

**1. Papers in Refereed Journals**

1. "Potential energy surface for large-amplitude motion and vibrational spacings for  $\text{FH}_2^+$ ",  
I.D. Petsalakis, G. Theodorakopoulos, J.S. Wright and I.P. Hamilton,  
J. Chem. Phys. 92, 2440 (1990).
2. "Theoretical treatment of predissociation in the  $\text{A}^2\Sigma^+$ ,  $\text{B}^2\Pi$ , and  $\text{C}^2\Sigma^+$  states of  $\text{HeH}$ ",  
I.D. Petsalakis, G. Theodorakopoulos and R.J. Buenker,  
J. Chem. Phys. 92, 4920 (1990).
3. "Distributed complex Gaussian basis sets: A useful function-space for the solution of predissociation problems via the complex eigenvalue Schrödinger equation. Application to the isotope effect of  $\text{NeH}$ ,  $\text{NeD}$ ",  
I.D. Petsalakis, T. Mercouris, G. Theodorakopoulos and C.A. Nicolaides,  
J. Chem. Phys. 93, 6642 (1990).
4. "Predissociation resonances from the complex eigenvalue Schrödinger equation",  
I.D. Petsalakis, T. Mercouris, G. Theodorakopoulos and C.A. Nicolaides,  
J. Phys. B 23, L89 (1990).
5. "Theoretical calculations of the Rydberg spectra of  $\text{ArH}$ ",  
G. Theodorakopoulos, I.D. Petsalakis and R.J. Buenker,  
Mol. Phys. 71, 1055 (1990).
6. "Predissociation lifetime of the  $1\sigma_g^2 2\sigma_g$  diabatic state of  $\text{He}_2^+$  - a one-channel approach",  
A. Metropoulos,  
Theor. Chim. Acta 77, 333 (1990).
7. "Geometry of the three-electron ionization ladder and its corresponding spectrum",  
C.A. Nicolaides, M. Chrysos and Y. Komninos,  
Phys. Rev. A 41, 5244 (1990).
8. "Partial and total widths of the resonances of the  $\text{H-1s}$  2-electron ionization ladder",  
M. Chrysos, Y. Komninos, T. Mercouris and C.A. Nicolaides,  
Phys. Rev. A 42, 2634 (1990).
9. "Laser ionization of  $\text{H}^-$  in the presence of a DC field",  
T. Mercouris and C.A. Nicolaides,  
J. Phys. B 23, 2037 (1990).
10. "Stability and physicochemical reactions of light dications",  
C.A. Nicolaides, M. Chrysos and P. Valtazanos,

J. Phys. B 23, 791 (1990).

11. "Resonances and exterior complex scaling",  
C.A. Nicolaides, H.J. Gotsis, M. Chrysos and Y. Komninos,  
Chem. Phys. Lett. 168, 570 (1990).

12. "Energy-dependence of the partial widths of the Wannier two-electron ionization ladder states",  
C.A. Nicolaides and Y. Komninos,  
J. Phys. B 23, L571 (1990).

13. "Dynamic polarizability and hyperpolarizability of  $H^-$  for frequencies below as well as above the ionization threshold",  
C.A. Nicolaides, T. Mercouris and N.A. Piangos,  
J. Phys. B 23, L669 (1990).

14. "Many-electron, many-photon theory of nonlinear polarizabilities",  
C.A. Nicolaides, T. Mercouris and G. Aspromallis,  
J. Opt. Soc. Am. B 7, 494 (1990).

15. "Local minima of ground hypersurfaces - the cases of  $He_3^{2+}$  and of the  $BeH_2^{2+}$  nonclassical dihydrogen complex",  
P. Valtazanos and C.A. Nicolaides,  
Chem. Phys. Lett. 172, 254 (1990).

16. "Inversion of molecular-spectra by solid environments",  
C.A. Nicolaides and P. Valtazanos,  
Chem. Phys. Lett. 173, 195 (1990).

17. "Hydrogen complexes of  $Be_2^{2+}$ ",  
C.A. Nicolaides and P. Valtazanos,  
Chem. Phys. Lett. 174, 489 (1990).

