurement, Prague.

EFFENVERGER, Milos; DEYL, Zdenek

Nephelometric determination of trichloroethylene in water. Sbor. pal.vod. VSChT 1958:225-236. (KRAI 9:4)

1. Katedra chemicke technologie vody, Vysoka skola chemicko-technologicka, Praha.
(Trichloroethylene) (Water) (Nephelometry)

E

Country : CZECHOSLOVAKIA
Category: Analytical Chemistry. Analysis of Organic Chemistry

Abs Jour: RZhKhim., No 17, 1959, No. 60622

Author : Pospisil, J.; Doyl, Z.; Ettel, V.
Inst : -
Title : Chromatographic Analysis of the Technical Nitro-Compounds Mixtures

Orig Pub: Chem. prumysl, 1958, 8, No 10, 511-515

Abstract: In order to analyze technical mixtures of nitro-compounds it is recommended beforehand to separate a mixture into the groups of chemically related compounds. With the use of Watman No 4 paper, impregnated with formamide, and employing previously described method (Ref Zhur-Khimiya

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Country : CZECHOSLOVAKIA
Category: Analytical Chemistry. Analysis of Organic Chemistry

Abs Jour: RZhKhim., No 17, 1959, No. 60622

1957, No 9, 31103) that uses cyclohexane or n-C_6H_{14}, nitrohydrocarbons are separated and isolated with the aid of C_6H_6 or of ethylacetate (I)-nitrophenols. Finally, on Watman No 1 paper, are separated nitro-acids, employing a mixture of C_2H_5OH-NH_4OH (II) (95 : 5) or a mixture of I and II (95 : 5). In the identification of isomers on the paper having a stationary polar phase, the Frants-Latinyak's equation (Ref Zhur-Khimiya, 1956, No 3, 6544), $R_f = K-0.1\mu$ is employed and on the paper having a stationary non-polar phase the equation $R_f=K + 0.1\mu$ (K-chromatographic constant calculated on the basis of

Card : 2/4

E

Country : CZECHOSLOVAKIA
Category: Analytical Chemistry. Analysis of Organic Chemistry

Abs Jour: RZhKhim., No 17, 1959, No. 60622

a known Rf value for one of the isomers, μ -value of the dipole moment). For the homologues, in their investigation with a stationary phase, the Frants-Yokl equation (Ref Zhur-Khimiya, 1956, No 24, 77780) is being employed. The indicated equations are also applicable to the unimpregnated and acetylated papers. This method is of particular convenience in the possible presence of several substances in a single spot. Described are results of separation of 13 nitro-derivatives of phenols, 11 nitro-derivatives of benzoic acid, 13 nitro-derivatives of benzene and toluene, pre-

Card : 3/4

Country : CZECHOSLOVAKIA E
Category: Analytical Chemistry. Analysis of Organic Chemistry

Abs Jour: RZhKhim., No 17, 1959, No. 60622

sented are R_f values either found experimentally or calculated from the above indicated equations. -- N. Turkevich

Card : 4/4

DEVL, Z.

TECHNOLOGY

PERIODICAL: CHEMICKE PRUMYSL. VOL. 11, no. 3, 1958

Devl, Z. Chromatographic analysis of nitro-compound mixtures for industrial use. p. 511.

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

Deyl, Zdenek

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31103.

Author : Ettel, Viktor, Pospisil, Jan, Deyl, Zdenek.
Inst :
Title : Chromatographic Separation of Mixtures of Nitro-Compounds.

Orig Pub: Chem. listy, 1958, 52, No 4, 623-630.

Abstract: This study deals with chromatographic separation in the downward flow of the developer of the mono-, di-, and tri- nitro derivatives of toluene (I), of phenol (II) and of benzoic acid (III) as well as with the separation of isomeric tri-nitrobenzols (IV) on paper saturated with polar solvent, namely 5% solution of formamide (V) in C_2H_5OH. For the separation of I, II

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and IV Watman No. 4 paper was used and for III the Watman No.1 paper which was also saturated with 5% solution of kerosene VI in benzol. Mixtures I and IV were developed with n-hexane and with cyclohexane (VII). Mixture II - with C_6H_6, $CHCl_3$ or with ethyl acetate (VIII). III - with mixture VIII plus NH_4OH (95:5) (paper saturated with VI), or with C_6H_6 or with VIII (paper saturated with V) and with the mixture of C_2H_5OH plus NH_4OH (95:5) or with VIII plus NH_4OH (unsaturated paper). I and IV were opened after reduction with 5% $SnCl_2$ solution in concentrated HCl and with 1% solution of n-dimethylaminobenzaldehyde in 1.2 normal HCl.

