C.E. Brion Publications List 13 October 2011

307. C. E. Brion, M Dyck and G. Cooper. Absolute Photoabsorption Cross-sections (Oscillator Strengths) for Valence and Inner Shell Excitations in Hydrogen Chloride, Hydrogen Bromide and Hydrogen Iodide, Chem Physics, **144-147**, 127-130 (2005).
306. R. Feng and C.E. Brion. Quantitative Photoabsorption of Methyl Propyl Ether in the UV, VUV and Soft X-ray Regions (5-200 eV), Chem. Physics, **285**, 327-33 (2002).
305. R. Feng and C.E. Brion, Quantitative Photoabsorption of Diethyl Ether in the Valence and Carbon 1s Inner Shell Regions (5-360 eV), Chem. Physics, **284**, 615-623 (2002).
304 R. Feng and C.E. Brion, Absolute Photoabsorption Cross-sections (Oscillator Strengths) for Ethanol (5-200 eV), Chem. Physics, **282**, 419-427 (2002).
303. S. Wolfe, C.E. Brion, G. Cooper, Y. Zheng and Z. Shi. An Experimental Study of the Frontier Electrons of Methane, Ammonia and Water by Electron Momentum Spectroscopy: Is Orbital Hybridization a Valid Concept?, to be submitted.
302. R. Feng, G. Cooper and C.E. Brion. Dipole (e, e + ion) Spectroscopic Studies of Benzene: Absolute Oscillator Strengths for Molecular and Dissociative Photoionization in the VUV and Soft X-ray Regions, J. Electron Spectrosc. **123**, 211-223 (2002).
301. C.E. Brion, G. Cooper, R. Feng, S. Tixier, Y. Zheng, I.E. McCarthy, Z. Shi and S.Wolfe. Chemical Applications of Binary (e, 2e) Spectroscopy, in "Correlation, Polarization and Ionization in Atomic Systems", Proceedings of the International Symposium on (e, 2e), Double Photoionization and Related Topics and the Eleventh International Symposium on Polarization and Correlation in Electronic and Atomic System (Eds. D.H. Madison and M. Schulz), Rolla, Missouri July 2001, AIP Conference Proceedings, Vol. 604, pages 38-44 American Institute of Physics New York (2002).
300. R. Feng, G. Cooper and C.E. Brion. Dipole (e,e) Spectroscopic Studies of Benzene: Quantitative Photoabsorption in the UV, VUV and Soft X-ray Regions, *J. Electron Spectrosc.*, **123**, 199-209 (2002).
299. S. Wolfe, Z. Shi, C.E. Brion, J. Rolke, Y. Zheng, G. Cooper, D.P. Chong and C. Hu. Electron Momentum Spectroscopy of the Frontier Electrons of DABCO Does Not Support an sp^3 Hybrid Lone-Pair description, Can. J. Chem., **80**, 222-227 (2002).
298. Y. Zheng, J. Rolke, G. Cooper and C.E. Brion. Valence Orbital Momentum Distributions for Dimethyl Sulfide: Comparison and EMS Measurements with Near Hartree-Fock Limit and Density Functional Theory Calculations, *J. Electron Spectrosc.*, **123**, 377-388 (2002).
297. S. Tixier, G. Cooper, R. Feng and C.E. Brion. Measurement of Absolute Dipole Oscillator Strengths for Pyridine: Photoabsorption and the Molecular and Dissociative Photoionization in the Valence Shell (4-200 eV), *J. Electron Spectrosc.*, **123**, 185-197 (2002)
296. R. Feng, G. Cooper and C.E. Brion. Ionic Photofragmentation and Photoionization of Dimethyl Ether in the VUV and Soft X-ray Regions (8.5-80 eV) – Absolute Oscillator Strengths for Molecular and Dissociative Photoionization, *Chem. Physics*, **270**, 319-332 (2001).
295. S. Tixier, W. Shapley, Y. Zheng, D.P. Chong, C.E. Brion, Z. Shi and S. Wolfe. Electron Densities for the Outer Valence Orbitals of Pyridine: Comparison of EMS Measurements with near Hartree-Fock Limit and Density Functional Theory Calculations, *Chem. Physics*, **270**, 263-276 (2001).
294. C.E. Brion, G. Cooper, Y. Zheng, I.V. Litvinyuk and I.E. McCarthy. Imaging of Orbital Electron Densities by Electron Momentum Spectroscopy – A Chemical Interpretation of the Binary (e,2e) Reaction, *Chem. Physics*, **270**, 13-30 (2001).
293. C.E. Brion, J.B. Young, I.V. Litvinyuk and G. Cooper. An Investigation of the HOMO Frontier Orbital Electron Density Distributions of NH_3, the Methyl Amines and NF_3 Using DFT and Electron Momentum Spectroscopy, *Chem. Physics*, **269**, 101-106 (2001).

292. I.V. Litvinyuk, J.B. Young, Y. Zheng and C.E. Brion. An Investigation of the Frontier Orbital Electron Density of the Antibacterial Agent Urotropine by Electron Momentum Spectroscopy, *Chem. Physics*, **263**, 195-201 (2001).
291. R. Feng, G. Cooper and C.E. Brion. UV, VUV and Soft X-ray Photoabsorption of Dimethyl Ether by Dipole (e,e) Spectroscopies, *Chem. Physics*, **260**, 391-400 (2000).
290. R. Feng, Y. Sakai, Y. Zheng, G. Cooper and C.E. Brion. Orbital Imaging for the Valence Shell of Sulphur Dioxide: Comparison of EMS Measurements with near Hartree-Fock Limit and Density Functional Theory, *Chem. Physics*, **260**, 29-43 (2000).
289. I.V. Litvinyuk, Y. Zheng and C.E. Brion. Electron Momentum Spectroscopy Study of Amantadine: Binding Energy Spectra and Valence Orbital Electron Density Distributions, *Chem. Physics*, **261**, 289-300 (2000).
288. R. Feng, G. Cooper, Y. Sakai and C.E. Brion. Dipole (e,e + ion) Coincidence Studies of the Ionic Photofragmentation and Photoionization of Carbonyl Sulfide in the Valence Shell and S 2p, 2s and C1s Inner Shell Regions (10-300 eV), *Chem. Physics*, **255**, 353-368 (2000).
287. Y. Zheng, G. Cooper, S. Tixier, B.R. Todd and C.E. Brion. A 2π Gas Phase Multichannel Electron Spectrometer for Rapid Orbital Imaging and Multiple Ionization Studies. Invited article, *J. Electron Spectrosc.*, **112**, 67-91 (2000).
286. I.V. Litvinyuk, Y. Zheng and C.E. Brion. Valence Shell Orbital Imaging in Adamantane by Electron Momentum Spectroscopy and Quantum Chemical Calculations, *Chem. Physics*, **253**, 41-50 (2000).
285. R. Feng, G. Cooper and C.E. Brion. Quantitative Studies of the Photoabsorption of Carbonyl Sulfide in the Valence Shell, S 2p, 2s and C1s Inner Shell Regions (4-360eV) by Dipole Electron Impact Spectroscopies, *Chem. Physics*, **252**, 359-378 (2000).
284. J.K. Deng, G.Q. Li, J.D. Huang, H. Deng, X.D. Wang, F. Wang, Y. He, Y.A. Zhang, C.G. Ning, N.F. Gao, Y. Wang, X.J. Chen, Y. Zheng and C.E. Brion. The Valence Shell Binding Energy Spectra and Frontier Orbital Electron Momentum Profiles of Methyl Propane (iso-Butane) by Binary (e, 2e) Spectroscopy, *Chem. Phys. Letters*, **313**, 134-138 (1999).
283. S. Tixier, Y. Zheng, T. Tiedje, G. Cooper and C.E. Brion. Electron Momentum Spectroscopy of Surfaces, *Surf Rev. Letters*, **6**, 579-584 (1999).
282. Y. Zheng, W.N. Pang, R.C. Shang, X.J. Chen, C.E. Brion, T.K. Ghanty and E.R. Davidson. Orbital Momentum Profiles and Binding Energy Spectra for the Complete Valence Shell of Propane, *J. Chem. Physics.*, **111**, 9526-9535 (1999).
281. R. Feng, G. Cooper and C.E. Brion. Absolute Oscillator Strengths for Hydrogen Sulphide: II. Ionic Photofragmentation and Photoionization in the Valence Shell Continuum Regions (10-60 eV), *Chem. Physics*, **249**, 223-226 (1999).
280. P. Bolognesi, L. Avaldi, M.A. MacDonald, C.M.A. Lopes, G. Dawber, C.E. Brion, Y. Zheng and G.C. King. Observation of the Excited States of H_2^+ by Threshold Photoelectron Spectroscopy, *Chem. Phys. Letters*, **309**, 171-176 (1999).
279. R. Feng, G. Cooper and C.E. Brion. Absolute Oscillator Strengths for Hydrogen Sulphide: I. Photoabsorption in the Valence Shell and the S 2p and 2s Inner Shell Regions (4-260 eV). *Chem. Physics*, **244**, 127-142 (1999).
278. W.N. Pang, R.C. Shang, N.F. Gao, W.X. Zhang, X.J. Chen, Y. Zheng and C.E. Brion. Measurements of the Valence Shell Binding Energy Spectrum and Momentum Profiles of the Frontier Orbitals of Propane by Binary (e, 2e) Spectroscopy. *Chemical Physics Letters*, **299**, 207-211 (1999).
277. J. Rolke, Y. Zheng, C.E. Brion, Z. Shi, S. Wolfe and E.R. Davidson. Orbital Imaging of the Valence Shell of Methanol: Comparison of EMS Measurements with near Hartree-Fock Limit, MRSD-CI and Density Functional Theory Calculations. *Chem. Physics*, **244**, 1-24 (1999).
276. R. Feng, G. Cooper, G.R. Burton, C.E. Brion and L. Avaldi. Absolute Photoabsorption Oscillator Strengths by Electron Energy Loss Methods: The Valence Shell and the S 2p and 2s Inner Shells of

Sulphur Dioxide in the Discrete and Continuum Regions (3.5-260 eV). *Chem. Physics*, **240**, 371-386 (1999); **248**, 293 (1999).

