

**1. Papers in Refereed Journals**

1. "On the construction and use of ab initio quantum defect functions for H<sub>2</sub>O",  
G. Theodorakopoulos, I.D. Petsalakis and M.S. Child,  
J. Phys. B 29, 4543 (1996).
2. "Further exploration of C<sub>4</sub>H<sub>4</sub>",  
A. Metropoulos and Y. N. Chiu,  
J. Mol. Struct. (Theochem) 365, 119 (1996).
3. "The state-specific approach to the solution of problems of electronic structure and dynamics involving excited states",  
C.A. Nicolaides,  
Int. J. Quantum Chem. 60, 119 (1996).
4. "Prediction of nonclassical hydrogen complexes of nontransition metals",  
C.A. Nicolaides and E.D. Simandiras,  
Comments Inorg. Chem. 18, 65 (1996).
5. "Time-dependent multiphoton ionization from the He 1s2s <sup>1</sup>S metastable state",  
C.A. Nicolaides, S. Dionissopoulou and Th. Mercouris,  
J. Phys. B 29, 231 (1996).
6. "Effect of observables of the singularity in the multiphoton free-free dipole matrix elements",  
Th. Mercouris, Y. Komninos, S. Dionissopoulou and C.A. Nicolaides,  
J. Phys. B 29, L13 (1996).
7. "The lifetimes of the fine structure levels of the Be<sup>-</sup> 1s<sup>2</sup>2s2p<sup>2</sup> <sup>4</sup>P metastable state",  
G. Aspromallis, Ch. Sinanis and C.A. Nicolaides,  
J. Phys. B 29, L1 (1996).
8. "On the violation of the exponential decay law in atomic physics: Ab initio calculation of the time-dependence of the He<sup>-</sup> 1s2p<sup>2</sup> <sup>4</sup>P nonstationary state",  
C.A. Nicolaides and Th. Mercouris,  
J. Phys. B 29, 1151 (1996).
9. "Ionisation rates and harmonic generation for H interacting with laser pulses of λ=1064 nm and peak intensities in the range of 2x10<sup>13</sup> – 2 x 10<sup>14</sup> W/cm<sup>2</sup>",  
S. Dionissopoulou, Th. Mercouris and C. A. Nicolaides,  
J. Phys. B 29, 4787 (1996).
10. "The <sup>2</sup>F<sup>o</sup> Rydberg series and low-lying autoionizing states of Al",  
Y. Komninos, G. Aspromallis and C.A. Nicolaides,  
J.Phys. B 29, L193 (1996).
11. "Variational predictability of diabatic, adiabatic, and impossible diatomic states",

