

Literaturverzeichnis

- [1] BRUNO, G., P. CAPEZZUTO, G. CICALA und P. MANODORO: *Study of the NF_3 plasma cleaning of reactors for amorphous silicon deposition*. J. Vac. Sci. Technol., 12:690–699, 1994.
- [2] RAUF, S., P.L.G. VENTZEK, I.C. ABRAHAM, G.A. HEBNER und J.R. WOODWORTH: *Charged species dynamics in an inductively coupled Ar/ SF_6 plasma discharge*. J. Appl. Phys., 92(12):6998–7007, 2002.
- [3] DIXON-WARREN, S.-J., E.T. JENSEN und J.C. POLANYI: *Direct evidence for charge-transfer photodissociation at a metal surface: $CCl_4/Ag(111)$* . Phys. Rev. Lett., 67:2395–2398, 1991.
- [4] DIXON-WARREN, ST.J., E.T. JENSEN und J.C. POLANYI: *Photochemistry of adsorbed molecules. XI. Charge-transfer photodissociation and photoreaction in chloromethanes on $Ag(111)$* . J. Chem. Phys., 98(7):5938–5953, 1993.
- [5] BOUDAÏFFA, B., P. CLOUTIER, D. HUNTING, M.A. HUELS und L. SANCHE: *Resonant formation of DNA strand breaks by low-energy (3 to 20 eV) electrons*. Science, 287(16):1658–1660, 2000.
- [6] SANCHE, L.: *Les électrons secondaires en chimie et biologie sous rayonnement*. J. Chim. Phys., 94:216–225, 1997.
- [7] ABDOUL-CARIME, H., M. A. HUELS, F. BRÜNING, E. ILLENBERGER und L. SANCHE: *Dissociative electron attachment to gas-phase 5-bromouracil*. J. Chem. Phys., 113(7):2517–2521, 2000.

- [8] ABDOUL-CARIME, H., M. A. HUELS, E. ILLENBERGER und L. SANCHE: *Sensitizing DNA to Secondary Electron Damage: Resonant Formation of Oxidative Radicals from 5-Halouracils*. J. Am. Chem. Soc., 123(22):5354–5355, 2001.
- [9] STIPE, B.C., M.A. REZAEI, W. HO, S. GAO, M. PERSSON und B.I. LUNDQUIST: *Single-molecule dissociation by tunneling electrons*. Phys. Rev. Lett., 78(23):4410–4413, 1997.
- [10] STIPE, B.C., M.A. REZAEI und W. HO: *Atomistic studies of O₂ dissociation on Pt(111) induced by photons, electrons, and by heating*. J. Phys. Chem., 107(16):6443–6447, 1997.
- [11] BARTELS, L., G. MEYER, K.-H. RIEDER, D. VELIC, E. KNOESEL, A. HOTZEL und G. ERTL: *Dynamics of Electron-Induced Manipulation of Individual CO Molecules on Cu(111)*. Phys. Rev. Lett., 80(9):2004–2007, 1998.
- [12] HO, W.: *Single-molecule chemistry*. J. Chem. Phys., 117(24):11033–11061, 2002.
- [13] QIU, X.H., G.V. NAZIN und W. HO: *Vibrationally Resolved Fluorescence Excited with Submolecular Precision*. Science, 299:542–546, 2003.
- [14] CHRISTOPHOROU, L.G. (Herausgeber): *Electron-Molecule-Interactions and Their Applications*, Band 1. Academic Press, Orlando, 1984.
- [15] TEGEDER, P.: *Elektroneninduzierte Reaktionen in dünnen molekularen Filmen*. Doktorarbeit, Freie Universität Berlin, 1999.
- [16] LEHMANN, L.: *Ladungs- und Energietransfer in binären molekularen Aggregaten*. Doktorarbeit, Freie Universität Berlin, 1998.

- [17] LEHMANN, L. und E. ILLENBERGER: *Nucleophilic displacement (S_N2) reactions in binary van der Waals clusters induced by resonant electron capture*. Int. J. Mass Spectrom., 185/186/187:463–475, 1999.
- [18] LANGER, J., S. MATEJČÍK und E. ILLENBERGER: *The nucleophilic displacement (S_N2) reaction $F^- + CH_3Cl \rightarrow CH_3F + Cl^-$ induced by resonant electron capture in gas phase clusters*. Phys. Chem. Chem. Phys., 2(5):1001–1005, 2000.
- [19] ZHONG, Q., L. POTH, Z. SHI, J.V. FORD und JR. A.W. CASTLEMAN: *Intracuster Polymerization Reactions of Alkene Cluster Ions*. J. Phys. Chem. B, 101(21):4203–4208, 1997.
- [20] CHRISTOPHOROU, L.G. und J.K. OLTHOFF: *Electron attachment cross sections and negative ion states of SF_6* . Int. J. Mass Spectrom., 205:27–41, 2001.
- [21] GARREC, J.-L. LE, D.A. STEINHURST und M.A. SMITH: *Measurement of the autodetachment lifetime of SF_6^{-*} as a function of electron energy in a free jet expansion*. J. Chem. Phys., 114(20):8831–8835, 2001.
- [22] MATEJČÍK, S., T.D. MÄRK, P. SPANEL, D. SMITH, T. JAFFKE und E. ILLENBERGER: *Formation and decay of C_{60}^- following free electron capture by C_{60}* . J. Chem. Phys., 102(6):2516–2521, 1995.
- [23] CHRISTOPHOROU, L.G., E. ILLENBERGER und W.F. SCHMIDT (Herausgeber): *Linking the Gaseous and Condensed Phases of Matter*. Plenum Press, New York, 1994.
- [24] SCHULZ, G.J.: *Resonances in Electron Impact on Atoms*. Rev. Mod. Phys., 45(3):379–423, 1973.
- [25] POPPLE, R.A., C.D. FINCH, K.A. SMITH und F.B. DUNNING: *Dissociative electron attachment to CCl_4 : Lifetime of the CCl_4^{-*} intermediate*. J. Chem. Phys., 104(21):8485–8489, 1996.