275. C.E. Brion, Y. Zheng, J. Rolke, J.J. Neville, I.E. McCarthy and J. Wang. Distorted Wave Effects at Low Momentum In Binary (e,2e) Cross-Sections for d Orbital Ionization. *J. Physics B*, **31**, L223-L230 (1998).
274. J. Rolke, Y. Zheng, C.E. Brion, Y.A. Wang and E.R. Davidson. Valence Orbital Electron Momentum Distributions for Oxygen: Comparison of EMS Measurements with Theory. *Chem. Physics*, **230**, 153-186 (1998).
273. X.W. Fan, X.J. Chen, S.J. Zhou, Y. Zheng, C.E. Brion, R. Frey and E.R. Davidson. Imaging of the Outer-Valence Orbitals of CO by Electron Momentum Spectroscopy – Comparison with High Level MRSD-CI and DFT Calculations. *Chem. Phys. Letters*, **276**, 346-352 (1998).
272. T.N. Olney, G. Cooper and C.E. Brion. Quantitative Studies of the Photoabsorption (4.5-488 eV) and Photoionization (9-59.5 eV) of Methyl Iodide using Dipole Electron Impact Techniques. *Chem. Physics*, **232**, 211-237 (1998).
271. J.W. Au and C.E. Brion. Absolute Oscillator Strengths for the Valence-shell Photoabsorption (2-200 eV) and Molecular and Dissociative Photoionization (11-80 eV) of Nitrogen Dioxide. *Chem. Physics*, **218**, 109-126 (1997).
270. J.W. Au, G.R. Burton, and C.E. Brion. Quantitative Spectroscopic Studies of the Valence-shell Electronic Excitation of Freons ($CFCl_3$, CF_2Cl_2, CF_3Cl, and CF_4) in the VUV and Soft X-ray regions. *Chem. Physics*, **221**, 151-168 (1997).
269. T.N. Olney, G. Cooper, W.F. Chan, G.R. Burton, C.E. Brion and K.H. Tan. Absolute Photoabsorption and Photoionization Studies of Methyl Bromide using Dipole Electron Impact and Synchrotron Radiation PES Techniques. *Chem. Physics*, **218**, 127-149 (1997).
268. J.W. Au and C.E. Brion. Absolute Oscillator Strengths for the Valence and Inner (P 2*p*, 2*s*) Shell Photoabsorption, Photoionization, and Ionic Photofragmentation of PF_5. *Chem. Physics*, **221**, 135-149 (1997).
267. J.W. Au and C.E. Brion. Quantitative Studies of the Photoabsorption and Photoionization of PCl_3 in the Valence and Inner (P 2*p*, 2*s*; Cl 2*p*, 2*s*) Shell Regions. *Chem. Physics*, **218**, 87-107 (1997).
266. T.N. Olney, N.M. Cann, G. Cooper, and C.E. Brion. Absolute Scale Determination for Photoabsorption Spectra and the Calculation of Molecular Properties using Dipole Sum-Rules. *Chem. Physics*, **223**, 59-98 (1997).
265. J.W. Au, G. Cooper, and C.E. Brion. Photoabsorption and Photoionization of the Valence and Inner (P 2*p*, 2*s*) Shells of PF_3: Absolute Oscillator Strengths and Dipole-induced Breakdown Pathways, *Chem. Physics*, **215**, 397-418 (1997).
264. N. Lermer, B.R. Todd, N.M. Cann, Y. Zheng, C.E. Brion, Z. Yang and E.R. Davidson, Electron Momentum Spectroscopy of H_2 and D_2: Ionization to Ground and Excited States. *Phys. Rev. A*, **56**, 1393-1402 (1997).
263. J. Rolke, Y. Zheng, S.J. Chakrovotorty, E.R. Davidson & I.E. McCarthy; Imaging of the HOMO Electron Density in $Cr(CO)_6$, $MO(CO)_6$ and $W(CO)_6$ by Electron Momentum Spectroscopy: A Comparison with Hartree-Fock and DFT Calculations. *Chem. Phys*., **215**, 191-206 (1997).
262. L.J. Dubé, J.B. Mitchell, J.W. McConkey and C.E. Brion, Editors. The Physics of Electronic and Atomic Collisions, Proceedings of the XIX ICPEAC, AIP Conference Proceedings 360, American Institute of Physics, Woodbury, New York 1996, pp 1-900.
261. K.T. Leung and C.E. Brion, Editors, Proceedings of the International Symposium on (e, 2e) Collisions, Double Photoionization and Related Topics, Vancouver, August 2-5, 1995, *Can. J. Phys.*, **74**, 700-860 (1996).
260. J.J. Neville, Y. Zheng and C.E. Brion, Glycine Valence Orbital Electron Densities: Comparison of EMS Experiments with Hartree-Fock and Density Functional Theories. *J. Am. Chem. Soc.*, **118**, 10533-10544 (1996).

259. G. Cooper, J.E. Andersen and C.E. Brion, Absolute Photoabsorption and Photoionization of Formaldehyde in the VUV and Soft X-Ray Regions (3-200 eV). *Chem. Phys.*, **209**, 61-77 (1996).
258. Y. Zheng, C.E. Brion, M. Brunger, K. Zhao, A.M. Grisogono, S. Braidwood, E. Weigold, E.R. Davidson, A. Sgamellotti and W. von Niessen, Orbital Momentum Profiles and Binding Energy Spectra for the Complete Valence Shell of Molecular Fluorine. *Chem. Phys.*, **212**, 269-300 (1996).
257. T.N. Olney, G. Cooper, W.F. Chan, G.R. Burton, C.E. Brion and K.H. Tan, Absolute Photoabsorption, Photoionization (11-80 eV) and Ionic Photofragmentation (21-72 eV) of Methyl Chloride using Dipole (e,e), Dipole (e,e+ion) and Photoelectron Spectroscopies. *Chem. Phys.*, **205**, 421-439 (1996).
256. J. Rolke and C.E. Brion, Studies of the Electron Density in the Highest Occupied Molecular Orbitals of PH_3, PF_3 and PMe_3 by Electron Momentum Spectroscopy and Hartree-Fock, MRSD-CI and DFT Calculations. *Chem. Phys.*, **207**, 173-192 (1996).
255. N. Lermer, B.R. Todd, N.M. Cann, C.E. Brion, Y. Zheng, S. Chakravorty and E.R. Davidson, Electron Momentum Spectroscopy Experiments and Calculations for the Production of Excited States of He^+ and H_2^+. *Can.J. Phys.*, **74**, 748-756 (1996).
254. J.J. Neville, Y. Zheng, B.P. Hollebone, N. Cann, C.E. Brion, C. Kim and S. Wolfe, EMS Studies of Larger Molecules of Chemical and Biochemical Interest. *Can. J. Phys.*, **74**, 773-781 (1996).
253. T. Ibuki, A. Hiraya, T.N. Olney and C.E. Brion, Ionic Photofragmentation (11.5-100 eV) and PIPICO Spectroscopy (40-130 eV) of BrCN in the Valence Shell and Bromine 3d Regions. *Chem. Phys.* **203**, 359-371 (1996).
252. T.N. Olney, C.E. Brion and T. Ibuki, Absolute Photoabsorption of BrCN in the Valence Shell and the Bromine M, Carbon, K and Nitrogen K Shell Regions (5-450 eV). *Chem. Phys.* **201**, 505-525 (1996).
251. J. Rolke, N. Cann, Y. Zheng, B.P. Hollebone, C.E. Brion, Y.A. Wang and E.R. Davidson, Momentum Profiles for Open-Shell Molecules: Studies of the HOMOs of NO, O_2 and NO_2 by Electron Momentum Spectroscopy and SCF, Post-Hartree-Fock and DFT Calculations. *Chem. Phys.*, **201,** 1-21 (1995).
250. Y. Zheng, J.J. Neville and C.E. Brion, Imaging of the Electron Density in the Highest Occupied Molecular Orbital of the Amino Acid Glycine. *Science* **270**, 786-788 (1995).
249. G. Cooper, G.R. Burton, W.F. Chan and C.E. Brion, Absolute Oscillator Strengths for the Photoabsorption of Silane in the Valence and Si 2p and 2s Regions (7.5-350 eV). *Chem. Phys*. **196**, 293-306 (1995).
248. B.P. Hollebone, J.J. Neville, Y. Zheng, C.E. Brion, Y. Wang and E.R. Davidson, Valence Electron Momentum Distributions of Ethylene: Comparison of EMS Measurements with Near Hartree-Fock Limit, Configuration Interaction and Density Functional Theory Calculations. *Chem. Phys.* **196**, 13-35 (1995).
247. G. Cooper, T.N. Olney and C.E. Brion, Absolute UV and Soft X-Ray Photoabsorption of Ethylene by High Resolution Dipole (e,e) Spectroscopy. *Chem. Phys.* **194**, 175-184 (1995).
246. G. Cooper, G.R. Burton and C.E. Brion, Absolute UV and Soft X-Ray Photoabsorption of Acetylene by High Resolution Dipole (e,e) Spectroscopy. *J. Electron Spectrosc.* **73**, 139-148 (1995).
245. T.N. Olney, G. Cooper, W.F. Chan, G.R. Burton, C.E. Brion and K.H. Tan, Quantitative Studies of the Photoabsorption, Photoionization and Ionic Photofragmentation of Methyl Fluoride at VUV and Soft X-ray Energies (7-250 eV) using Dipole Electron Scattering and Synchrotron Radiation. *Chem. Physics* **189**, 733-756 (1994).
244. Y. Zheng, J.J. Neville, C.E. Brion, Y. Wang and E.R. Davidson, An Electronic Structure Study of Acetone by Electron Momentum Spectroscopy - A Comparison with SCF, MRSD-CI and Density Functional Theory. *Chem. Physics* **188**, 109-129 (1994).