- N.C. Bacalis,  
J. Phys. B 29, 1587 (1996).
12. “The neutral parent states of the ionic He<sub>2</sub>”,  
N.C. Bacalis,  
Phys. Rev. A 53, 3057 (1996).
13. “Thermodynamics of the Ishimori-Haldane-Faddeev ferromagnetic chain: The field-dependent case”,  
N. Theodorakopoulos, N.C. Bacalis and Z. Xiong,  
Phys. Rev. B 54, 4033 (1996).
14. “Biomonitoring human exposure to environmental carcinogenic chemicals”,  
P.B. Farmer, O. Sepai, R. Lawrence, H. Autrup, P. Nielsen, A.B. Vestergård, R. Waters, C. Leuratti, N.J. Jones, J. Stone, R.A. Bann, J.H. van Delft, M.S. Steenwinkel, S.A. Kyrtopoulos, V.I. Souliotis, N. Theodorakopoulos, N.C. Bacalis, A.T. Natarajan, A.D. Tates, A. Haugen, A. Andreassen, S. Ovreb, D.E. Shuker, K.S. Amaning and P. Castelain,  
Mutagenesis 11, 363 (1996).
15. “On the rovibrational spectra of the excimer HeH and its isotopes. A multistate close-coupling treatment”,  
A. Vegiri,  
J. Phys. B 29, 3611 (1996).
16. “2,6-Dithienyl substituted pyrylium salts as precursors of functionalized Langmuir films”,  
M. Aiai, V. Gionis, B. Agricole, C. Mingotaud, P. Delhaes, Y.J. Li, L. Shao, R.M. Leblanc,  
Thin Solid Films 284-285, 138 (1996).
17. “Electronic properties of three- and low-dimensional semiconducting materials with Pb-halide and Sn-halide units”,  
I.B. Koutselas, L. Ducasse and G.C. Papavassiliou,  
J. Phys.: Condens. Matter 8, 1217 (1996).
18. “Structural & physical properties of  $\tau$ -(EDO-S, S-DMEDT-TTF)<sub>2</sub>(AuBr<sub>2</sub>)<sub>1</sub>(AuBr<sub>2</sub>)<sub>y</sub>”,  
G.C. Papavassiliou, D.J. Lagouvardos, J.S. Zambounis, A. Terzis, I.P. Raptopoulou, K. Marato, N. Shirakawa, L. Ducasse and P. Delhaes,  
Mol. Cryst. Liq. Cryst. 285, 83 (1996).
19. “Synthetic three- and lower dimensional semiconductors based on inorganic units”,  
G.C. Papavassiliou,  
Mol. Cryst. Liq. Cryst. 286, 231 (1996).
20. “Spectral and electrical properties of the organic metal  $\tau$ -(EDO-S,S-DMEDT-TTF)<sub>2</sub>(AuBr<sub>2</sub>)<sub>1</sub>(AuBr<sub>2</sub>)<sub>0.75</sub>”,  
I. Olojenczak, W. Pukacki and G.C. Papavassiliou,  
Adv. Mater. Optics and Electronics 6, 288 (1996).
21. “Space charge and induced dipole relaxation in solid electrolytes”,  
L. Liu,

Solid State Ionics 85, 25 (1996).

22. “Towards a structural interpretation of fragility and decoupling trends in borate systems”,

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J. Non-Cryst. Solids 196, 244 (1996).

23. “Metal ion sites in oxide glasses. Relation to glass basicity and ion transport”,

E.I. Kamitsos, G.D. Chryssikos, A.P. Patsis and J.A. Duffy,  
J. Non-Cryst. Solids 196, 249 (1996).

24. “Effect of  $\text{Li}_2\text{SO}_4$  on the structure of  $\text{Li}_2\text{O}-\text{B}_2\text{O}_3$  glasses”,

G.D. Chryssikos, E.I. Kamitsos and A.P. Patsis,  
J. Non-Cryst. Solids 202, 222 (1996).

25. “Correlation between far infrared absorption and electrical conductivity in rubidium germanate glasses”,

E.I. Kamitsos, Y.D. Yiannopoulos, H. Jain and W.C. Huang,  
J. Non-Cryst. Solids 203, 312 (1996).

26. “A comprehensive view of the local structure around Rb in rubidium germanate glasses”,

H. Jain, E.I. Kamitsos, Y.D. Yiannopoulos, G.D. Chryssikos, W.C. Huang, R. Kuchler and O. Kanert,  
J. Non-Cryst. Solids 203, 320 (1996).

27. “Molecular orientation in polyester films using polarized laser raman and FT-IR spectroscopies and X-ray diffraction”,

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Macromolecules 29, 2244 (1996).

28. “Correlation between dielectric constant and chemical structure of sodium silicate glasses”,

C.H. Hsieh, H. Jain and E.I. Kamitsos,  
J. Appl. Phys. 80, 1704 (1996).

29. “Reply to “Comment on infrared reflectance spectra of heat-treated sol-gel derived silica””,

E.I. Kamitsos,  
Phys. Rev. B 53, 14659 (1996).