- [26] WEBER, J.M., I.I. FABRIKANT, E. LEBER, M.-W. RUF und H. HOTO: *Effects of solvation on dissociative electron attachment to methyl iodide clusters*. Eur. Phys. J. D, 11:247–256, 2000.
- [27] BARDSLEY, J.N. und F. MANDL: *Resonant scattering of electrons by molecules*. Rep. Progr. Phys., 31((Pt.2)):471–531, 1968.
- [28] ILLENBERGER, E. und J. MOMIGNY: *Gaseous Molecular Ions. An Introduction to Elementary Processes Induced by Ionisation*, Band 2 der Reihe *Topics in Physical Chemistry*. Steinkopff, Springer, Darmstadt, New York, 1992.
- [29] ILLENBERGER, E.: *Electron-Attachment Reactions in Molecular Clusters*. Chem. Rev., 92:1589–1609, 1992.
- [30] O'MALLEY, T.F.: *The Theory of Dissociative Electron Attachment*. Phys. Rev., 150(1):14–29, 1966.
- [31] INGÓLFSSON, O. und E. ILLENBERGER: *Effektive intermolekulare relaxation in $(C_6F_6)_n^-$ clusters: mechanism of $C_6F_6^-$ formation on low energy electron impact*. Int. J. Mass. Spectrom., 149-150:79–86, 1995.
- [32] TEILLET-BILLY, D. und J.P. GAUYACQ: *Dissociative attachment in e^- -HCl, DCl collisions*. J. Phys. B, 17:4041–4058, 1984.
- [33] DOMCKE, W. und C. MÜNDEL: *Calculation of cross sections of vibrational excitation and dissociative attachment in HCl and DCl beyond the local-complex-potential approximation*. J.Phys. B, 18:4491–4509, 1985.
- [34] HORÁČEK, J. und W. DOMCKE: *Calculation of dissociative electron attachment and vibrational excitation cross section of HBr*. Chem. Phys. Lett., 234:304–308, 1995.
- [35] HORÁČEK, J., W. DOMCKE und H. NAKAMURA: *Electron attachment and vibrational excitation in hydrogen iodide: calculations based*

- on nonlocal resonance model.* Z. Phys. D: Atoms, Molecules and Clusters, 42(3):181–185, 1997.
- [36] KNOTH, G., M. GOTE, M. RÄDLE, K. JUNG und H. EHRHARDT: *Nuclear-Excited Feshbach Resonances in the Electron Scattering from Hydrogen Halides.* Phys. Rev. Lett., 62(15):1735–1737, 1989.
- [37] WANG, W.C. und L.C. LEE: *Electron attachment rate constants of SO₂ and CS₂ in Ar, N₂ and CH₄ at varied E/N.* J. Chem. Phys., 84(5):2675–2681, 1986.
- [38] ILLENBERGER, E.: *A method to determine excess energies in dissociative electron attachment processes.* Ber. Bunsenges. Phys. Chem., 86:1247–252, 1982.
- [39] ILLENBERGER, E.: *Negative Ionen in der Gasphase.* Freie Universität Berlin, 1982. Habilitationsschrift.
- [40] BARDSLEY, N.J., A. HERZENBERG und F. MANDL: *Vibrational excitation and dissociative attachment in the scattering of electrons by hydrogen molecules.* Proc. Phys. Soc. Lond., 89(2):321–340, 1966.
- [41] HAHNDORF, I.: *Temperaturabhängigkeit von Elektronenanlagerungsreaktionen.* Doktorarbeit, Freie Universität Berlin, 1996.
- [42] WIGNER, E.P.: *On the behavior of cross section near thresholds.* Phys. Rev., 73(9):1002–1009, 1948.
- [43] KLAR, D., M.-W. RUF und H. HOTOP: *Attachment of electrons to molecules at submillielectronvolt resolution.* Chem. Phys. Lett., 189(4,5):448–454, 1992.
- [44] SCHRAMM, A., J.M. WEBER, D. KLAR, M.-W. RUF und H. HOTOP: *Laser Photoelectron Attachment to Molecules in a Skimmed Supersonic Beam: Diagnostics of Weak Electric Fields and Attachment Cross Sections Down to 20 μ eV.* Phys. Rev. Lett., 81(4):778–781, 1998.

