

**1. Papers in Refereed Journals**

1. "Ab initio configuration interaction calculations of the predissociation of rovibrational levels of the C <sup>3</sup>Πg and the d <sup>1</sup>Πg 3σ Rydberg states of the oxygen molecule",  
Y. Li, I.D. Petsalakis, H.- P. Liebermann, G. Hirsch and R.J. Buenker,  
J. Chem. Phys. 106, 1123 (1997).
2. "The effect of correlation on the Jahn -Teller instability of cyclobutadiene",  
A. Metropoulos and Y.N. Chiu,  
J. Mol. Struct. (Theochem) 417, 95 (1997).
3. "Complex L<sup>2</sup> calculation of HOCO resonances",  
J. Bowman and A. Metropoulos,  
J. Chem. Soc. Faraday Trans. 93, 815 (1997).
4. "Predissociation widths and lifetimes of the n=3 <sup>2</sup>Σ<sup>+</sup> states of BeH and BeD",  
I.D. Petsalakis, R.J. Buenker, G. Hirsch and G. Theodorakopoulos,  
J. Phys. B 30, 4935 (1997).
5. "The electric dipole approximation and the calculation of free-free transition matrix elements in multiphoton processes",  
Th. Mercouris, Y. Komninos, S. Dionissopoulou and C.A. Nicolaides,  
J. Phys. B 30, 2133 (1997).
6. "Regular and chaotic multiphoton dissociation",  
V. Constantoudis and C.A. Nicolaides,  
Phys. Rev. A 55, 1325 (1997).
7. "Theory and computation of the profile of the free-free transition probability between autoionizing (resonant) states",  
Y. Komninos and C.A. Nicolaides,  
J. Phys. B 30, L237 (1997).
8. "Time-dependence and properties of nonstationary states in the continuous spectrum of atoms",  
Th. Mercouris and C.A. Nicolaides,  
J. Phys. B 30, 811 (1997).
9. "Strong laser-field effects in hydrogen: High-order above-threshold ionization and photoelectron angular distributions",  
S. Dionissopoulou, Th. Mercouris, A. Lyras and C.A. Nicolaides,  
Phys. Rev. A 55, 4397 (1997).
10. "Multiphoton response of He to short laser pulses of wavelength 248 nm and intensities in the range 10<sup>14</sup> - 10<sup>16</sup> W cm<sup>-2</sup>",  
Th. Mercouris, S. Dionissopoulou and C.A. Nicolaides,  
J. Phys. B 30, 4751 (1997).

11. "Study of transitions induced by squeezed light via path integral methods",  
E.G. Thrapsaniotis,  
J. Phys. A 30, 7967 (1997).
12. "Theory and computation of electron correlation in the continuous spectrum: Double photoionisation cross section of H and He near and far from threshold",  
C.A. Nicolaides, C. Haritos and Th. Mercouris,  
Phys. Rev. A 55, 2830 (1997).
13. "Low temperature asymptotics of isotropic ferromagnetic chains at non-zero fields",  
N. Theodorakopoulos and N.C. Bacalis,  
Phys. Rev. B 55, 52 (1997).
14. "Electronic structure of ordered and disordered Cu-Ag alloys",  
N.C. Bacalis, G. Anagnostopoulos, N.I. Papanicolaou and D.A. Papaconstantopoulos,  
Phys. Rev. B 55, 2144 (1997).
15. "Wavevector-dependent Stoner approach to band ferromagnetism in Ni",  
N.C. Bacalis, N. Theodorakopoulos and D.A. Papaconstantopoulos,  
Phys. Rev. B 55, 11391 (1997).
16. "Nonlinear dynamics of classical Heisenberg chains",  
V. Constantoudis and N. Theodorakopoulos,  
Phys. Rev. E 55, 7612 (1997).
17. "Lyapunov exponent, stretching numbers and islands of stability of the kicked top",  
V. Constantoudis and N. Theodorakopoulos,  
Phys. Rev. E 56, 5189 (1997).
18. "New electronic state in the variably doped two-dimensional charge transfer salts,  $\tau$ -(EDO-S,S-DMEDT-TTF)<sub>2</sub>(I<sub>3</sub>)<sub>1</sub>(I<sub>3</sub>)<sub>y</sub> and  $\tau$ -(EDO-S,S-DMEDT-TTF)<sub>2</sub>(AuBr<sub>2</sub>)<sub>1</sub>(AuBr<sub>2</sub>)<sub>y</sub> with  $y \approx 0.75$ ",  
K. Murata, N. Shirakawa, H. Yoshino, Y. Tsubaki, G.C. Papavassiliou, A. Terzis and J. Zambounis,  
Synth. Met. 86, 2021 (1997).
19. "Structural and physical properties of  $\tau$ -(P-S, S-DMEDT-TTF)<sub>2</sub>(AuBr<sub>2</sub>)<sub>0.75</sub> and  $\tau$ -(EDO-S,S-DMEDT-TTF)<sub>2</sub>(AuBr<sub>2</sub>)<sub>0.75</sub> 2D conductors",  
G.C. Papavassiliou, D.J. Lagouvardos, I. Koutselas, K. Murata, A. Graja, I. Olejniczak, J.S. Zambounis, L. Ducasse and J.P. Ulmet,  
Synth. Met. 86, 2043 (1997).
20. "Optical and related properties of natural one-dimensional semiconductors based on PbI and SnI units",  
I.B. Koutselas, D.B. Mitzi, G.C. Papavassiliou, G.J. Papaioannou and H. Krautscheid,  
Synth. Met. 86, 2171 (1997).
21. "Three- and low-dimensional inorganic semiconductors",  
G.C. Papavassiliou,