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. E

Abs Jour; Ref Zhur-Khim., No 9, 1959, 31103.

II was opened with the mixture of 15% $FeCl_3$ solution and of 1% solution of $Na_3[Fe(CN)_6]$ (1:1). Following this the chromatogram was treated with 2 normal HCl. To open II a 10% water solution of NaOH was also used. III was opened with a mixture of 1% alcohol solution of methyl red with 1/15 M phosphate buffer solution, pH 7 (1:1). In drying the chromatograms at 150° for one hour the paper was charred in the places showing the blots of substances containing sulfogroups. The R_f values of 30 enumerated classes, under the conditions described above, are given. They differ from values calculated according to the values of dipole moments by not more than 2%. Pure substances and the corresponding R_f values are utilized for the

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CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Substances. E

Abs Jour: Ref Zhur-Khim., No 9, 1959, 31103.

identification of the products obtained by nitrating toluene which were subjected to chromatographic separation under the described conditions by stage elutriation with solvents of increasing polarity. After nitrating, I and IV were separated from the reaction mixture on Watman No. 4 paper with the aid of a mixture of V with VII. The residue at the start was extracted with CH_3COOH or with C_2H_5OH and the solution was again chromatographed on Watman No. 4 paper with a mixture of V with VIII during which the II are separated and III and the sulfurated derivatives remain at the start. They were again extracted and separated on Watman No. 1 paper with a mixture of C_2H_5OH plus NH_4OH. Identification in the

Card : 4/5

DEYL, Z.

"Colorimetric determination of hematin in water." p.164

VODNI HOSPODARETVL (Ustredni sprava vodniko hospodarstvi) Praha, Czechoslovakia, no. 4, April, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959

Uncl.

DEYL, Z.

Colorimetric determination of values of a four-hour test. p. 279.

VODNI HOSPODARSTVI. (Ministerstvo energetiky a vodniho hospodarstvi a Vedecka technicka spolecnost pro vodni hospodarstvi) Praha, Czechoslovakia, No. 6, June 1959.

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

Uncl.

DEYL, Z.; ETTEL, V.; POSPISIL, J.

"Chromatographic separation of mixtures containing nitrogen compounds"
In German. p. 234.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech.,
Vol. 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59
Unclassified

DEYL, Z.; HFFENBERGER, M.

Color products of the reaction of NO_3--ions with brucine and their analutic application. In German. Coll.Cz.Chem. 24 no.11:3763-3768 N '59. (EEAI 9:5)

1. Prerovske strojirny, Forschungsabteilung, Prag.und Forschungsinstitut fur Wasserwirthschaft, Prag.
(Nitrates) (Ions) (Brucine)

KUTACEK, Milan, dr.; ROSMUS, Jan, inz.; DEYL, Zdenek, inz.

New methods of chromatographic separation of gibberellins A_1 and A_3. Biologia plantarum 4 no.3:226-231 '62.

1. Research Institute of Plant Production, Czechoslovak Academy of Sciences, Praha - Ruzyne (for Kutacek). 2. Central Research Institute of Food Industry, Praha - Smichov, Na belidle 21 (for Rosmus and Deyl).

DEYL, Zdenek; ROSMUS, Jan

Effect of soluble collagens on the course of electrophoresis of proteins. Kozarstvi 13 no.2:36 F '63.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu, Praha - Smichov.

DEYL, Zdenek; ROSMUS, Jan

Paper electrophoresis of collagen degradation and denaturation products. Kozarstvi 13 no.3:67-70 Mr '63.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu, Praha - Smichov.

DEYL, Zdenek; ROSMUS, Jan

Collagen reaction in sour medium. Pt. 2. Kozarstvi 13 no.5:139-140 My '63.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu, Praha - Smichov.

DEYL, Zdenek; PAVLICEK, Miroslav; ROSMUS, Jan

Paper chromatography in the centrifugal field. Chem listy 57 no. 5: 479-493 My '63.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu, Praha a Katedra automatizace, Vysoka skola chemicko-technologicka, Praha.

DEYL, Z.; ROSMUS, J.

Second Colloquy on Present Problems of Collagen Research. Chem listy 57 no.9:1009-1010 S '63.

DEYL, Z.; ROSMUS, J.; ADAM, M.

Tanning of the collagen structure by heavy metals. Kozarstvi 14 no.8:237-243 Ag '64.