- [45] JONES, H.: *Trends: Physikalische Chemie*. Nachr. Chem. Tech. Lab., 45(2):188–197, 1997.
- [46] JORTNER, J.: *Level Structure and Dynamics of Clusters*. Ber. Bunsenges. Phys. Chem., 88:188–201, 1984.
- [47] SCOLES, G. (Herausgeber): *Atomic and Molecular Beam Methods*, Band 1. Oxford University Press, 1988.
- [48] ANDERSON, J.B., R.P. ANDERS und J.B. FENN: *Supersonic Nozzle Beams*. Adv. Chem. Phys., 10:275–317, 1966.
- [49] HABERLAND, H. (Herausgeber): *Clusters of Atoms and Molecules I*, Band 52 der Reihe *Springer Series in chemical physics*. Springer-Verlag Berlin Heidelberg, 1994.
- [50] KANTROWITZ, A. und J. GREY: *High intensity source for the molecular beam. I. Theoretical*. Rev. Sci. Instr., 22:328–232, 1951.
- [51] WEGENER, P.P. und J.-Y. PARLANGE: *Condensation by Homogeneous Nucleation in the Vapor Phase*. Naturwiss., 57(11):525–5330, 1970.
- [52] SÁENZ, J.J., J.M. SOLER und N. GARCÍA: *Evaporation of small clusters of noble gases by ionization*. Surf. Sci., 156:121–125, 1985.
- [53] HAGENA, O.F. und W. OBERT: *Cluster Formation in Expanding Supersonic Jets: Effect of Pressure, Temperature, Nozzle Size, and Test Gas*. J. Chem. Phys., 56(5):1793–1802, 1972.
- [54] ENGELKING, P.C.: *Determination of cluster binding energy from evaporative lifetime and average kinetic energy release: Application to $(CO_2)_n^+$ and Ar_n^+ clusters*. J. Chem. Phys., 87(2):936–940, 1987.
- [55] KLOTS, C.E.: *Evaporation from Small Particles*. J. Phys. Chem., 92(21):5864–5868, 1988.

- [56] HABERLAND, H., H. LANGOSCH, H.-G. SCHINDLER und D.R. WORNSNOP: *Mass Spectra of Negatively Charged Water and Ammonia Clusters*. Ber. Bunsenges. Phys. Chem., 88:270–272, 1984.
- [57] HABERLAND, H., H. LANGOSCH, H.-G. SCHINDLER und D.R. WORNSNOP: *Negatively charged water clusters: mass spectra of $(H_2O)_n^-$ and $(D_2O)_n^-$* . J. Phys. Chem., 88(17):3903–3904, 1984.
- [58] DESFRANÇOIS, C., H. ABDOUL-CARIME, N. KHELIFA und J.P. SCHERMANN: *Electron attachment to closed-shell polar molecule assemblies: from dipole-bound anions to solvated electrons*. J. Chim. Phys., 92:409–428, 1985.
- [59] BARNETT, R.N., U. LANDMAN und C.L. CLEVELAND: *Electron localization in water clusters. II. Surface and internal states*. J. Chem. Phys., 88(7):4429–4447, 1988.
- [60] BERGMANN und SCHAEFER: *Lehrbuch der Experimentalphysik: Vielteilchen-Systeme*, Band 5. De Gruyter Berlin, New Work, 1992.
- [61] MARCHI, M., M. SPRIK und M. L. KLEIN: *Electron attachment to ammonia clusters: A study using path integral Monte Carlo calculations*. J. Chem. Phys., 89(8):4918–4923, 1988.
- [62] BARNETT, R.N., U. LANDMAN, C.L. CLEVELAND, N.R. KESTNER und J. JORTNER: *Excess electrons in ammonia clusters*. Chem. Phys. Lett., 148(2–3):249–252, 1988.
- [63] WEYL, W. *Ann. Phys.*, 197:601, 1864.
- [64] OSTER, T., O. INGÓLFSSON, M. MEINKE, T. JAFFKE und E. ILLENBERGER: *Anion formation from gaseous and condensed CF_3I on low energy electron impact*. J. Chem. Phys., 99(7):5141–5150, 1993.

- [65] KLOTS, C. E. und R. N. COMPTON: *Self-scavenging of electrons in van der Waals molecules of methyl iodide*. Chem. Phys. Lett., 73(3):589–591, 1980.
- [66] INGÓLFSSON, O.: *Bildung negativer Ionen durch resonanten Elektreneinfang*. Doktorarbeit, Freie Universität Berlin, 1996.
- [67] COMPTON, R.N., P.W. REINHARDT und C.D. COOPER: *Collisional ionization of Na, K and Cs by CO₂, COS and CS₂: Molecular electron affinities*. J. Chem. Phys., 63(9):4422–4424, 1975.
- [68] KLOTS, C.E. und R.N. COMPTON: *Electron attachment to carbon dioxide clusters in a supersonic beam*. J. Chem. Phys., 67(4):1779–1780, 1977.
- [69] KLOTS, C.E. und R.N. COMPTON: *Electron attachment to van der Waals polymers of carbon dioxide and nitrous oxide*. J. Chem. Phys., 69(4):1636–1643, 1978.
- [70] ROSSI, A.R. und K.D. JORDAN: *Comment on structure and stability of (CO₂)₂⁻*. J. Chem. Phys., 70(9):3821–3827, 1979.
- [71] MÄRK, T.D., K. LEITER, W. RITTER und A. STAMATOVIC: *Low-energy-electron attachment to oxygen clusters produced by nozzle expansion*. Phys. Rev. Lett., 55(23):2559–2562, 1985.
- [72] MÄRK, T.D., K. LEITER, W. RITTER und A. STAMATOVIC: *Electron attachment to oxygen clusters at low electron energies. Formation and stability of (O₂)_n⁻ and (O₂)_nO⁻*. Internat. J. Mass Spectrom. Ion Proc., 74:265–279, 1986.
- [73] RUCKHABERLE, N., L. LEHMANN, S. MATEJCIK, E. ILLENBERGER, Y. BOUTEILIER, V. PERIQUET, L. MUSEUR, C. DEFRAÏÇOIS und J. P. SCHERMANN: *Free electron attachment and Rydberg electron transfer to NF₃ molecule and clusters*. J. Phys. Chem. A, 101:9942–9947, 1997.