243. G. Cooper, W. Zhang and C.E. Brion, An Examination of Centrifugal Barrier Effects in Iodine Pentafluoride by Inner Shell Electron Energy Loss Spectroscopy. *Can. J. Physics* **72**, 1093-1100 (1994).
242. J.W. Au, G. Cooper, G.R. Burton and C.E. Brion, An Evaluation of Atomic and Molecular Mixture Rules and Group Additivity Concepts for the Estimation of Radiation Absorption by Long-Chained, Saturated Hydrocarbons at Vacuum UV and Soft X-ray Energies. *Chem. Physics* **187**, 305-316 (1994).
241. B.R. Todd, N. Lermer and C.E. Brion, A High Sensitivity Momentum Dispersive, Multichannel Electron Momentum Spectrometer for Studies in Experimental Quantum Chemistry. *Rev. Sci. Instrum.* **65**, 349-358 (1994).
240. G.R. Burton, W.F. Chan, G. Cooper and C.E. Brion, Valence and Inner Shell (Cl 2p, 2s; C 1s) Photoabsorption and Photoionization of Carbon Tetrachloride—Absolute Oscillator Strengths (5-400 eV) and Dipole Induced Breakdown Pathways. *Chem. Physics* **181**, 147-172 (1994).
239. G.R. Burton, W.F. Chan, G. Cooper, C.E. Brion, A. Kumar and W.J. Meath, Valence Shell Absolute Photoabsorption Oscillator Strengths, Constrained Dipole Oscillator Strength Distributions and Dipole Properties for CH_3NH_2, $(CH_3)_2NH$, and $(CH_3)_3N$. *Can. J. Chem.* **72**, 529-546 (1994).
238. W.F. Chan, G. Cooper and C.E. Brion, Discrete and Continuum Photoabsorption Oscillator Strengths for the Electronic Spectrum of Nitrous Oxide (5.5-203 eV). *Chem. Physics* **180**, 77-88 (1994).
237. C.E. Brion, Molecular (e,2e) Collisions—Present Status and Future Prospects for Electron Momentum Spectroscopy, Invited Review, *The Physics of Electronic and Atomic Collisions*, Eds. T. Andersen et al., American Institute of Physics Press, New York (1993), pages 350-359.
236. B.P. Hollebone, P. Duffy, C.E. Brion, Y. Wang and E.R. Davidson, An Investigation of the Outermost Valence Orbital Momentum Distributions of Formaldehyde, Acetaldehyde and Acetone by Electron Momentum Spectroscopy and Quantum Chemical Calculations at the SCF and MRSD-CI Levels. *Chem. Physic6*, **178**, 25-38 (1993).
235. W.F. Chan, G. Cooper and C.E. Brion, The Electronic Spectrum of Carbon Dioxide—Discrete and Continuum Photoabsorption Oscillator Strengths (6-203 eV). *Chem. Physics* **178**, 401-413 (1993).
234. W.F. Chan, G. Cooper and C.E. Brion, The Electronic Spectrum of Water in the Discrete and Continuum Regions—Absolute Optical Oscillator Strengths for Photoabsorption (6-200 eV). *Chem. Physics* **178**, 387-400 (1993).
233. G.R. Burton, W.F. Chan, G. Cooper and C.E. Brion, The Electronic Absorption Spectrum of NH_3 in the Valence Shell Discrete and Continuum Regions: Absolute Oscillator Strengths for Photoabsorption (5-200 eV). *Chem. Physics* **177**, 217-231 (1993).
232. T.N. Olney, W.F. Chan, G. Cooper, C.E. Brion and K.H. Tan, The Complete Valence Shell Photoelectron Spectra of CH_3F, CH_3Cl, and CH_3Br Using Synchrotron Radiation at $h\nu = 72$ eV—A Comparison with Many-Body Green's Function Calculations. *J. Electron Spectrosc.* **66**, 83-100 (1993).
231. J.W. Au, G. Cooper and C.E. Brion, The Molecular and Dissociative Photoionization of Ethane, Propane, and n-Butane: Absolute Oscillator Strengths (10-80 eV) and Breakdown Pathways. *Chem. Physics* **173**, 241-265 (1993).
230. B.P. Hollebone, C.E. Brion, E.R. Davidson and C. Boyle, Valence Electron Momentum Distributions of the Hydrogen Halides. Part II: Comparison of EMS Measurements and Calculations Using Near Hartree-Fock Limit and Configuration Interaction Wavefunctions for Hydrogen Chloride. *Chem. Physics* **173**, 193-208 (1993).
229. J.W. Au, G. Cooper, G.R. Burton, T.N. Olney and C.E. Brion, The Valence Shell Photoabsorption of the Linear Alkanes, C_nH_{2n+2} (n = 1-8): Absolute Oscillator Strengths (7-220 eV). *Chem. Physics* **173**, 209-239 (1993), plus **178**, 615 (1993).

228. J.F. Ying, H. Zhu, C.P. Mathers, B.N. Gover, M.P. Banajavcic, Y. Zheng, C.E. Brion and K.T. Leung, Electron-Momentum-Specific Valence-Shell Electronic Structures of *cis*- *trans*- and *iso*-butene by Symmetric Noncoplanar (e,2e) Spectroscopy. *J. Chem. Phys.* **98**, 4512-4519 (1993).
227. G.R. Burton, W.F. Chan, G. Cooper, C.E. Brion, A. Kumar and W.J. Meath, The Dipole Oscillator Strength Distribution and Predicted Dipole Properties for Ammonia. *Can. J. Chem.* **71**, 341-351 (1993).
226. W.F. Chan, G. Cooper and C.E. Brion, Absolute Optical Oscillator Strengths for the Photoabsorption of Nitric Oxide (5-30 eV). *Chem. Physics* **170**, 111-122 (1993).
225. W.F. Chan, G. Cooper and C.E. Brion, Absolute Optical Oscillator Strengths for Discrete and Continuum Photoabsorption of Carbon Monoxide (7-200 eV) and Transition Moments for the $X^1\Sigma^+ \rightarrow A^1\Pi$ System. *Chem. Physics* **170**, 123-138 (1993).
224. B.P. Hollebone, Y. Zheng, C.E. Brion, E.R. Davidson and D. Feller, Valence Electron Momentum Distributions of the Hydrogen Halides Part I: Comparison of EMS Measurements and Calculations using Hartree-Fock Limit and Configuration Interaction Wavefunctions for Hydrogen Fluoride. *Chem. Physics* **171**, 303-317 (1993).
223. W.F. Chan, G. Cooper and C.E. Brion, Absolute Optical Oscillator Strengths for the Photoabsorption of Molecular Oxygen (5-30 eV) at High Resolution. *Chem. Physics* **170**, 99-110 (1993).
222. W.F. Chan, G. Cooper, R.N.S. Sodhi and C.E. Brion, Absolute Optical Oscillator Strengths for Discrete and Continuum Photoabsorption of Molecular Nitrogen (11-200 eV). *Chem. Physics* **170**, 81-98 (1993).
221. G. Cooper, Y. Zheng, G.R. Burton and C.E. Brion, Determination of Ion Multiplier Detection Efficiencies as a Function of Ionic Mass for use in Quantitative Mass Spectrometry. *Rev. Sci. Instrum.* **64**, 1140-1145 (1993).
220. T. Ibuki, T. Imamura, I. Koyano, T. Masuoka and C.E. Brion, Dissociation of Doubly Charged $CH_2 = CD_2$ and $CH_2 = CF_2$ in the Region of Valence Shell Photoexcitation. *J. Chem. Phys.* **98**, 2908-2915 (1993).
219. W.F. Chan, G. Cooper and C.E. Brion, Absolute Optical Oscillator Strengths (11-20 eV) and Transition Moments for the Photoabsorption of Molecular Hydrogen in the Lyman and Werner Bands. *Chem. Physics* **168,** 375-388 (1992).
218. P. Duffy, S.A.C. Clark, C.E. Brion, M.E. Casida, D.P. Chong, E.R. Davidson and C. Maxwell, Electron Momentum Spectroscopy of the Valence Orbitals of Acetylene. Quantitative Comparisons Using Near Hartree-Fock Limit and Correlated Wavefunctions. *Chem. Physics* **165**, 183-199 (1992).
217. W.F. Chan, G. Cooper, X. Guo, G.R. Burton and C.E. Brion, Absolute Oscillator Strengths for the Electronic Excitation of Atoms at High Resolution. Part III: The Photoabsorption of Argon, Krypton and Xenon. *Phys. Rev. A* **46**, 149-171 (1992); **48**, 858-860 (1993).
216. G.R. Burton, W.F. Chan, G. Cooper and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption (6-350 eV) and Ionic Photofragmentation (10-80 eV) of Methanol. *Chem. Physics* **167**, 349-368 (1992).
215. X. Guo, G. Cooper, W.F. Chan, G.R. Burton and C.E. Brion, Absolute Oscillator Strengths for the Photoabsorption, Photoionization and Ionic Photofragmentation of Silicon Tetrafluoride. Part II: The Si 2p and 2s Inner Shells. *Chem. Physics* **161**, 471-484 (1992).
214. X. Guo, G. Cooper, W.F. Chan, G.R. Burton and C.E. Brion, Absolute Oscillator Strengths for the Photoabsorption, Photoionization and Ionic Photofragmentation of Silicon Tetrafluoride. Part I: The Valence Shell. *Chem. Physics* **161**, 453-470 (1992).
213. C.E. Brion, "Chemical Applications of the (e,2e) Reaction in Electron Momentum Spectroscopy, Invited Review Article", in *Correlations and Polarization in Electronic and Atomic Collisions, and (e,2e) Reactions* (Ed. P.J.O. Teubner and E. Weigold), *Institute of Physics Conference Series* **122**, 171-179 (1992).