1. Central Research Institute of Food Industry and Research Institute of Rheumatic Diseases, Prague.

FABIAN, Jan, inz.; SMUTNY, Frantisek, inz.; KOSMUS, Jan, inz.; DEYL, Zdenek, inz. CSc.; JEZEK, Karel, PhMr.

Discussion on Vladimir Horejsi's article "Use of high-frequency energy in food sublimation drying. Prum potravin 15 no.2:69-71 F '64.

DEYL, Zdenek; PODRAZKY, Vladimir; ROSMUS, Jan

Theoretical principles of fat meat sublimation drying. Prum potravin 15 no.8:380-385 Ag '64.

1. Central Research Institute of Food Industry , Prague.

DEYL, Zdenek, inz, CSc.

The Sixth International Congress of Biochemistry in New York. Kozarstvi 14 no.11:340 N '64.

1. Institute of Physiology of the Czechoslovak Academy of Sciences, Prague.

ROSMUS, Jan; DEYL, Zdenek

Structure of collagen. Prum potravin 15 no.11:598-602 N '64.

1. Central Research Institute of Food Industry, Prague.

DEYL, Zdenek, inz.; ROSMUS, Jan, inz.

Sixth International Congress of Biochemistry in New York.
Prum potravin 15 no.12:644-645 D '64.

L 2051-66 EWT(1)/EWA(b)-2 RO
ACCESSION NR: AP5027367 CZ/0053/65/000/001/0014/0032

AUTHOR: Rosmus, J.; Deyl, Z.; Trnavsky, K.; Trnavska, Z.

TITLE: Experimental lathyrism

SOURCE: Ceskoslovenska fysiologie, no. 1, 1965, 14-32

TOPIC TAGS: botany, toxicology, experiment animal, biochemistry

Abstract: Lathyrism is an intoxication caused by the seeds of the sweet pea Lathyrus odoratus. The toxic ingredient of the seeds is described. Pathological and anatomical findings on rats, frogs, mice, guinea pigs, chicken, rabbits, monkeys, horses and camels are reported. The toxic ingredients of the seeds are reviewed in respect to their effect, and its mechanism. The effect of collagen upon the toxic ingredients is discussed. Biosynthesis of collagen is described. "The authors thank Dr. M. Chvapil and Dr. J. Hurych of the Industrial Health and Occupational Diseases Institute in Prague and Dr. M. Adam of the Research Institute of Rheumatic Diseases in Prague for proof-reading the report and for critical remarks to the manuscript." Orig. art. has: 5 figures, 3 graphs, and 8 tables.

Card 1/2

L 2051-66

ACCESSION NR: AP5027367

ASSOCIATION: Ustredni vyzkumny ustav potravinarskeho prumyslu, Prague (Central Research Institute of Food Industry); Vyzkumny ustav chorob revmatickych vysunute pracovisko, Piestany (Research Institute for Rheumatic Diseases, Research Station); Deyl Laborator pro patofysiologii latkove premeny, Fysiol. ustav CSAV, Prague (Pathophysiology of Tissue Metabolism Laboratory, Institute of Physiology, CSAV)

SUBMITTED: 24Mar64 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 101 JPRS

Card 2/2

ADAM, M.; BARTL,P.; DEYL, Z.; ROSMUS, J.

Binding of gold to collagen in chrystothiotherapy. 1. Electron microscopic picture. Cas. lek. cesk. 104 no.7:189-192 19 F'65.

1. Vyzkumny ustav revmatickych chorob v Praze (reditel: prof. dr. F. Lenoch); Ustav organicke chemie a biochemie Ceskoslovenske akademie ved v Praze a Ustredni vyzkumny ustav potravinarskeho prumysly v Praze.

DEYL, Z.; ROSMUS, J.; ADAM, M.; BARTL, P.

The coupling of gold with collagen in chrysothiotherapy. 2. Effects on structural stability. Cas. lek. cesk. 104 no.9:236-242 5 Mr'65.

1. Ustredni vyzkumny ustav potravinarskeho prumyslu v Praze (reditel: inz. F. Vones); Vyzkumny ustav revmatickych chorob v Praze)reditel: prof. dr. Lenoch) a Ustav organicke chemie a biochemie Ceskoslovenskej akademie vied v Praze (reditel: akademik F. Sorm).