- [74] STAMATOVIC, A. und G. SCHULZ: *Characteristics of the Trochoidal Electron Monochromator*. Rev. Sci. Instrum., 41(3):423–427, 1970.
- [75] STAMATOVIC, A. und G. SCHULZ: *Trochoidal Electron Monochromator*. Rev. Sci. Instrum., 39(11):1752–1753, 1968.
- [76] GRILL, V., H. DREXEL, W. SAILER, M. LEZIUS und T.D. MÄRK: *The working principle of the Trochoidal Electron Monochromator*. Int. J. Mass. Spectrom., 205:209–226, 2001.
- [77] KRAJNOVICH, D., L.J. BUTLER und Y.T. LEE: *UV photodissociation of C_2F_5Br , C_2F_5I and 1,2- C_2F_4BrI* . J. Chem. Phys., 81(7):3031–3047, 1984.
- [78] HWANG, H.J. und M.A. EL-SAYED: *Polarization dependent translational energy release observed in the photodissociation of C_2F_5I at 304.7 nm*. J. Chem. Phys., 94(7):4877–4886, 1991.
- [79] SAMUKAWA, S. und K. I. TSUDA: *New Radical-Control Method for SiO_2 Etching with Non-Perfluorocompound Gas Chemistries*. Jpn. J. Appl. Phys., 37(10A):L1095–1097, 1998.
- [80] WURFEL, E.B., N. PULGLIANO, S.E. BRADFORTH, R.J. SAYKALLY und G.C. PIMENTEL: *Broadband transient infrared laser spectroscopy of trifluorovinyl radical C_2F_3 : experimental and ab initio results*. J. Phys. Chem., 95(7):2932–2937, 1991.
- [81] SIANESI, D. und G.C. BERNARDI: *Polymerization or copolymerization of halogenated olefins*. Fr., Seite 10, 1967. Patent.
- [82] DUNTOV, F.I. und B.L. ERUSALIMSKII: *Copolymerization of ethylene with trifluoropropylene*. Vysokomol. Soedin. B, 13(7):539–542, 1971.
- [83] DAIKIN KOGYO CO., LTD., JAPAN: *Segmented fluoropolymers*. Jpn. Kokai Tokkyo Koho, Seite 18pp., 1984. Patent.

- [84] DANILOV, E.P., E.YU. STAROSTINA, S.A. DOLMATOV, R.A. ZAMYSLOV, I.V. DOBROV, I.V. KARYAGINA, B.K. LEVITAN und A.P. KULIKOV: *Composition for coating printed circuits*. U.S.S.R., 1981. Patent.
- [85] (ANONYM): *Novel ozone-safe alternative refrigerants for refrigeration units*. Kholodil'naya Tekhnika, 6:11–12, 1995.
- [86] GRINBERG, V.A., O.A. KHAZOVA, S.E.KANEVSKII und YU.B. VASILIEV: *Role of the adsorption of fluoroorganic compounds in anodic electrosynthesis on a platinum electrode*. Elektrokhimiya, 16(6):899–902, 1980.
- [87] HENI, M.: *Dissziative Elektronenanlagerung, Ladungs- und Energietransfer an kleinen Molekülen*. Doktorarbeit, Freie Universität Berlin, 1986.
- [88] CHRISTOPHOROU, L.G. und J.K. OLTHOFF: *Electron Interactions With CF₃I*. J. Phys. Chem. Ref. Data, 29(4):553–569, 2000.
- [89] SUNAGAWA, T. und H. SHIMAMORI. In: Y. HATANO, H. TANAKA, N. KOUCHI (Herausgeber): *International Symposium on Electron-Molecule Collisions and Swarms*, Seiten 181–182, 18-20 Juli, Tokyo 1999.
- [90] LANGER, J., S. MATEJČÍK und E. ILLENBERGER: *Electron attachment to C₂F₅I molecules and clusters*. Int. J. Mass Spectrom., 220(2):211–220, 2002.
- [91] HASHEMI, R.: *Elektroneneinfanginduzierte Reaktionen in van der Waals-Aggregaten halogener Kohlenstoffverbindungen*. Diplomarbeit, Freie Universität Berlin, 1990.
- [92] WEIK, F. und E. ILLENBERGER: *Interaction of low energy electrons with gaseous and condensed perfluoro compounds*. J. Chem. Phys., 103(4):1406–1412, 1995.