212. W. Zhang, T. Ibuki and C.E. Brion, Absolute Dipole Oscillator Strengths for Inner-Shell Excitation of the Freon Molecules CF_4, CF_3Cl, CF_2Cl_2, $CFCl_3$ and CCl_4 at High Resolution. *Chem. Physics* **160**, 435-450 (1992).
211. W.F. Chan, G. Cooper, X. Guo and C.E. Brion, Absolute Oscillator Strengths for the Electronic Excitation of Atoms at High Resolution: Part II: The Photoabsorption of Neon. *Phys. Rev. A* **45**, 1420-1433 (1992).
210. P. Duffy, M. Casida, C.E. Brion and D.P. Chong, Assessment of Gaussian-Weighted Angular Resolution Functions for Quantum Mechanical Calculations of Electron Momentum Distributions. *Chem. Physics* **159,** 347-363 (1992).
209. W.F. Chan, G. Cooper and C.E. Brion, Absolute Oscillator Strengths for the Electronic Excitation of Atoms at High Resolution: Experimental Methods and Measurements for Helium. *Phys. Rev. A* **44**, 186-204 (1991).
208. K.H. Sze and C.E. Brion, Inner-Shell and Valence-Shell Electronic Excitation of Cyclopropane and Ethylene Oxide by High Resolution Electron Energy Loss Spectroscopy. *J. Electron Spectrosc*. **57**, 117-135 (1991).
207. T. Imamura, C.E. Brion, I. Koyano, T. Ibuki and T. Masuoka, Dissociative Single, Double, and Triple Photoionization of Silicon Tetrafluoride in the Valence Shell and Silicon 2p Regions ($h\nu$ = 33-133 eV). *J. Chem. Phys*. **94**, 4936-4948 (1991).
206. W. Zhang, G. Cooper, T. Ibuki and C.E. Brion, Excitation and Ionization of Freon Molecules. Part IV: Absolute Oscillator Strengths for the Photoabsorption (6-200 eV) and the Ionic Photofragmentation (11.5-49 eV) of $CFCl_3$. *Chem. Physics* **153**, 491-502 (1991).
205. W. Zhang, G. Cooper, T. Ibuki and C.E. Brion, Excitation and Ionization of Freon Molecules. Part III: Absolute Oscillator Strengths for the Photoabsorption (8.5-200 eV) and the Ionic Photofragmentation (11.5-70 eV) of CF_2Cl. *Chem. Physics* **151**, 357-370 (1991).
204. W. Zhang, G. Cooper, T. Ibuki and C.E. Brion, Excitation and Ionization of Freon Molecules. Part II: Absolute Oscillator Strengths for the Photoabsorption (7.5-200 eV) and the Ionic Photofragmentation (12.5-80 eV) of CF_3Cl. *Chem. Physics* **151**, 343-356 (1991).
203. G. Cooper, E.B. Zarate, R.K. Jones and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption, Photoionization and Ionic Photofragmentation of Sulphur Dioxide, Part II: The S 2p and 2s Inner Shells. *Chem. Physics* **150**, 237-250 (1991).
202. G. Cooper, E.B. Zarate, R.K. Jones and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption, Photoionization and Ionic Photofragmentation of Sulphur Dioxide, Part I: The Valence Shell. *Chem. Physics* **150**, 251-261 (1991).
201. E.B. Zarate, G. Cooper and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption, Photoionization and Ionic Photofragmentation of Phosphine. Part II: The P 2p and 2s Inner Shells. *Chem. Physics* **148**, 289-297 (1990).
200. E.B. Zarate, G. Cooper and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption, Photoionization and Ionic Photofragmentation of Phosphine. Part I: The Valence Shell. *Chem. Physics* **148**, 277-288 (1990).
199. E.R. Davidson, D. Feller, C.M. Boyle, L. Adamowicz, S.A.C. Clark and C.E. Brion, Hartree Fock Limit and Configuration Interaction Calculations of the Ion-Molecule Overlap Amplitude for Hydrogen Fluoride: Comparison with EMS Experiments. *Chem. Physics* **147**, 45-50 (1990).
198. W.F. Chan, G. Cooper, K.H. Sze and C.E. Brion, Experimental Determination of the Absolute Dipole Oscillator Strengths for the Helium $1^1S \rightarrow n^1P$ (n = 2-7) Series. *J. Physics B* **23**, L523-L526 (1990).
197. G. Cooper, W. Zhang, C.E. Brion and K. Tan, Photoelectron Spectroscopy of the Freon Molecules CF_3Cl, CF_2Cl_2 and $CFCl_3$ Using Synchrotron Radiation from 41-160 eV. *Chem. Physics* **145**, 117-129 (1990).

196. Y. Zheng, E. Weigold, C.E. Brion and W. von Niessen, The Valence Electronic Structure of Dimethyl Ether: Complete Valence-Shell Binding Energy Spectra and Momentum Distributions. *J. Electron Spectrosc*. **53**, 153-175 (1990).
195. A.O. Bawagan and C.E. Brion, A New Method for Incorporating Momentum Resolution Effects and Defining the Momentum Scale in Electron Momentum Spectroscopy. *Chem. Physics* **144**, 167-178 (1990).
194. G. Cooper, K.H. Sze and C.E. Brion, Core and Valence Shell Electronic Excitation of the Group VI Transition Metal Hexacarbonyls $Cr(CO)_6$, $Mo(CO)_6$ and $W(CO)_6$ by High Resolution Electron Energy Loss Spectroscopy. *J. Am. Chem. Soc*. **112**, 4221-4227 (1990).
193. S.A.C. Clark, T.J. Reddish, C.E. Brion, E.R. Davidson and R. Frey, The Valence Orbital Momentum Distributions and Binding Energy Spectra of Methane by Electron Momentum Spectroscopy: Quantitative Comparisons Using Near-Hartree-Fock Limit and Correlated Wavefunctions. *Chem. Physics* **143**, 1-10 (1990).
192. K.H. Sze and C.E. Brion, Inner-Shell and Valence-Shell Electronic Excitation of SF_6, SeF_6, and TeF_6 by High Energy Electron Impact--An Investigation of Potential Barrier Effects. *Chem. Physics* **140**, 439-472 (1990) (also erratum **147**, 219 (1990)).
191. W. Zhang, K.H. Sze, C.E. Brion, X.M. Tong and J.M. Li, Inner Shell Electron Energy Loss Spectra of NO_2 at High Resolution: Comparison with Multichannel Quantum Defect Calculations of Dipole Oscillator Strengths and Transition Energies. *Chem. Physics* **140**, 265-279 (1990).
190. G. Cooper, T. Ibuki and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption, Photoionization, and Ionic Photofragmentation of Silane, Part II: The Si 2p and 2s Inner-Shells. *Chem. Physics* **140**, 147-156 (1990).
189. G. Cooper, T. Ibuki and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption, Photoionization, and Ionic Photofragmentation of Silane, Part I: The Valence Shell. *Chem. Physics* **140**, 133-146 (1990).
188. S.A.C. Clark, A.O. Bawagan and C.E. Brion, The Valence Orbital Momentum Distributions and Binding Energy Spectra of Dimethyl Ether by Electron Momentum Spectroscopy: An Investigation of the Methyl Inductive Effect. *Chem. Physics* **137**, 407-426 (1989).
187. W. Zhang, G. Cooper, T. Ibuki and C.E. Brion, Excitation and Ionization of Freon Molecules. Part I: Absolute Dipole Oscillator Strengths for the Photoabsorption and Ionic Photofragmentation of CF_4. *Chem. Physics* **137**, 391-405 (1989).
186. K.H. Sze, C.E. Brion, A. Katrib and B. El-Issa, Excitation and Ionization of the Monohaloethylenes (C_2H_3X, X = F, Cl, Br, I), II: Photoionization by He(I) and He(II) Photoelectron Spectroscopy and Valence-Shell Excitation by Electron Energy Loss Spectroscopy. *Chem. Physics* **137**, 369-390 (1989).
185. S.A.C. Clark, C.E. Brion, E.R. Davidson and C. Boyle, The Momentum Distributions and Binding Energies of the Valence Orbitals of Phosphine by Electron Momentum Spectroscopy: Quantitative Comparisons Using Near-Hartree- Fock Limit and Correlated Wavefunctions. *Chem. Physics* **136**, 55-66 (1989).
184. G. Cooper, K.H. Sze and C.E. Brion, Core and Valence-Shell Electronic Excitation of Nickel Tetracarbonyl by High Resolution Electron Energy Loss Spectroscopy. *J. Am. Chem. Soc*. **111**, 5051-5058 (1989).
183. K.H. Sze and C.E. Brion, Inner-Shell and Valence-Shell Electronic Excitation of ClF_3 by High Energy Electron Impact--An Investigation of Potential Barrier Effects. *Chem. Physics* **137**, 353-367 (1989).
182. T. Ibuki, G. Cooper and C.E. Brion, Absolute Dipole Oscillator Strengths for Photoabsorption and the Molecular and Dissociative Photoionization of Ethylene. *Chem. Physics* **129**, 295-309 (1989).
181. K.H. Sze, C.E. Brion and A. Katrib, Excitation and Ionization of the Monohaloethylenes (C_2H_3X, X = F, Cl, Br, I), I: Inner-Shell Excitation by Electron Energy Loss Spectroscopy. *Chem. Physics* **132**, 271-293 (1989).