30. “Far infrared spectra of alkali germanate glasses and correlation with electrical conductivity”,

E.I. Kamitsos, Y.D. Yiannopoulos, H. Jain and W.C. Huang,  
Phys. Rev. B 54, 9775 (1996).

31. “Raman and infrared structural investigation of  $x\text{Rb}_2\text{O}-(1-x)\text{GeO}_2$  glasses”,

E.I. Kamitsos, Y.D. Yiannopoulos, M.A. Karakassides, G.D. Chryssikos and H. Jain,  
J. Phys. Chem. 100, 11755 (1996).

32. “Observations and theoretical analysis of highly excited singlet and triplet states of cadmium”,  
E. Angelova-Vidolova, C. Baharis, G. Roupakas and M. Kompitsas,  
J. Phys. B 29, 2453 (1996).

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

1. “Multielectron, multichannel problems and their solution to all-orders via the diagonalization of state-specific complex eigenvalue Schrödinger equation”,  
C.A. Nicolaides, Th. Mercouris and S.I. Themelis,  
in *New Methods in Quantum Theory*, C. Tsipis, V. Popov, D. Herschback and J. Avery (Eds.), NATO ASI, Academic publishers, 1996, vol. 8, pp.135-147.
2. “Electrical conduction in relation to local and intermediate range structure of rubidium germanate glasses”,  
H. Jain, E.I. Kamitsos, W.C. Huang and Y.D. Yiannopoulos,  
in *Electrically Based Microstructural Characterization*, R.A. Gerhardt, S.R. Taylor, E.J. Garboczi (Eds.), MRS, Pittsburgh, Pennsylvania, 1996, vol. 411, pp. 143-150.
3. “Raman and FT-IR studies of the effects of draw ratio and side chain length on the molecular orientation of polyester films”  
D. Vlassopoulos, G. Petekidis, G. Vogiatzis, E.I. Kamitsos, Y.D. Yiannopoulos and A. Bruggeman, Proc. ACS Division of Polymer Materials: Science and Engineering, ACS, Orlando, FL, 1996, vol. 75, pp. 106-107.
4. “ $4f^25d \rightarrow 4f^3$  interconfigurational transitions of the  $Nd^{3+}$  ions in  $K_2YF_5$  crystal host”,  
Z. Kollia, E. Sarantopoulou and A.C. Cefalas,  
9<sup>th</sup> International School on Quantum Electronics: Lasers-Physics and Applications”, 16-20 Sept. 1996, Varna-Bulgaria, Proceedings edited by P. A. Atanasov, SPIE-Int. Soc. Opt. Eng. vol. 3052, 235-240, (1996).
5. “On the  $4f^75d \rightarrow 4f^8$  transitions of the  $Tb^{3+}$  ion in  $LiLuF_4$  single crystal hosts”,  
A.C. Cefalas, Z. Kollia, E. Sarantopoulou, A.K. Naumov, M.A. Dubinskii, R. Yu. Abdulsabirov, S.L. Korableva, V.V. Semashko,  
Proc. Conference on Quantum Electronics and Laser Science (QELS)-Technical Digest Series, vol. 9 (1996), pp.195-196.

## **3. Dissertations**

### **a. PhD theses**

1. “Study of time-dependent multiphoton processes during the interaction of an atom with high intensity laser pulses of short duration”,  
St. Dionisopoulou, supervisors Th. Mercouris, Y. Komninos and C.A. Nicolaides, University of Athens (1996).

2. “Vacuum ultraviolet spectroscopy of I. Dielectric crystals doped with trivalent RE ions, and II. Small mercury clusters”,  
E. Sarantopoulou, supervisors A.C. Cefalas and G. Papadopoulos, University of Athens, Physics Department (1996).

**c. Honors theses**

1. “Structural and diffusion studies of oriented low-density polyethylene films”,  
I. Christofides, supervisors E.I. Kamitsos and C.D. Papaspyrides, National Technical University of Athens, School of Chemical Engineering (1996).