- [93] LIDE, D. (Herausgeber): *Handbook of Chemistry and Physics*. CRC Press, Boca Raton, 78. Auflage, 1997.
- [94] HSIEH, T. und R.J. HANRAHAN: *An electron impact investigation of Pentafluoroethyl iodide*. Intern. J. Mass Spectrom. Ion Phys., 23:201–207, 1977.
- [95] HAHNDORF, I. und E. ILLENBERGER: *Temperature dependence of electron attachment processes*. Int. J. Mass Spectrom. Ion Proc., 167,168:87–101, 1997.
- [96] TAM, W.-C. und S.F. WONG: *Dissociative attachment of halogen molecules by 0–8 eV electrons*. J. Chem. Phys., 68(12):5626–5630, 1978.
- [97] ROBIN, M.B.: *Higher Excited States of Polyatomic Molecules*, Band I. Academic Press, New York, 1974.
- [98] ROBIN, M.B.: *Higher Excited States of Polyatomic Molecules*, Band III. Academic Press, New York, 1985.
- [99] HANEY, M.A. und J.L. FRANKLIN: *Correlation of Excess Energies of Electron-Impact Dissociations with the Translational Energies of the Products*. J. Chem. Phys., 48(9):4093–4097, 1968.
- [100] FRANKLIN, J.L.: *Gas Phase Ion Chemistry*, Band 1, Kapitel Energy. Academic Press, New York, 1979.
- [101] RILEY, S.J. und K.R. WILSON: *Excited Fragments from Excited Molecules: Energy Partitioning in the Photodissociation of Alkyl Iodides*. Faraday Discuss. Chem. Soc., 53:132–146, 1972.
- [102] LANGER, J., S. MATEJCIK und E. ILLENBERGER: *Energy Balance in Dissociative Electron Attachment to C₂F₅I*. Phys. Chem. Chem. Phys., 4(20):5105–5109, 2002.

- [103] BAKLANOV, A.V., G.A. BOGDANCHIKOV, M. ALDENER, U. SASSENBERG und A. PERSSON: *Nanosecond and femtosecond probing of the dynamics of the UV-photodissociation of perfluoroethyl iodide C_2F_5I* . J. Chem. Phys., 115(24):11157–11165, 2001.
- [104] COMES, F.J. und S. PIONTECK: *Laser induced photodissociation of C_2F_5I . Radiative lifetime of the metastable iodine atom $^2P_{1/2}$* . Chem. Phys. Lett., 42(3):558–560, 1976.
- [105] HENI, M. und E. ILLENBERGER: *Dissociative Electron Attachment to CF_3I : An Example of a Completely Unbalanced Excess Energy Distribution*. Chem. Phys. Lett., 131(4,5):314–318, 1986.
- [106] PENCE, W.H., S.L. BAUGHUM und S.R. LEONE: *Laser UV Photofragmentation of Halogenated Molecules. Selective Bond Dissociation and Wavelength-Specific Quantum Yields for Excited $I(^2P_{1/2})$ and $Br(^2P_{1/2})$ Atoms*. J. Phys. Chem., 85:3844–3851, 1981.
- [107] FIEBERG, J.E., A. SZABO und J.M. WHITE: *Electron-stimulated chemistry of CF_3I adsorbed on $Ag(111)$. C-F bond cleavage and C-C coupling*. J. Chem. Soc. Faraday Trans., 92(23):4739–4748, 1996.
- [108] MACNEIL, K.A.G. und J.C.J. THYNNE: *Ionization of tetrafluoroethylene by electron impact*. Int. J. Mass Spectrom. Ion Phys., 5(3–4):329–35, 1970.
- [109] LIFSHITZ, C. und R. GRAJOWER: *Dissociative electron capture and dissociative ionization in perfluorocyclobutane*. Int. J. Mass Spectrom. Ion Phys., 4(1):92–4, 1972.
- [110] KING, R.A., N.D. PETTIGREW und H.F. SCHAEFER III: *The Electron affinities of the perfluorocarbons C_2F_n , $n = 1-6$* . J. Chem. Phys., 107(20):8536–8544, 1997.
- [111] UNDERWOOD-LEMONS, T., G. SÁGHI-SZABÓ, J.A. TOSSELL und J.H. MOORE: *Dissociative electron attachment and intramolecular*

- electron transfer in linear molecules.* J. Chem. Phys., 105(18):7896–7903, 1996.
- [112] SANCHE, L. und G.J. SCHULZ: *Electron transmission spectroscopy. Resonances in triatomic molecules and hydrocarbons.* J. Chem. Phys., 58(2):479–493, 1973.
- [113] BURROW, P.D. und K.D. JORDAN: *On the electron affinities of ethylene and 1,3-butadiene.* Chem. Phys. Lett., 36(5):594–598, 1975.
- [114] ILLENBERGER, E., H. BAUMGÄRTEL und S. SÜZER: *Electron attachment spectroscopy: Formation and dissociation of negative ions in the fluorochloroethylenes.* J. Electron Spectrosc. Relat. Phenom., 33(2):123–139, 1984.
- [115] HAWORTH, N.L., M.H. SMITH, G.B. BACSKAY und J.C. MACKIE: *Heats of Formation of Hydrofluorocarbons Obtained by Gaussian-3 and Related Quantum Chemical Computations.* J. Phys. Chem. A, 104:7600–7611, 2000.
- [116] HASHEMI, R., T. JAFFKE, L.G. CHRISTOPHOROU und E. ILLENBERGER: *Role of Inelastic Electron Scattering by N_2 in the Formation of $(O_2)_n^-$ Anions in Mixed O_2/N_2 Clusters.* J. Chem. Phys., 96(26):10605–10607, 1992.
- [117] JARVIS, G.K., R. PEVERALL und C.A. MAYHEW: *A novel use of an ion-mobility mass spectrometer for the investigation of electron attachment to molecules.* J. Phys. B: At. Mol. Opt. Phys., 29:L713–L718, 1996.
- [118] HIRAOKA, K., K. TAKAO, T. IINO, F. NAKAGAWA, H. SUYAMA, T. MIZUNO und S. YAMABE: *Gas Phase Ion–Molecule Reactions in C_3F_6 .* J. Phys. Chem., 106:603–611, 2002.
- [119] SCHMALE, C.: *Untersuchung des Fragmentierungsverhaltens von Hexafluorpropylen, 3.3.3-Trifluorpropylen und 2-Chlor-Acrylsäurenitril*