180. S.A.C. Clark, E. Weigold, C.E. Brion, E.R. Davidson, R.F. Frey, C.M. Boyle, W. von Niessen and J. Schirmer, Electron Momentum Distributions and Binding Energies of the Valence Orbitals of SiH_4. *Chem. Physics* **134**, 229-239 (1989).
179. A.O. Bawagan, C.E. Brion, E.R. Davidson, C. Boyle and R.F. Frey, The Valence Orbital Momentum Distributions and Binding Energies of Formaldehyde--A Comparison of Electron Momentum Spectroscopy and Quantum Chemical Calculations Using Wavefunctions up to Near-Hartree-Fock Quality. *Chem. Physics* **128**, 439-455 (1988).
178. G. Cooper, T. Ibuki, Y. Iida and C.E. Brion, Absolute Dipole Oscillator Strengths for Photoabsorption and the Molecular and Dissociative Photoionization of Acetylene. *Chem. Physics* **125**, 307-320 (1988).
177. C.E. Brion, A.O. Bawagan and K.H. Tan, Investigation of Electron Correlation Effects in the Inner Valence Photoelectron Spectra of Argon and Xenon Using Synchrotron Radiation at High Resolution. *Can. J. Chem*. **66**, 1877-1889 (1988).
176. A.M. Grisogono, R. Pascual, E. Weigold, A.O. Bawagan, C.E. Brion and W. von Niessen, Orbital Momentum Distributions and Binding Energies for the Complete Valence Shell of Molecular Iodine. *Chem. Physics* **124**, 121-130 (1988).
175. A.O. Bawagan and C.E. Brion, Studies of the Electron Density in the Outermost Orbitals of CH_3NH_2, $(CH_3)_2NH$, $(CH_3)_3N$, NH_3 and NF_3 by Electron Momentum Spectroscopy--Evidence for Charge Delocalization. *Chem. Physic*s **123**, 51-63 (1988).
174. K.H. Sze, C.E. Brion, M. Tronc, S. Bodeur and A.P. Hitchcock, Inner-Shell and Valence-Shell Excitation of Dimethyl Sulfoxide by Electron Energy Loss Spectroscopy and by Photoabsorption Using Synchrotron Radiation. *Chem. Physics* **121**, 279-297 (1988).
173. C.L. French, C.E. Brion, A.O. Bawagan, P.S. Bagus and E.R. Davidson, Electron Momentum Spectroscopy of the Valence Orbitals of CO--Quantitative Comparisons Using Hartree-Fock Limit Wavefunctions. *Chem. Physics* **121**, 315-333 (1988).
172. L. Frost, A.M. Grisogono, E. Weigold, C.E. Brion, A.O. Bawagan, P. Thomasello, J. Schirmer and W. von Niessen, Orbital Momentum Distributions and Binding Energies for the Complete Valence Shell of Molecular Bromine. *Chem. Physics* **119**, 253-264 (1988).
171. C.L. French, C.E. Brion and E.R. Davidson, A Study of the Valence Orbitals of H_2S by Electron Momentum Spectroscopy--Quantitative Comparisons Using Hartree-Fock Limit and Correlated Wave Functions. *Chem. Physics* **122,** 247-269 (1988).
170. A.O. Bawagan, R. Müller-Fiedler, C.E. Brion, E.R. Davidson and C. Boyle, The Valence Orbitals of NH_3 by Electron Momentum Spectroscopy--Quantitative Comparisons Using Hartree-Fock Limit and Correlated Wavefunctions. *Chem. Physics* **120**, 335-358 (1988).
169. J.W. Gallagher, C.E. Brion, J.A.R. Samson and P.W. Langhoff, Absolute Cross Sections for Molecular Photoabsorption, Partial Photoionization and Ionic Photofragmentation Processes. *J. Phys. Chem. Ref. Data* **17**, 9-153 (1988).
168. A.O. Bawagan and C.E. Brion, Orbital Imaging of the "Lone-Pair" Electrons in $N(CH_3)_3$, NH_3 and NF_3 by Electron Momentum Spectroscopy. Chem. Phys. Letters **137**, 573-577 (1987).
167. Kong-Hung Sze, C.E. Brion, Xiao-Min Tong and Jia-Ming Li, Inner Shell Excitation of SO_2 by High Energy Electron Impact--A Comparison with Multichannel Quantum Defect Theory. *Chem. Physics* **115**, 433-451 (1987).
166. L. Frost, A.M. Grisogono, I.E. McCarthy, E. Weigold, C.E. Brion, A.O. Bawagan, P.K. Mukherjee, W. von Niessen, M. Rosi and A. Sgamellotti, Orbital Momentum Distributions and Binding Energies for the Complete Valence Shell of Molecular Chlorine by Electron Momentum Spectroscopy. *Chem. Physics* **113**, 1-18 (1987).
165. A.O. Bawagan, C.E. Brion, E.R. Davidson and D. Feller, Electron Momentum Spectroscopy of the Valence Orbitals of H_2O and D_2O: Quantitative Comparisons Using Hartree-Fock Limit and Correlated Wave Functions. *Chem. Physics* **113**, 19-42 (1987).

164. C.E. Brion, A.O. Bawagan and K.H. Tan, The Argon 3s Photoelectron Satellite Spectrum at High Resolution (hν = 60-170 eV). *Chem. Phys. Letters* **134**, 76-82 (1987).
163. A. Yagishita, S. Arai, C.E. Brion, T. Hayaishi, J. Murakami, Y. Sato and M. Ukai, Auger Decay of Core-Excited States of SiH_4 Molecules. *Chem. Phys. Letters* **132**, 437-440 (1986).
162. A.O. Bawagan, C.E. Brion, M.A. Coplan, J.A. Tossell and J.H. Moore, Momentum Distributions for the π-Electrons of para-Dichlorobenzene--an Investigation of Inductive and Resonance Effects by Electron Momentum Spectroscopy. *Chem. Physics* **110**, 153-160 (1986).
161. C.E. Brion and K.H. Tan, Satellite Intensities in Photoelectron Spectroscopy and Electron Momentum Spectroscopy--Synchrotron Radiation Studies of Argon 3s and Xenon 5s Photoionization (hν = 60-130 eV). *Austral. J. Phys*. **39**, 565-586 (1986).
160. C.E. Brion, D.W. Lindle, P.A. Heimann, T.A. Ferrett, M.N. Piancastelli and D.A. Shirley, Photo-electron Branching Ratios and Partial Photoionization Cross Sections for Production of the $(2a_1)^{-1}$ State of H_2O up to 200 ev. *Chem. Phys. Letters* **128**, 118-122 (1986).
159. Y. Iida, F. Carnovale, S. Daviel and C.E. Brion, Absolute Oscillator Strengths for Photoabsorption and the Molecular and Dissociative Photoionization of Nitric Oxide. *Chem. Physics* **105**, 211-225 (1986).
158. C.E. Brion, Looking at Orbitals in the Laboratory--The Experimental Investigation of Molecular Wavefunctions and Binding Energies by Electron Momentum Spectroscopy. *Int. J. Quantum Chem.* **29**, 1397-1428 (1986).
157. C.E. Brion, K.H. Tan and G.M. Bancroft, Synchrotron Radiation Studies of the Ar $3s^{-1}$ Binding Energy Spectrum--Comparison of Experimental Intensities and Theory. *Phys. Rev. Letters* **56**, 584-587 (1986).
156. C.E. Brion, Y. Iida and J.P. Thomson, Absolute Oscillator Strengths for the Photoabsorption, Ionic Photofragmentation and Photoionization of H_2S (10- 40 eV). Chem. Physics **101**, 449-460 (1986).
155. C.E. Brion, Y. Iida, F. Carnovale and J.P. Thomson, Absolute Dipole Oscillator Strengths for Photoabsorption, Photoionization and Ionic Photofragmentation Processes in HBr. *Chem. Physics* **98**, 327-339 (1985).
154. A.O. Bagawan, L.Y. Lee, K.T. Leung and C.E. Brion, An Investigation of the Valence Orbitals of Water by High Momentum Resolution Electron Momentum Spectroscopy. *Chem. Physics* **99**, 367-382 (1985).
153. C.E. Brion, Absolute Oscillator Strengths for Photoabsorption and Photoionization Processes by Fast Electron Impact. *Comments on Atomic and Molecular Physics* **16**, 249-270 (1985).
152. C.E. Brion and F. Carnovale, The Absolute Partial Photoionization Cross Section for the Production of the X^2B_1 State of H_2O. *Chem. Physics* **100**, 291-296 (1985).
151. K.T. Leung and C.E. Brion, A Data Summary and Bibliography of Binary (e,2e) Spectroscopic Studies. *J. Electron Spectrosc*. **35**, 327-352 (1985).
150. R.N.S. Sodhi and C.E. Brion, High Resolution Carbon 1s and Valence Shell Electronic Excitation Spectra of Allene and trans-1,3-Butadiene studied by Electron Energy Loss Spectroscopy. *J. Electron Spectrosc*. **37**, 1-21 (1985).
149. R.N.S. Sodhi and C.E. Brion, Inner Shell Electron Energy Loss Spectra of the Methyl Amines and Ammonia. *J. Electron Spectrosc*. **36**, 187-201 (1985).
148. R.N.S. Sodhi and C.E. Brion, Electronic Excitation in Phosphorus-Containing Molecules, III: Valence Shell Electron Energy Loss Spectra of $P(CH_3)_3$, PCl_3, PF_3, $OPCl_3$ and PF_5. *J. Electron Spectrosc*. **37**, 145-162 (1985).
147. R.N.S. Sodhi and C.E. Brion, Electronic Excitation in Phosphorus Containing Molecules, II: Inner Shell Electron Energy Loss Spectra of PF_5, OPF_3 and $OPCl_3$. *J. Electron Spectrosc*. **37**, 125-144 (1985).

146. R.N.S. Sodhi and C.E. Brion, Electronic Excitation in Phosphorus Containing Molecules, I: Inner Shell Electron Energy Loss Spectra of PH_3, $P(CH_3)_3$, PF_3 and PCl_3. *J. Electron Spectrosc*. **37**, 97-123 (1985).
145. K.T. Leung and C.E. Brion, Binary (e,2e) Spectroscopic Study of Carbonyl Sulfide and the Momentum Space Chemistry of CO_2, CS_2 and COS. *Chem. Physics* **96**, 241-258 (1985).
144. K.T. Leung, C.E. Brion, B.W. Fatyga and P.W. Langhoff, Valence Orbital Momentum Distributions and Ionization Energies of Carbon Disulfide. *Chem. Physics* **96**, 227-240 (1985).
143. K.T. Leung and C.E. Brion, Outer Valence Orbital Momentum Distributions of Carbon Dioxide by Binary (e,2e) Spectroscopy. *Chem. Physics* **93**, 319-332 (1985).
142. R.N.S. Sodhi, S. Daviel, C.E. Brion and G.G.B. de Souza, Electron Energy Loss Spectra of the Silicon 2p, 2s, Carbon 1s and Valence Shells of Tetramethylsilane. *J. Electron Spectrosc*. **35**, 45-64 (1985); **36**, 395 (1985).
141. R. Cambi, G. Ciullo, A. Sgamellotti, C.E. Brion, J.P.D. Cook, I.E. McCarthy and E. Weigold, Experimental and Theoretical Binding Energy Spectra and Momentum Distributions for the Valence Orbitals of H_2O. *Chem. Physics* **91**, 373-381 (1984); **98**, 166 (1985).
140. K.T. Leung and C.E. Brion, Experimental and Calculated Momentum Densities for the Valence Orbitals of Carbon Tetrafluoride. *Chem. Physics* **91,** 43-58 (1984).
139. R.N.S. Sodhi, C.E. Brion and R.G. Cavell, Inner Shell and Valence Excitation and Core Ionization in NF_3 Studied by Electron Energy Loss and X-ray Photoelectron Spectroscopies. *J. Electron Spectrosc*. **34**, 373-398 (1984).
138. C.E. Brion and J.P. Thomson, Compilation of Dipole Oscillator Strengths (Cross Sections) for the Photoabsorption, Photoionization and Ionic Fragmentation of Molecules. *J. Electron Spectrosc*. **33**, 301-331 (1984).
137. C.E. Brion and J.P. Thomson, Compilation of Valence Shell Molecular Photoelectron Branching Ratios as a Function of Energy. *J. Electron Spectrosc*. **33**, 287-300 (1984).
136. C.E. Brion, "Dipole Oscillator Strengths Observed in Electron Impact", *Proceedings of Workshop on Electronic and Ionic Collision Cross Sections Needed in the Modeling of Radiation Interactions with Matter*, December 1983, published by Argonne National Laboratory (ANL-84-28) pages 85-95 (1984).
135. R.N.S. Sodhi and C.E. Brion, Reference Energies for Inner Shell Electron Energy Loss Spectroscopy. *J. Electron Spectrosc*. **34**, 363-372 (1984).
134. K.T. Leung and C.E. Brion, Experimental Determination of the Bond Density of Molecular Hydrogen in Momentum Space by Binary (e,2e) Spectroscopy. *J. Am. Chem. Soc*. **106**, 5859-5864 (1984).
133. A.P. Hitchcock, G.R.J. Williams, C.E. Brion and P.W. Langhoff, Experimental and Theoretical Studies of the Valence Shell Dipole Excitation Spectrum and Absolute Absorption Cross-Sections of Hydrogen Fluoride. *Chem. Physics* **88**, 65-80 (1984).
132. K.T. Leung and C.E. Brion, (e,2e) Chemistry, Lecture Notes in Chemistry Series, Wavefunctions and Mechanisms from Electron Scattering Processes. Springer-Verlag (Berlin, Heidelberg, New York), **35**, 151-155 (1984).
131. C.E. Brion, Dipolar Electron Molecule Experiments, Lecture Notes in Chemistry Series, Wave-functions and Mechanisms from Electron Scattering Processes. Springer-Verlag (Berlin, Heidelberg, New York) **35**, 142-150 (1984).
130. S. Daviel, C.E. Brion and A.P. Hitchcock, A New High Performance Electron Energy Loss Spectrometer for Valence and Inner-Shell Excitation Studies. *Rev. Sci. Instrum*. **55**, 182-191 (1984).
129. S. Daviel, Y. Iida, F. Carnovale and C.E. Brion, Absolute Oscillator Strengths for the Partial Photoionization, Ionic Fragmentation and Photoabsorption of HCl . *Chem. Physics* **83**, 391-406 (1984).
128. R. Sodhi, S. Daviel, C.E. Brion and G.G.B. de Souza, Carbon 1s, Silicon 2s,2p and Valence Shell Electronic Excitation in Tetramethylsilane. *Annals. Israel Phys. Soc*. **6**, 200-202 (1983).