18. "Total-energy calculations of Solid H, Li, Na, K, Rb, and Cs",  
M. Sigalas, N.C. Bacalis, D.A. Papaconstantopoulos, M.J. Mehl and A.C. Switendick,  
Phys. Rev. B 42, 11637 (1990).

19. "Hydrogen molecule and tetrahydrogen cluster embedded in ionic-crystals",  
P. Valtazanos, N.C. Bacalis and C.A. Nicolaides,  
Chem. Phys. 144, 363 (1990).

20. "Magnetic-properties of  $\kappa$ -(MDTTTF) $_2$ AuI $_2$  salt in the normal and superconducting states",  
P. Delhaes, J. Amiel, S. Flandrois, L. Ducasse, A. Fritsch, B. Hilti, C.W. Mayer, J. Zambounis and G.C. Papavassiliou,  
J. Phys. (Paris) 51, 1179 (1990).

21. "Structures of the conducting salts of ethylenedithiotetrathiafulvalene (EDTTTF) and methylenedithiotetrathiafulvalene (MDTTTF): (EDTTTF)<sub>3</sub> and (MDTTTF)<sub>3</sub>",  
A. Hountas, A. Terzis, G.C. Papavassiliou, B. Hilti and J. Pfeiffer,  
*Acta Cryst. C* 46, 220 (1990).
22. "Structures and conductivities of the synthetic metal salts of ethylenedithiotetrathiafulvalene (EDTTTF) and ethylenedithiodiselenadithiafulvalene (EDTSDTF): 211-(EDTTTF)<sub>2</sub>IBr<sub>2</sub>, 211-(EDTSDTF)<sub>2</sub>IBr<sub>2</sub> and 212-(EDTTTF)<sub>2</sub>AuBr<sub>2</sub>",  
A. Terzis, A. Hountas, G.C. Papavassiliou, B. Hilti and J. Pfeiffer,  
*Acta Cryst. C* 46, 224 (1990).
23. "Structures of the new superconductor (Methylenedithiotetrathiafulvalene)<sub>2</sub>AuI<sub>2</sub> (T<sub>c</sub>=4.5 K) and the organic metal (Ethylenedithiotetrathiafulvalene)<sub>2</sub>AuI<sub>2</sub>",  
A. Hountas, A. Terzis, G.C. Papavassiliou, B. Hilti, M. Burkle, C.W. Meyer and J. Zambounis,  
*Acta Cryst. C* 46, 228 (1990).
24. "New tetraheterafulvalenes, metal 1,2-diheterolenes and some of their products",  
G.C. Papavassiliou,  
*Pure Appl. Chem.* 62, 483 (1990).
25. "Transition-metal 1,2-diheterolenes and polyheterotetraheterafulvalenes - precursors of conducting solids",  
G.C. Papavassiliou, V.C. Kakoussis, D.J. Lagouvardos and G.A. Mousdis,  
*Mol. Cryst. Liq. Cryst.* 181, 171 (1990).
26. "Ethylenedioxytetrathiafulvalenes - new unsymmetrical  $\pi$ -Donors",  
G.C. Papavassiliou, D.J. Lagouvardos, V.C. Kakoussis and G.A. Mousdis,  
*Z. Naturforsch. B* 45, 1216 (1990).
27. "Structure of borate glasses. 2. Alkali induced network modifications in terms of structure and properties",  
G.D. Chryssikos, E.I. Kamitsos and M.A. Karakassides,  
*Phys. Chem. Glasses* 31, 109 (1990).
28. "Laser-induced crystallization of glassy cesium metaborate studied by Raman-spectroscopy",  
E.I. Kamitsos, M.A. Karakassides, A.P. Patsis and G.D. Chryssikos,  
*J. Non-Cryst. Solids* 116, 115 (1990).
29. "New insights into the structure of alkali borate glasses",  
E.I. Kamitsos, G.D. Chryssikos and M.A. Karakassides,  
*J. Non-Cryst. Solids* 123, 283 (1990).
30. "The devitrification of lithium metaborate - polymorphism and glass-formation",  
G.D. Chryssikos, E.I. Kamitsos, A.P. Patsis, M.S. Bitsis and M.A. Karakassides,

J. Non-Cryst. Solids 126, 42 (1990).

31. "Infrared reflectance spectra of lithium borate glasses",  
E.I. Kamitsos, A.P. Patsis, M.A. Karakassides and G.D. Chryssikos,  
J. Non-Cryst. Solids 126, 52 (1990).