nach resonanter Elektronenanlagerung. Diplomarbeit, Universität Berlin, 1990.

- [120] MILLER, D.M., W.D. ALLEN und H.F. SCHAEFER III: *The electron affinity of CF₃*. *Mol. Phys.*, 88(3):727–739, 1996.
- [121] DEYERL, H.-J., L.S. ALCONCEL und R.E. CONTINETTI: *Photodetachment Imaging Studies of the Electron Affinity of CF₃*. *J. Phys. Chem.*, 105:552–557, 2001.
- [122] HENI, M. und E. ILLENBERGER: *The stability of the bifluoride ion F₂H⁻ in the gas phase*. *J. Chem. Phys.*, 83(11):6056–6057, 1985.
- [123] GUTSEV, L.L. und T.S. ZYUBINA: *Discrete variation X α calculations of energies of optical transitions and electron affinities of the fluorinated radicals (CF, CF₂, CF₃, C₂F, C₂F₂)*. *Teoreticheskaya i Eksperimental'naya Khimiya*, 20(2):141–147, 1984.
- [124] ROBIN, M.B.: *Higher Excited States of Polyatomic Molecules*, Band II. Academic Press, New York, 1975.
- [125] SAUERS, I., L.G. CHRISTOPHOROU und J.G. CARTER: *Electron attachment to perfluorocarbon compounds. III. Fragmentation of aliphatic perfluorocarbons of interest to gaseous dielectrics*. *J. Chem. Phys.*, 71(7):3016–3024, 1979.
- [126] IKUTA, S.: *An ab initio MO study on structures and energetics of C₃H⁻, C₃H and C₃H⁺*. *J. Chem. Phys.*, 106(11):4536–4542, 1997.
- [127] ZIMMERMANN, A.H., R. GYGAX und J.I. BRAUMANN: *Electron Photodetachment Spectroscopy of Polyene Anions. Electron Affinities of Pentadienyl and Heptatrienyl Radicals*. *J. Am. Chem. Soc.*, 100(18):5595–5597, 1978.

- [128] HIRAOKA, K., J. KATSURAGAWA, T. SUGIYAMA, T. KOJIMA und S. YAMABE: *Hydrogen bonds in gas-phase clusters between halide ions and olefins*. J. Am. Soc. Mass Spectrom., 12(2):144–149, 2001.
- [129] BRUNDLE, C.R., M.B. ROBIN, N.A. KUEBLER und H. BASCH: *Perfluoro Effect in Photoelectron Spectroscopy. I Nonaromatic Molecules*. J. Am. Chem. Soc., 94(5):1451–1464, 1972.
- [130] FRICKE, J.: *FCKW-Verwendung, Schadwirkungen, Ersatzmöglichkeiten*. Phys. i.u.Z., 20(3):65–69, 1989.
- [131] MOLINA, M.J. und F.S. ROWLAND: *Stratospheric sink for chlorofluoromethane: chlorine atom-catalysed destruction of ozone*. Nature, 249:810–812, 1974.
- [132] GRAEDEL, T.E. und P.J. CRUTZEN: *Chemie der Atmosphäre*. Spektrum Akademischer Verlag Heidelberg, Berlin, Oxford, 1994.
- [133] FANG, T.D., P.H. TAYLOR und B. DELLINGER: *Absolute Rate Measurements of the Reaction of OH Radicals with HCFC-21 (CHFC₂) and HCFC-22 (CHF₂Cl) over an Extended Temperature Range*. J. Phys. Chem., 100(10):4048–4054, 1996.
- [134] ZHANG, Z., S. PADMAJA, R.D. SAINI, R.E. HUIE und M.J. KURYLO: *Reaction of Hydroxyl Radicals with Several Hydrofluorocarbons: The Temperature Dependence of the Rate Constants for CHF₂CF₂CH₂F (HFC-245ca), CF₃CHFCHF₂ (HFC-236ea), CF₃CHF₂CF₃ (HFC-227ea), and CF₃CH₂CH₂CF₃ (HFC-356ffa)*. J. Phys. Chem., 98(16):4312–4315, 1994.
- [135] WARREN, R., T. GIERCZAK und A.R. RAVISHANKARA: *A study of atomic oxygen [O(1D)] reactions with chlorofluorocarbon (CFC) substitutes*. J. Chem. Lett., 183(5):403–409, 1991.
- [136] KAISER, E.W.: *Relative rate constants for reactions of HFC 152a, 143, 143a, 134a, and HCFC with fluorine or chlorine atoms and for*