127. C.E. Brion, S. Daviel, Y. Iida and F. Carnovale, Absolute Cross-Sections for the Photoionization, Photoabsorption and Ionic Fragmentation of HCl . *Annals. Israel Phys. Soc*. **6**, 237-239 (1983).
126. K.T. Leung and C.E. Brion, Orbital Density Topography and Binary (e,2e) Spectroscopic Study of Two-Electron Systems: He and H_2. *Chem. Physics* **82**, 113-137 (1983).
125. K.T. Leung and C.E. Brion, Experimental Investigation of the Valence Orbital Momentum Distributions and Ionization Energies of the Noble Gases by Binary (e,2e) Spectroscopy. *Chem. Physics* **82**, 87-111 (1983).
124. A. Minchinton, C.E. Brion, J.P.D. Cook and E. Weigold, Molecular Orbital Electron Momentum Distributions and Separation Energies of CH_3CN. *Chem. Physics* **76**, 89-101 (1983).
123. F. Carnovale and C.E. Brion, Absolute Dipole Oscillator Strengths for Molecular and Dissociative Photoionization of Hydrogen Fluoride. *Chem. Physics* **74**, 253-259 (1983).
122. C.E. Brion and F. Carnovale, Mass Spectrometric Investigation of the Anomalous Behaviour of Hydrogen Fluoride in Low Pressure Scattering Experiments. *J. Physics B*. **16**, 499-504 (1983).
121. C.E. Brion, S. Daviel, R. Sodhi and A.P. Hitchcock, Recent Advances in Inner-Shell Excitation of Free Molecules by Electron Energy Loss Spectroscopy, AIP Conference Proceedings **No. 94** - X-Ray and Atomic Inner-Shell Physics, (Ed. B. Crasemann) American Institute of Physics, (1982) 429-446.
120. J.P.D. Cook and C.E. Brion, Momentum Density Maps for Molecules, AIP Conference Proceedings **No. 86** - Momentum Wave Functions (Ed. E. Weigold). American Institute of Physics (1982), 278-296.
119. I.H. Suzuki and C.E. Brion, Comment on Momentum Distributions of Valence Electrons of Atoms and Simple Molecules. *Bull. Chem. Soc. Japan* **55,** 3327-3328 (1982).
118. C.E. Brion, I.E. McCarthy, I.H. Suzuki, E. Weigold, G.R.J. Williams, K.L. Bedford, A.B. Kunz and R. Weidman, Electron Momentum Distributions and Binding Energies for the Valence Orbitals of Hydrogen Bromide and Hydrogen Iodide. *J. Electron Spectrosc*. **27**, 83-107 (1982).
117. J.P.D. Cook and C.E. Brion, Binary (e,2e) Spectroscopy and Momentum Space Chemistry of CO_2. Chem. Physics **69**, 339-356 (1982).
116. A.P. Hitchcock, C.E. Brion, G.R.J. Williams and P.W. Langhoff, Experimental and Theoretical Studies of the Valence-Shell Dipole Excitation Spectrum of Molecular Fluorine. *Chem. Physics* **66**, 435-442 (1982).
115. F. Carnovale, A.P. Hitchcock, J.P.D. Cook and C.E. Brion, Absolute Dipole Oscillator Strengths for Molecular and Dissociative Photoionization of COS (10-50 eV) and CS_2 (10-40 eV). *Chem. Physics* **66**, 249-259 (1982).
114. C.E. Brion, Electron Scattering at High and Intermediate Energies--Quantitative Measurement in Molecular Spectroscopy, in Physics of Electronic and Atomic Collisions. Ed. S. Datz (North-Holland 1982) pages 579-593.
113. A. Minchinton, C.E. Brion and E. Weigold, Momentum Distributions and Binding Energies for the Valence Orbitals of Methanol. *Chem. Physics* **62,** 369-375 (1981).
112. C.E. Brion, J.P.D. Cook, I.G. Fuss and E. Weigold, Molecular Orbital Momentum Distributions and Binding Energies for Nitric Oxide. *Chem. Physics* **64**, 287-297 (1982).
111. F.C. Carnovale, R. Tseng and C.E. Brion, Absolute Oscillator Strengths for the Photoabsorption and Partial Photoionization of Hydrogen Fluoride. *J. Phys. B* **14**, 4771-4785 (1981).
110. A.P. Hitchcock and C.E. Brion, The Valence Shell Electronic Spectrum of Hydrogen Fluoride (7-46 eV). *Chem. Physics* **61**, 281-291 (1981).
109. F. Carnovale, M.G. White and C.E. Brion, Absolute Dipole Oscillator Strengths for Photoabsorption and Photoionization of Carbon Disulphide. *J. Electron Spectrosc*. **24**, 63-76 (1981).
108. A.P. Hitchcock and C.E. Brion, K-Shell Excitation of HF and F_2 Studied by Electron Energy Loss Spectroscopy. *J. Physics B.* **14**, 4399-4413 (1981).

107. C.E. Brion, W.B. Stewart, D.S.C. Yee and P. Crowley, Electron Spectroscopy with Excited Atoms and Photons, X: Halogen Substituted Methanes and Methyl Amines. *J. Electron Spectrosc*. **23**, 399-415 (1981).
106. C.E. Brion and K.H. Tan, Photoelectron Branching Ratios and Partial Oscillator Strengths for the Photoionization of NO (20-60 eV). *J. Electron Spectrosc*. **23**, 1-11 (1981).
105. M.G. White, K.T. Leung and C.E. Brion, Absolute Dipole Oscillator Strengths for Photoabsorption and Photoionization of COS. *J. Electron Spectrosc*. **23**, 127-145 (1981).
104. J.P.D. Cook, M.G. White, C.E. Brion, W. Domcke, J. Schirmer, L.S. Cederbaum and W. von Niessen, On the Valence Shell Binding Energy Spectrum of Carbonyl Sulphide. *J. Electron Spectrosc*. **22**, 261-270 (1981).
103. A.P. Hitchcock and C.E. Brion, An Investigation into Allegations of Double Scattering in the Carbon K-Shell Electron Energy Loss Spectrum of Acetylene. *J. Electron Spectrosc*. **22**, 283-287 (1981).
102. C.E. Brion and A. Hamnett, Continuum Optical Oscillator Strength Measurements by Electron Spectroscopy in the Gas Phase, in "The Excited State in Chemical Physics, Part 2". Adv. Chem. Physics **Volume 45**, 1-80 (Ed. J.W. McGowan) John Wiley New York (1981).
101. C.E. Brion and A.P. Hitchcock, Experiments with Hydrogen Fluoride--Is it Really HF? *J. Physics B*.**13**, L677-680 (1980).
100. A.P. Hitchcock and C.E. Brion, Neon K-Shell Excitation Studied by Electron Energy Loss Spectroscopy. *J. Physics B.* **13**, 3269-3273 (1980).
099. I.H. Suzuki, E. Weigold and C.E. Brion, Electron Coincidence Spectroscopy of 0_2 Valence Electron Momentum Distributions and Binding Energies. *J. Electron Spectrosc*. **20**, 289-303 (1980).
098. C.E. Brion, S.T. Hood, I.H. Suzuki, E. Weigold and G.R.J. Williams, Momentum Distributions and Ionization Potentials for the Valence Orbitals of Hydrogen Fluoride and Hydrogen Chloride. *J. Electron Spectrosc*. **21** , 71-91 (1980).
097. I.H. Suzuki, C.E. Brion and E. Weigold, Binding Energies at Different Momenta for the Valence Orbitals of HCl by the Binary (e,2e) Method. *Int. J. Quant. Chem*. **18**, 275-280 (1980).
096. A.P. Hitchcock and C.E. Brion, Inner Shell Excitation of Formaldehyde, Acetaldehyde and Acetone Studied by Electron Impact. *J. Electron Spectrosc.* **19**, 231-250 (1980).
095. A.P. Hitchcock, C.E. Brion and M.J. Van der Wiel, Absolute Oscillator Strengths for Valence Shell Ionic Photofragmentation of N_20 and CO_2 (8-75 eV). *Chem. Physics* **45**, 461-478 (1980).
094. J.P.D. Cook, C.E. Brion and A. Hamnett, On the Ionization and Momentum Distributions of the Valence Electrons of H_2S. *Chem. Physics* **45**, 1-13 (1980).
093. A.P. Hitchcock and C.E. Brion, K-shell Excitation Spectra of CO, N_2 and 0_2. *J. Electron Spectrosc*. **18**, 1-21 (1980).
092. A.P. Hitchcock, C.E. Brion and M.J. Van der Wiel, Ionic Fragmentation of Inner-Shell Excited States of CO_2 and N_20. *Chem. Phys. Letters* **66**, 213-217 (1979).
091. C.E. Brion, I.E. McCarthy, I.H. Suzuki and E. Weigold, Momentum Distributions for the Valence Orbitals of Hydrogen Fluoride. *Chem. Phys. Letters* **67**, 115-118 (1979).
090. W. Domcke, L.S. Cederbaum, J. Schirmer, W. von Niessen, C.E. Brion and K.H. Tan, Experimental and Theoretical Investigation of the Complete Valence Shell Ionization Spectra of CO_2 and N_20. *Chem. Physics* **40**, 171-183 (1979).
089. A.P. Hitchcock and C.E. Brion, On the Assignment of the Carbon K-shell Spectra of the Methyl Halides. *J. Electron Spectrosc*. **17**, 139-148 (1979).
088. C.E. Brion, K.H. Tan, M.J. Van der Wiel and Ph.E. Van der Leeuw, Dipole Oscillator Strengths for the Photoabsorption, Photoionization and Fragmentation of Molecular Oxygen. *J. Electron Spectrosc*. **17**, 101-119 (1979).
087. A.P. Hitchcock and C.E. Brion, Inner Shell Electron Energy Loss Studies of HCN and C_2N_2. *Chem. Physics* **37**, 319-331 (1979).