PALATY, Jiri; DEYLOVA, Libuse

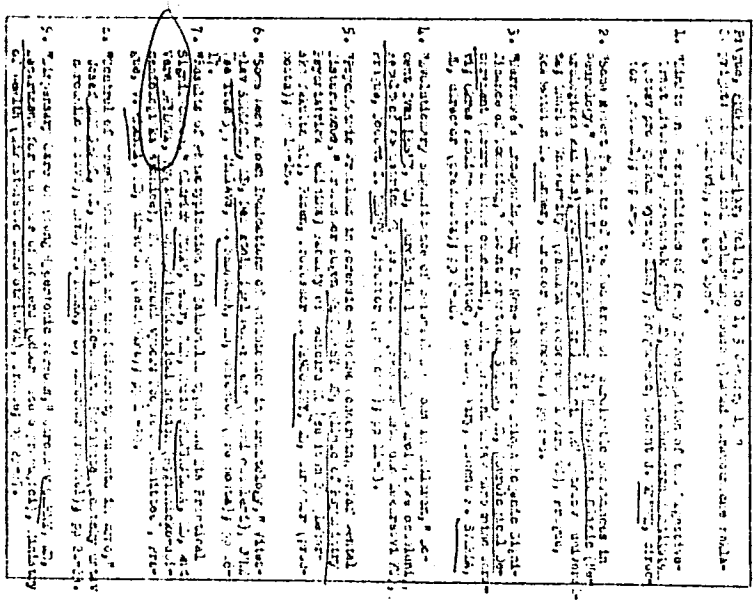
The interference of some substances with the determination of phenols by means of 4-amino-antipyrine and dimethyl-p-phenylenediamine. Sbor pal vod VSChT 4 no.1:251-258 '60.

(EEAI 10:9)

1. Katedra chemicke technologie vody, Vysoka skola chemicko-technologicka, Praha.

(Phenols) (Dimethylphenylenediamine)
(Aminoantipyrine)

DEYLOVA, VERA



DEYMONTOVICH, B. I.

Cigar wrapper leaf in the Byransk Province. Tabak 13, No 2, 1952.

COUNTRY : USSR
CATEGORY : Cultivated Plants - Industrial, Oleiferous, Sugar. M

ABS. JOUR. : Referat. Zhur., Biol., No.14, 1958, No.63542

AUTHOR : Deymontovich, B. I.
INST. :
TITLE : Little-Suckering Makhorka (Nicotiana rustica)

ORIG. PUB. : Agrobiologiya, 1956, No. 4, 123-125

ABSTRACT : As the result of crossing Abyssinian makhorka with Chuvash makhorka, subsequent crossing of the obtained form Omega with variety Khmelovka 125 and selective separation, a new variety - Lokhis - was brought out characterized by a small number of suckers. The secondary suckers hardly form (after the removal of the first ones). After topping and suckering, suckers grow from the axils of the lowest seedling leaves which does not lower the quality of makhorka. In Lokhis variety, the reproductive capacity is reduced, there is less inflorescence, the seeds are larger, the number of the leaves is increased. The new variety combines the high

Card: 1/2

COUNTRY : USSR
CATEGORY : Cultivated Plants - Industrial, Oleiferous, Sugar. M

ABS. JOUR. : RZhBiol., No.14, 1958, No.63542

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : yielding capacity with the high quality of the leaves. The work on bringing it out was conducted during 1932-1947 in Kiev at Dryazginskaya (Lipetskaya oblast') and Lokhvitskaya (Poltavskaya oblast') stations. — D. B. Vakhmistrov

Card: 2/2

COUNTRY : USSR
CATEGORY : Cultivated Plants - Industrial, Oleiferous, Sugar. M

ABS. JOUR. : RZhBiol., No.14, 1958, No. 63593

AUTHOR : Deyamontovich, B. I.
INST. : All-Union Institute of Tobacco and Makhorka
TITLE : New Variety of Cigar-wrapper Tobacco - Pogarskiy, and Work on Its Improvement.

ORIG. PUB. : Agrobiologiya, 1957, No. 6, 135-138

ABSTRACT : Pogarskiy variety is a new hybrid population of tobacco produced in Bryanskaya oblast' as the result of blending local and imported seeds. Fast maturing and productivity are combined well in this variety. The improvement of the variety was carried out without the use of self-pollination. As the result of continuous controlled selection, plants having a broad leaf with midrib were obtained. The elite of 1952 and 1953 produced completely uniform progeny. The selection work on bringing out the variety was conducted at Starodubskaya experiment station of the All-Union Institute of Tobacco and Makhorka /Nicotiana rustica/ in Bryanskaya Oblast'. — A. M. Smirnov

Card: 1/1

DEYNEGA, A.V. (Vinnitskaya oblast').

Concerning an article. Mat. v shkole no.6:76-77 N-D '56. (MIRA 10:1)

(Geometry--Problems, exercises, etc.)