Progr. Sol. State Chem. 25, 125 (1997) (Review article).

22. "Coordination states of molybdenum and the nature of copper ion sites in the superionic glasses  $x\text{CuI}-(1-x)\text{Cu}_2\text{MoO}_4$  studied by infrared reflectance spectroscopy",  
C.P. Varsamis, E.I. Kamitsos, N. Machida and T. Minami,  
J. Phys. Chem. B 101, 3734 (1997).

23. "Basicity variation in network oxides: distribution of metal ion sites in borate glass systems",  
J.A. Duffy, B. Harris, E.I. Kamitsos, G.D. Chryssikos and Y.D. Yiannopoulos,  
J. Phys. Chem. B 101, 4188 (1997).

24. "Structure and bonding in As-Sb-S chalcogenide glasses by infrared reflectance spectroscopy",  
E.I. Kamitsos, J.A. Kapoutsis, I.P. Culeac and M.S. Iovu,  
J. Phys. Chem. B 101, 11061 (1997).

25. "Vibrational investigation of lithium metaborate-metaaluminate glasses and crystals",  
G.D. Chryssikos, M.S. Bitsis, J.A. Kapoutsis and E.I. Kamitsos,  
J. Non-Cryst. Solids 217, 278 (1997).

26. "Structure-property correlation in glasses by infrared reflectance spectroscopy",  
E.I. Kamitsos, Y.D. Yiannopoulos, C.P. Varsamis and H. Jain,  
J. Non-Cryst. Solids 222, 59 (1997).

27. "Significance of intermediate range order for electrical conduction in alkali germanate glasses",  
H. Jain, W.C. Huang, E.I. Kamitsos and Y.D. Yiannopoulos,  
J. Non-Cryst. Solids 222, 361 (1997).

28. "An investigation of electron attachment to  $\text{CHCl}_2\text{F}$ ,  $\text{CHClF}_2$  and  $\text{CHF}_3$  using an electron-swarm mass spectrometric technique",  
G.K. Jarvis, C.A. Mayhew, L. Singleton and S.M. Spyrou,  
Int. J. Mass Spectr. Ion Proc. 164, 207 (1997).

## **2. Papers in Proceedings of International and National Conferences**

1. "Structure and properties of superionic borate glasses",  
C.P. Varsamis, E.I. Kamitsos, G.D. Chryssikos and J.A. Kapoutsis,  
Proc. XIII Greek Conf. on Solid State Physics, Thessaloniki, 1997, pp. 241-244 (in Greek).

2. "A structural study of polyester resins by infrared spectroscopy",  
G.D. Chryssikos, E.I. Kamitsos, J.A. Kapoutsis, C. Varelas, V. Kotsonis and C. Topraktsioglou,  
Proc. IV Greek Conf. on Polymers, Patras, 1997, pp. 111-114 (in Greek).