086. C.E. Brion and K.H. Tan, Partial Photoionization Cross-Sections for N_20 and CO_2 from 20 to 60 eV. *J. Electron Spectrosc.* **15**, 241-246 (1979).
085. J.P.D. Cook, C.E. Brion and A. Hamnett, Valence Shell Momentum Distributions, Binding Energies and Calculated Wave Function Evaluation for H_2S by Binary (e,2e) Spectroscopy. *J. Electron Spectrosc*. **15**, 233-236 (1979).
084. A.P. Hitchcock and C.E. Brion, K-Shell Excitation of HCN by Electron Energy Loss Spectroscopy at High Impact Energies. *J. Electron Spectrosc*. **15**, 201-206 (1979).
083. C.E. Brion and K.H. Tan, Partial Oscillator Strengths for the Photoionization of N_20 and CO_2 (20-60 eV). *Chem. Physics* **34**, 141-151 (1978).
082. C.E. Brion, J.P.D. Cook and K.H. Tan, The Valence Shell Binding Energy Spectrum of H_2S (8-34 eV) by Dipole (e,2e) and Binary (e,2e) Spectroscopy. *Chem. Phys. Letters* **59**, 241-245 (l978).
081. A.P. Hitchcock and C.E. Brion, Inner-Shell Excitation of SF_6 by Electron Impact. *Chem. Physics* **33**, 55-64 (1978).
080. A.P. Hitchcock and C.E. Brion, Inner-Shell Excitation and EXAFS-Type Phenomena in the Chloro-methanes. *J. Electron Spectrosc.* **14**, 417-441 (1978).
079. A.P. Hitchcock, M. Pocock, C.E. Brion, M.S. Banna, D.C. Frost, C.A. McDowell and B. Wallbank, Inner-Shell Excitation and Ionization of the Monohalobenzenes. *J. Electron Spectrosc*. **13**, 345-360 (1978).
078. A.P. Hitchcock, C.E. Brion and M.J. Van der Wiel, Ionic Fragmentation of SF_6 Ionized in the Sulphur 2p Shell. *J. Physics B*. **11**, 3245-3261 (1978).
077. A.P. Hitchcock and C.E. Brion, Inner Shell Excitation of CHF_3, CH_3Cl, CH_3Br and CH_3I by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **13**, 193-218 (1978).
076. K.H. Tan, C.E. Brion, Ph.E. Van der Leeuw and M.J. Van der Wiel, Absolute Oscillator Strengths (10-60 eV) for the Photoabsorption, Photoionization and Fragmentation of H_20. *Chem. Physics* **29**, 299-309 (1978).
075. K.H. Tan and C.E. Brion, Branching Ratios and the Partial Photoionization Cross-Section for the 3s Electron of Argon. *J. Electron Spectrosc*. **13**, 77-84 (1978).
074. A.P. Hitchcock, M. Pocock and C.E. Brion, Isotope Intensity Effects in the K-Shell Excitation Spectra of CH_4 and CD_4 Studied by 2.5-keV Electron Impact. *Chem. Phys. Letters* **49**, 125-128 (1977).
073. C.E. Brion and D.S.C. Yee, Electron Spectroscopy Using Excited Atoms and Photons, IX: Penning Ionization of CO_2, CS_2, COS, N_20, H_2S, SO_2 and NO_2. *J. Electron Spectrosc*. **12**, 77-93 (1977).
072. C.E. Brion, A. Hamnett, G.R. Wight and M.J. Van der Wiel, Branching Ratios and Partial Oscillator Strengths for the Photoionization of NH_3 in the 15- 50-eV Region. *J. Electron Spectrosc*. **12** 323-334 (1977).
071. C.E. Brion and P. Crowley, Electron Spectroscopy Using Excited Atoms and Photons, VIII: Penning Ionization of the Hydrogen Halides. *J. Electron Spectrosc*. **11**, 399-416 (1977).
070. G.R. Wight, M.J. Van der Wiel and C.E. Brion, Dipole Oscillator Strengths for Excitation, Ionization and Fragmentation of NH_3 in the 5-60-eV Region. *J. Phys. B*. **10**, 1863-1873 (1977).
069. A. Hamnett, S.T. Hood and C.E. Brion, A Study of the Bonding in Phosphine by an Electron-Impact Coincidence Experiment. *J. Electron Spectrosc.* **11**, 263-274 (1977).
068. A.P. Hitchcock and C.E. Brion, Carbon K-shell Excitation of C_2H_2, C_2H_4, C_2H_6 and C_6H_6 by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **10,** 317-330 (1977).
067. S.T. Hood, A. Hamnett and C.E. Brion, Molecular Orbital Momentum Distributions and Binding Energies for H_2O Using an Electron Impact Coincidence Spectrometer. *J. Electron Spectrosc*. **11**, 205-224 (1977).
066. S.T. Hood, A. Hamnett and C.E. Brion, The Assignment of the Ionization Potentials of Formaldehyde by an (e,2e) Experiment. *Chem. Phys. Letters* **41**, 428-430 (1976).

065. S.T. Hood, A. Hamnett and C.E. Brion, An (e,2e) Study of Ammonia: Binding Energies and Momentum Distributions. *Chem. Phys. Letters* **39**, 252-256 (1976).
064. A. Hamnett, W. Stoll and C.E. Brion, Photoelectron Branching Ratios and Partial Ionization Cross Sections for CO and N_2 in the Energy Range 18-50 eV. *J. Electron Spectrosc*. **8**, 367-376 (l976).
063. A. Hamnett, W. Stoll, G. Branton, M.J. Van der Wiel and C.E. Brion, A Kinematic and Experimental Investigation of the (e,2e) Simulation of Photoelectron Spectroscopy. *J. Phys. B*. **9**, 945-957 (1976).
062. G.R. Wight, M.J. Van der Wiel and C.E. Brion, Dipole Excitation, Ionization and Fragmentation of N_2 and CO in the l0-60-eV Region. *J. Phys. B*. **9**, 675-689 (1976).
061. M.J. Van der Wiel, W. Stoll, A. Hamnett and C.E. Brion, Partial Oscillator Strengths (25-50 eV) of the One-Electron States of CH_4^+ Measured in an (e,2e) Experiment. *Chem. Phys. Letters*. **37**, 240-242 (1976).
060. D.S.C. Yee and C.E. Brion, Electron Spectroscopy Using Excited Atoms and Photons, VII: Penning Ionization of Some Carbonyl-Containing Compounds. *J. Electron Spectrosc*. **8**, 377-387 (1976).
059. D.S.C. Yee and C.E. Brion, Electron Spectroscopy Using Excited Atoms and Photons, VI: Penning Ionization of HCN and some Related Compounds. *J. Electron Spectrosc*. **8**, 313-323 (l976).
058. D.S.C. Yee, A. Hamnett and C.E. Brion, Electron Spectroscopy Using Excited Atoms and Photons, V: Penning Ionization of Water, Alcohols and Ether. *J. Electron Spectrosc*. **8**, 291-312 (l976).
057. D.S.C. Yee and C.E. Brion, Electron Spectroscopy Using Excited Atoms and Photons, IV: Penning Ionization of Ethylene. *J. Electron Spectrosc*. **7**, 311-315 (1975).
056. C.E. Brion, "Photoelectron" Spectroscopy by Electron Impact: Coincidence Studies of Scattered and Ejected Electrons. *Rad. Research* **64**, 37-52 (1975).
055. D.S.C. Yee, C.A. McDowell and C.E. Brion, Electron Spectroscopy Using Excited Atoms and Photons, III: Penning Ionization of Ammonia and Phosphine. *J. Electron Spectrosc*. **7**, 377-383 (1975).
054. D.S.C. Yee, W.B. Stewart, C.A. McDowell and C.E. Brion, Electron Spectroscopy Using Excited Atoms and Photons, II: Penning Ionization of Diatomic Molecules. *J. Electron Spectrosc*. **7**, 93-117 (1975).
053. G.R. Wight and C.E. Brion, Carbon K-Shell Excitation in Acetone by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **4**, 347-350 (1974).
052. G.R. Wight and C.E. Brion, K and $L_{II,III}$-Shell Excitation in CS_2 and COS by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **4**, 335-345 (1974).
051. G.R. Wight and C.E. Brion, K-Shell and Valence Shell Excitations in CF_4 by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **4**, 327-333 (1974).
050. G.R. Wight and C.E. Brion, K-Shell Excitations in NO and 0_2 by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **4**, 313-325 (1974).
049. G.R. Wight and C.E. Brion, Estimation of the Excitation and Ionization Energies of NH_4, H_30 and H_2F Radicals Using Core Analogies Applied to K- Shell Electron Energy Loss Spectra. *Chem. Phys. Letters* **26**, 607-609 (1974).
048. Wing-Cheung Tam, D. Yee and C.E. Brion, Photoelectron Spectra of Some Aldehydes and Ketones. *J. Electron Spectrosc*. **4**, 77-80 (1974).
047. G.R. Wight and C.E. Brion, K-Shell Excitation of CH_4, NH_3, H_2O, CH_3OH, CH_3OCH_3 and CH_3NH_2 by 2.5-keV Electron Impact. *J. Electron Spectrosc*. **4**, 25-42 (1974).
046. Wing-Cheung Tam and C.E. Brion, Electronic Spectra of Carbonyl Compounds by Electron Impact Spectroscopy Part III: Unsaturated Compounds. *J. Electron Spectrosc*. **4**, 149-154 (1974).
045. Wing-Cheung Tam and C.E. Brion, Electron Spectra of Carbonyl Compounds by Electron Impact Spectroscopy Part II: Saturated Ketones. *J. Electron Spectrosc*. **4**, 139-147 (1974).
044. Wing-Cheung Tam and C.E. Brion, Electronic Spectra of Carbonyl Compounds by Electron Impact Spectroscopy Part I: Saturated Aldehydes. *J. Electron Spectrosc*. **3**, 467-477 (1974).