- 1,1-difluoroethyl, 2,2-difluoroethyl, and 1,2,2,2-tetrafluoroethyl radicals with molecular fluorine, chlorine, and oxygen.* Int. J. Chem. Kinet., 25(8):667–80, 1993.
- [137] GERHARTZ, W., Y. YAMAMOTO und B. ELVERS (Herausgeber): *Ullmann's Encyclopedia of Industrial Chemistry*, Band A 8. VCH Weinheim, 1988.
- [138] VANBRUNT, R.: *Common parametrizations of electron transport, collision cross section, and dielectric strength data for binary gas mixtures.* J. Appl. Phys., 61:1773–1797, 1987.
- [139] RICHARDS, A., B. THOMPSON, K. ALLEN und H. SAWIN: *Atomic chlorine concentration measurements in a plasma etching reactor. I. A comparison of infrared absorption and optical emission actinometry.* J. Appl. Phys., 62:792–798, 1987.
- [140] LAL, S., R. BORCHERS, P. FABIAN, P.K. PATRA und B.H. SUBBARAYA: *Vertical distribution of methyl bromide over Hyderabad, India.* Tellus B: Chem. Phys. Meteorology, 46B(5):373–77, 1994.
- [141] SUNAGAWA, T. und H. SHIMAMORI: *Low-energy electron attachment to brominated methanes.* J. Chem. Phys., 107(19):7876–7883, 1997.
- [142] PEARL, D. und P. BURROW: *Dissociative attachment in selected monochloroalkane.* J. Chem. Phys., 101:2940–2947, 1994.
- [143] PEARL, D., P. BURROW, I. FABRIKANT und G. GALLUP: *Dissociative attachment in hot CH₃Cl: Experiment and theory.* J. Chem. Phys., 102:2737–2743, 1995.
- [144] MATEJČÍK, S., A. KIENDLER, A. STAMATOVIC und T.D. MÄRK: *A crossed beam high resolution study of dissociative electron attachment to CCl₄.* Int. J. Mass. Spectrom. Ion. Proc., 149/150:311–319, 1995.

- [145] HOTOP, H., D. KLAR, M.-W. RUF, A. SCHRAMM und J. WEBER: *The Physics of Electronic and Atomic Collisions*. AIP Press, Woodbury, New York, 1995.
- [146] BRÜNING, F.: *Elektroneneinfangreaktionen durch Moleküle bei Raumtemperatur und nach deren Anregung*. Doktorarbeit, Freie Universität Berlin, 1999.
- [147] TEGEDER, P., F. BRÜNING und E. ILLENBERGER: *Formation and evolution of negative ion resonances in gas-phase and condensed-phase CHFCl₂*. Chem. Phys. Lett., 310:79–87, 1999.
- [148] BRÜNING, F., P. TEGEDER und E. ILLENBERGER: *Low energy (0–14 eV) electron impact to CHF₂Cl at different phase conditions: medium enhanced desorption of anions*. Int. J. Mass Spectrom., 195,196:507–516, 2000.
- [149] SZAMREJ, I., W. TCHORZEWSKA, H. KOSC und M. FORYS: *Thermal electron attachment processes in halomethanes. I. CH₂Cl₂, CHFCl₂ and CF₂Cl₂*. Radiat. Phys. Chem., 47(2):269–273, 1996.
- [150] JARVIS, G.K., C.A. MAYHEW, L. SINGLETON und S.M. SPYROU: *An investigation of electron attachment to CHCl₂F, CHClF₂ and CHF₃ using an electron-swarm mass spectrometric technique*. Int. J. Mass Spectrom. I. Proc., 164(3):207–223, 1997.
- [151] AFLATOONI, K. und P.D. BURROW: *Dissociative electron attachment in chlorofluoromethanes and the correlation with vertical attachment energies*. Int. J. Mass Spectrom., 205:149–161, 2001.
- [152] LIDE, D. (Herausgeber): *JANAF Thermodynamical Tables*, Band 14. no, 3. Auflage, 1985.
- [153] BURROW, P.D., A. MODELLI, N.S. CHIU und K.D. JORDAN: *Temporary negative ions in the chloromethanes CHCl₂F and CCl₂F₂: Characterization of the σ^* orbitals*. J. Chem. Phys., 77(5):2699–2701, 1982.