3. "Borate structures by vibrational spectroscopy",  
G.D. Chryssikos and E.I. Kamitsos,

- in Borate Glasses, Crystals & Melts, A.C. Wright, S.A. Feller, A.C. Hannon (Eds.), Soc. Glass Technology, Sheffield, 1997, pp. 128-139.
4. "An XPS study of chemical structure of AgI-Ag<sub>2</sub>O-B<sub>2</sub>O<sub>3</sub> glasses",  
H. Jain, A.C. Miller, E.I. Kamitsos and J.A. Kapoutsis,  
in Borate Glasses, Crystals & Melts, A.C. Wright, S.A. Feller, A.C. Hannon (Eds.), Soc. Glass Technology, Sheffield, 1997, pp. 287-294.
  5. "A structural study of silver borate glasses by infrared reflectance and Raman spectroscopies",  
J.A. Kapoutsis, E.I. Kamitsos and G.D. Chryssikos,  
in Borate Glasses, Crystals & Melts, A.C. Wright, S.A. Feller, A.C. Hannon (Eds.), Soc. Glass Technology, Sheffield, 1997, pp. 303-312.
  6. "A vibrational spectroscopic study of alkaline earth borate glasses",  
Y.D. Yiannopoulos, E.I. Kamitsos, G.D. Chryssikos and J.A. Kapoutsis,  
in Borate Glasses, Crystals & Melts, A.C. Wright, S.A. Feller, A.C. Hannon (Eds.), Soc. Glass Technology, Sheffield, 1997, pp. 514-521.
  7. "Infrared reflectance investigation of the structure of xSb<sub>2</sub>S<sub>3</sub>-(1-x)As<sub>2</sub>S<sub>3</sub> glasses",  
J.A. Kapoutsis, E.I. Kamitsos, I.P. Culeac and M.S. Iovu,  
in Physics and Applications of Non-Crystalline Semiconductors in Optoelectronics, A. Andriesh, M. Bertolotti (Eds.), NATO ASI, Kluwer Academic Publ., Dordrecht, 1997, vol. 36, pp. 307-315.
  8. "Structure of potassium germanate glasses by vibrational spectroscopy",  
Y.D. Yiannopoulos, E.I. Kamitsos and H. Jain,  
in Physics and Applications of Non-Crystalline Semiconductors in Optoelectronics, A. Andriesh, M. Bertolotti (Eds.), NATO ASI, Kluwer Academic Publ., Dordrecht, 1997, vol. 36, pp. 317-325.
  9. "X-ray images of living biological specimens using polymeric materials",  
P. Argitis, A.C. Cefalas, M. Hatzakis, E. Sarantopoulou, Z. Kollia, A.D. Stead and T. W. Ford,  
Proc. 4<sup>th</sup> Greek Conf. on Polymers, Patras, 1997, pp. 342-345 (in Greek).
  10. "Method for qualitative and quantitative determination of pollutants in sea water by combining the laser induced fluorescence (LIF) with optical fibers",  
A. Mavropoulos, I. Bassiotis, F. Roubani-Kalantzopoulou and M. Kompitsas,  
Proc. 1<sup>st</sup> Greek Conference of Chem. Engineering, Patras, 1997, pp. 263-268 (in Greek).
  11. "Laser-photolysis, laser induced fluorescence study and kinetics of OH gas-phase reactions",  
M. Kompitsas, A. Mellouki, G. Le Bras, F. Roubani-Kalantzopoulou, A. Mavropoulos and I. Bassioitis,  
Proc. 5<sup>th</sup> Conference of Environmental Science and Technology, Th. Lekkass (Ed.), U. of Aegean, Isle of Lesbos, 1997, vol. B, pp. 134-141 (in Greek).
  12. "An investigation of electron attachment to CHCl<sub>2</sub>F, CHClF<sub>2</sub> and CHF<sub>3</sub> using the electron-swarm mass spectrometric technique",

G.K. Jarvis, C.A. Mayhew, L. Singleton and S.M. Spyrou,  
Proc. Int. Symp. Electron-Molecule Collisions and Ion and Electron Swarms, Switzerland  
(1997), p. 66.

### **3. Book Chapters**

1. “Tetrachalcogenafulvalenes, metal 1,2-dichalcogenolenes and their conducting salts”,  
G.C. Papavassiliou, A. Terzis and P. Delhaes,  
in Handbook of Organic Conducting Molecules and Polymers, H. S. Nalwa (ed.), John Wiley  
(1997), vol. 1, pp. 151-227 (Review article).

### **4. Dissertations**

#### **a. Honors theses**

1. “Laser vacuum ultraviolet ablation of nylon 6.6”,  
N. Vassilopoulos, supervisors A.C. Cefalas and F. Viras, University of Athens, Physics  
Department (1997).