043. Wing-Cheung Tam and C.E. Brion, Rydberg States of HCN Observed in Electron Impact Spectroscopy. *J. Electron Spectrosc*. **3**, 281-288 (1974).
042. G.R. Wight and C.E. Brion, K-Shell Energy Loss Spectra of 2.5-keV Electrons in CO_2 and N_2O. *J. Electron Spectrosc*. **3**, 191-205 (1974).
041. Wing-Cheung Tam and C.E. Brion, Electron Impact Spectra of Some Alkyl Derivatives of Water and Related Compounds. *J. Electron Spectrosc*. **3**, 263-279 (1974).
040. G.R. Branton and C.E. Brion, Total Absorption and the Energy Dependence of the Partial Oscillator Strengths for "Photoionization" of the Valence Orbitals of H_2O using an Electron-Electron Coincidence Method. *J. Electron Spectrosc.* **3**, 129-135 (1974).
039. G.R. Branton and C.E. Brion, Measurement of the Energy Dependences of the Photoelectron Angular Distribution Parameters for Ar 3p and Kr 4p Electrons Using an Electron-Electron Coincidence Experiment. *J. Electron Spectrosc*. **3**, 123-128 (1974).
038. Wing-Cheung Tam and C.E. Brion, A Rotatable, Gas-Tight Collision Chamber for Electron Spectrometers. *J. Electron Spectrosc*. **3**, 82-84 (1974).
037. C.E. Brion and L.A.R. Olsen, Threshold of Electron Impact Excitation of Argon in the Region of the M_1 Edge. *Chem. Phys. Letters* **22**, 400-402 (1973).
036. Zinat M. Akhtar, C.E. Brion and L.D. Hall, Photoionization and Fragmentation of the Stereoisomers of 4-t-Butylcyclohexyl Acetate and 4-t-Butylcyclohexyl Methyl Ether. *Org. Mass. Spectrom.* **8**, 189-200 (1974).
035. Wing-Cheung Tam and C.E. Brion, Excitation of Optically Forbidden Transitions in Argon and Neon by Electron Impact. *J. Electron Spectrosc*. **2**, 111-123 (1973).
034. G.R. Wight, C.E. Brion and M.J. Van der Wiel, K-Shell Energy Loss Spectra of 2.5 KeV Electrons in N_2 and CO. *J. Electron Spectrosc*. **1**, 457-469 (1972/73).
033. M.J. Van der Wiel and C.E. Brion, Energy Dependence of the Photoelectron Angular Distribution Parameter for Ne 2p Electrons, Measured in an Electron-Electron Coincidence Experiment. *J. Electron Spectrosc*. **1**, 439-441 (1972/73).
032. M.J. Van der Wiel and C.E. Brion, Partial Oscillator Strengths for the Ionization of the Three Valence Orbitals of NH_3. *J. Electron Spectrosc*. **1**, 443-455 (1972/73).
031. Zinat M. Akhtar, C.E. Brion and L.D. Hall, Mass Spectral Studies of Stereoisomers: The Photoionization of Some Substituted Cyclohexanols. *Org. Mass Spectrom*. **7**, 647-666 (1973).
030. M.J. Van der Wiel and C.E. Brion, Photoelectron Spectroscopy by Electron Impact: Coincidence Measurements of Scattered and Ejected Electrons in CO. *J. Electron Spectrosc*. **1**, 309-318 (1972/73).
029. C.E. Brion, C.A. McDowell and W.B. Stewart, Electron Spectroscopy Using Excited Atoms and Photons: I Penning Ionization of the Rare Gases. *J. Electron Spectrosc*. **1**, 113-130 (1972/73).
028. C.E. Brion and L.A.R. Olsen, Resonance Structure in the Threshold Electron Impact Spectrum of Carbon Monoxide. *Chem. Phys. Letters* **15**, 442-444 (1972).
027. C.E. Brion and L.A.R. Olsen, Negative Ion Formation in Tetracyanoethylene. *Int. J. Mass Spec. Ion Phys*. **9**, 413-416 (1972).
026. C.E. Brion, C.A. McDowell and W.B. Stewart, A Comparison of Vibrational Transition Probabilities for Penning Ionization and Photoionization of NO to the $X^1\Sigma^+$ State of NO^+. *Chem. Phys. Letters* **13**, 79-81 (1972).
025. C.E. Brion, "Recent Advances in Electron Spectroscopy", in MTP International Reviews of Science, Physical Chemistry Series One, Volume 5, pages 55-l02, Butterworths (London l972).
024. V.Y. Foo, C.E. Brion and J.B. Hasted, Electron Energy-Loss Spectra of Some Triatomic Molecules. Proc. Roy. Soc. Lond. **A322**, 535-554 (1971).
023. C.E. Brion, J.S. Haywood-Farmer, R.E. Pincock and W.B. Stewart, Mass Spectra of Some Geometric Isomers at 1216A and 584A, The Photoionization of Isomeric Tricyclo ($3.2.1.^{34}$) Octanes and Related Compounds. *Org. Mass Spectrom*. **4**, 587-598 (1970).

022. M.J. Van der Wiel, Th. M. El-Sherbini and C.E. Brion, K. Shell Excitation of Nitrogen and Carbon Monoxide by Electron Impact. *Chem. Phys. Letters* **7**, 161-164 (1970).
021. C.E. Brion and L.A.R. Olsen, Threshold Electron Impact Excitation of the Rare Gases. *J. Phys. B* **3**, 1020-33 (1970).
020. C.E. Brion and L.A.R. Olsen, Threshold Electron--Impact Excitation to the $a^3\Pi$ State of Carbon Monoxide. *J. Chem. Phys*. **52**, 2163-4 (1970).
019. G.R. Branton, C.E. Brion, D.C. Frost, K.A.R. Mitchell and N.L. Paddock, Phosphonitrilic Derivatives, Part XVIII, Ionization Potentials, Orbital Symmetry & Electron Interactions. *J. Chem. Soc. A*, 151-156 (1970).
018. C.E. Brion and L.A.R. Olsen, Threshold Electron Impact Excitation of the 5s Electron in Xenon. *Phys. Rev*. **187**, 111-3 (1969).
017. C.E. Brion, Negative Ion Formation in the Hexafluorides of Sulphur, Selenium and Tellurium. *Int. J. Mass Spec. Ion Phys*. **3**, l97-202 (1969).
016. C.E. Brion, C.R. Eaton, L.A.R. Olsen and G.E. Thomas, Threshold Excitation and Ionization of Xenon by Electron Impact. *Chem. Phys. Letters* **3**, 600-2 (1969).
015. C.E. Brion, The Franck-Condon Principle and the Ionization of Acetylene by Electron Impact. *Chem. Phys. Letters* **3**, 9-11 (1969).
014. C.E. Brion and G.E. Thomas, Classical Calculations and the Threshold Electron Impact Ionization of Helium. *Int. J. Mass. Spec. Ion Phys*. **2**, 414-6, (1969).
013. C.E. Brion and C.R. Eaton, Detection of Monoenergetic Electron Impact Excitation of Helium Using the Sulphur Hexafluoride Negative Ion. *Int. J. Mass Spec. Ion Phys*. **1**, 102-4 (1968).
012. C.E. Brion and W.B. Stewart, The Mass Spectrometric Analysis of Oxygen. *Nature* **217**, 946 (1968).
011. C.E. Brion and G.E. Thomas, A Versatile "Monoenergetic" Electron Impact Spectrometer for the Study of Inelastic Collision Processes. *Int. J. Mass Spec. Ion Phys*. **1**, 25-39 (1968).
010. C.E. Brion and G.E. Thomas, The Cross Section for the Production of Singly Ionized Helium by Electron Impact at Low Energies. *Phys. Rev. Letters* **20**, 241-3 (1968).
009. C.E. Brion and N.L. Paddock, Fragmentation Patterns of the Phosphonitrilic Fluorides. *J. Chem. Soc*. (A), 393-397 (1968).
008. C.E. Brion and N.L. Paddock, Fragmentation Patterns of the Phosphonitrilic Chlorides. *J. Chem. Soc. (A)*, 388-392 (1968).
007. C.E. Brion, D.J. Oldfield, and N.L. Paddock, Huckel Type Interactions in Phosphophonitrilic Derivatives. *Chem. Comm*., 226-7 (1966).
006. C.E. Brion, An Improved Mass Spectrometer Photoionization Source. *Anal. Chem*. **38**, 1941-2 (1966).
005. C.E. Brion and L.D. Hall, Studies of Stereoisomerism by Photoionization Mass Spectrometry. *J. Am. Chem. Soc*. **88**, 3661-2 (l966).
004. C.E. Brion, A Windowless Photoionization Source for High Resolution Mass Spectrometers. *Anal. Chem*. **37**, 1706-9 (1965).
003. C.E. Brion, D.C. Frost and C.A. McDowell, Mass Spectrometric Studies of the Rare Gases using an Electron Velocity Selector. *J. Chem. Phys*. **44**, 1034-38 (1966).
002. C.E. Brion, Ionization of Oxygen by Monoenergetic Electrons. *J. Chem. Phys*. **40**, 295-8 (1964).
001. C.E. Brion and W.J. Dunning, Electron Impact Studies of Simple Carboxylic Esters. *Trans. Faraday Soc*. **59**, 647-56 (1963).