- [154] IBUKI, T., A. HIRAYA, K. SHOBATAKE, Y. MATSUMI und M. KAWASAKI: *Vacuum ultraviolet photochemistry of CHFCl_2 and CHFBr_2 . Absorption spectra and CHF radical formation.* J. Chem. Phys., 92(7):4277–4282, 1990.
- [155] CHRISTODOULIDES, A., R. SCHUMACHER und R. SCHINDLER: *Studies by the electron cyclotron resonance (ECR) technique. XII. Interactions of thermal-energy electrons with the molecules trifluoromethane, chlorodifluoromethane, and dichlorofluoromethane.* Int. J. Chem. Kin., 10:1215–1223, 1978.
- [156] DAVIS, F., R. COMPTON und D. NELSON: *Thermal energy electron attachment rate constants for some polyatomic molecules.* J. Chem. Phys., 59:2324–2329, 1973.
- [157] ILLENBERGER, E., H.-U. SCHEUNEMANN und H. BAUMGÄRTEL: *Negative ion formation in CF_2Cl_2 , CF_3Cl and CFCl_3 following low-energy (0–10 eV) impact with near monoenergetic electrons.* Chem. Phys., 37:21–31, 1979.
- [158] UNDERWOOD-LEMONS, T., T.J. GERGEL und J.H. MOORE: *Dissociative electron attachment cross sections for halofluoromethanes.* J. Chem. Phys., 102(1):119–123, 1995.
- [159] MCCORKLE, D.L., A. CHRISTODOULIDES, L.G. CHRISTOPHOROU und I. SZAMREJ: *Electron attachment to chlorofluoromethanes using the electron-swarm method.* J. Chem. Phys., 72(7):4049–4057, 1980.
- [160] CHU, S.C. und P.D. BURROW: *Dissociative attachment of electrons in the chloromethanes.* Chem. Phys. Lett., 172(1):17–22, 1990.
- [161] KIENDLER, A., S. MATEJČÍK, J.D. SKALNY, A. STAMATOVIC und T.D. MÄRK: *Dissociative electron attachment to CF_2Cl_2 using a high-resolution crossed-beams technique.* J. Phys. B, 29(24):6217–6225, 1996.

- [162] DOUCET, J., R. GILBERT, P. SAUVAGEAU und C. SANDORFY: *Photoelectron and far-ultraviolet spectra of trifluorobromomethane, difluorobromochloromethane, and difluorodibromomethane*. J. Chem. Phys., 62(2):366–369, 1975.
- [163] BLAUNSTEIN, R.P. und L.G. CHRISTOPHOROU: *Electron Attachment to Halogenated Aliphatic Hydrocarbons*. J. Chem. Phys., 49(4):1526–1531, 1968.
- [164] DISPERT, H. und K. LACMAN: *Negative ion formation in collisions between potassium and fluoro- and chloromethanes: electron affinities and bond dissociation energies*. Int. J. Mass Spectrom. Ion Phys., 28(1):49–67, 1978.
- [165] UNDERWOOD-LEMONS, T., D.C. WINKLER, J.A. TOSSELL und J.H. MOORE: *Low-energy scattering cross section of halo fluorocarbons*. J. Chem. Phys., 1050(12):9117–9122, 1994.
- [166] SMITH, D., C.R. HERD, N.G. ADAMS und J.F. PAULSON: *Formation of Br_2^- in reactions of thermal electrons with some bromomethanes and bromoethanes*. Int. J. Mass Spectrom. Ion Proc., 96(3):341–346, 1990.
- [167] ZOOK, D.R., W.B. KNIGHTON und E.P. GRIMSRUD: *Effect of buffer gas and pressure variations on the formation of Br_2^- in reactions of thermal electrons with dibrominated hydrocarbons and fluorocarbons*. Int. J. Mass Spectrom. Ion Proc., 104(1):63–80, 1991.
- [168] LANGER, J., S. MATT, M. MEINKE, P. TEGEDER, A. STAMATOVIC und E. ILLENBERGER: *Negative ion formation from low energy (0–15 eV) electron impact to CF_2Cl_2 under different phase conditions*. J. Chem. Phys., 113(24):1163–11070, 2000.
- [169] IGNATYEV, I.S. und H. F. SCHAEFER III: *Bromine Halides: The Neutral Molecules $BrClF_n$ ($n = 1-5$) and Their Anions - Structures, Ener-*

- getics, and Electron Affinities.* J. Am. Chem. Soc., 121(29):6904–6910, 1999.
- [170] HUIS, T.J. VAN, J.M. MORRISON und H. F. SCHAEFER III: *The monochlorine fluorides (ClF_n) and their anions (ClF_n^-) $n = 1-7$: structures and energetics.* Mol. Phys., 89(2):607–631, 1996.
- [171] PAK, C., Y. XIE, T.J. VAN HUIS und H. F. SCHAEFER III: *Electron Affinities of the Bromine Fluorides, BrF_n ($n = 1-7$).* J. Am. Chem. Soc., 120(43):11115–11121, 1998.
- [172] LI, Q.-S., J.-F. ZHAO, Y. XIE und H. F. SCHAEFER III: *Electron affinities, molecular structures, and thermochemistry of the fluorine, chlorine and bromine substituted methyl radicals.* Mol. Phys., 100(23):3615–3648, 2002.
- [173] BAUM, G. und R.J. HUBER: *Photodissociation of bromochlorodifluoromethane at 193 nm investigated by photofragment translational spectroscopy.* Chem. Phys. Lett., 213(5,6):427–32, 1993.
- [174] CAMERON, M.R. und G.B. BACSKAY: *Stabilities, Excitation Energies, and Dissociation Reactions of CF_2Cl_2 and CF_2Br_2 : Quantum Chemical Computations of Heats of Formation of Fluorinated Methanes, Methyls, and Carbenes.* J. Phys. Chem. A, 104(47):11212–11219, 2000.
- [175] SENDT, K. und G.B. BACSKAY: *Spectroscopic constants of the $\tilde{X}(^1A_1)$, $\tilde{a}(^3B_1)$, and $\tilde{A}(^1B_1)$ states of CF_2 , CCl_2 , and CBr_2 and heats of formation of selected halocarbenes: an ab initio quantum chemical study.* J. Chem. Phys., 112(5):2227–2238, 2000.