32. "On the structure of alkali borate glasses approaching the orthoborate composition",  
G.D. Chryssikos, E.I. Kamitsos, A.P. Patsis and M.A. Karakassides,  
Mater. Sci. Eng. B 7, 1 (1990).

33. "Observation and theoretical-analysis of the odd  $J=3$  autoionizing spectrum of Sr up to the 4d threshold",  
M. Kompitsas, S. Cohen, C.A. Nicolaides, O. Robaux, M. Aymar and P. Camus,  
J. Phys. B 23, 2247 (1990).

34. "Phase conjugation by degenerate 4-wave-mixing in Barium vapor",  
T. Mikropoulos, S. Cohen, M. Kompitsas, S. Goutis and C. Baharis,  
Opt. Lett. 15, 1270 (1990).

35. "Phase conjugation in potassium vapor using subnanosecond laser pulses",  
T. Mikropoulos and Z. Pan,  
Appl. Phys. B 50, 19 (1990).

36. "Gain and saturation measurements in a discharge excited  $F_2$  laser using an oscillator amplifier configuration",  
C. Skordoulis, S. Spyrou and A.C. Cefalas,  
Appl. Phys. B 51, 141 (1990).

37. "Amplification characteristics of a discharge excited  $F_2$  laser",  
C. Skordoulis, E. Sarantopoulou, S. Spyrou and A.C. Cefalas,  
J. Modern Opt. 37, 501 (1990).

38. "Subnanosecond near-infrared long cavity dye-laser",  
T. Mikropoulos and Z. Pan,  
J. Modern Opt. 37, 847 (1990).

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

1. "Solitons and thermodynamics of an integrable magnetic system",  
N. Theodorakopoulos and N.C. Bacalis,  
Proc. 6<sup>th</sup> Greek Conference in Solid State Physics, Herakleion 26-29 September 1990, pp.182-185 (in Greek).

2. "Conducting and superconducting crystals based on some unsymmetrical donor molecules",

G.C. Papavassiliou, D.J. Lagouvardos, V. Kakoussis, G. Mousdis, A. Terzis, A. Hountas, B. Hilti, C. Mayer, J. Zambounis, J. Pfeiffer and P. Delhaes,  
Proc. Int. Conf. Org. Superconductors, South Lake Tahoe, California, 20-24 May 1990, Eds. V. Z. Kresin and W.A. Little, Plenum, p.367 (1990).

3. “Optical and related properties of metal-halide chain compounds: bulk and small particles”,  
G.C. Papavassiliou,  
Proc. NATO-ASI Workshop on Mixed Valences Systems, Crete, Greece, 10-16 June 1990, Ed. K. Prassides, Kluwer, C343, 395 (1991).

### **3. Dissertations**

#### **a. PhD theses**

1. “Study of singly, doubly and triply excited resonance states in atomic and molecular systems using semiclassical and quantum methods”,  
M. Chrysos, supervisors Y. Komninos and C. A. Nicolaides, University of Athens (1990).

2. “Synthesis and study of some one-dimensional and two-dimensional organic conducting materials”,  
G.A. Mousdis, supervisor G.C. Papavassiliou, University of Athens (1990).

3. “Raman and infrared spectroscopic studies of alkali borate glasses”,  
M.A. Karakassides, supervisors E.I. Kamitsos and A.T. Tsatsas, University of Athens, Chemistry Department (1990).

4. “Laser spectroscopy of the odd parity auto-ionizing Rydberg states and double ionization of Sr”,  
S. Cohen, supervisors M. Kompitsas and P. Tsekeris, University of Ioannina, Dept. of Physics (1990).