

# CURRICULUM VITAE

**Bill A. Kotsos**  
**Professor**

## PERSONAL DATA

Date of birth: 1956  
Place of birth: Atalanti, Greece  
Marrital status: Married, two children

## CONTACT INFORMATION

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University of Thessaly  
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## EDUCATION

**1998** : Department of Physics, Aristotle University of Thessaloniki.  
PhD degree with Thesis: “Quantum mechanical applications of atomic clusters”.  
**1983** : Department of Physics, National and Kapodistrian University of Athens.  
Master (M.Sc.) in Electronic and Radioelectricity .  
**1980** : Department of Physics, National and Kapodistrian University of Athens.  
BSc. in Physics

## MILITARY SERVICE (mandatory)

August 1984-May 1986  
Researcher at the Research Center of National Defense, Greek Army, Electronics  
Department.

## ACADEMIC EMPLOYMENT

1987-1994, Technological Educational Institute (T.E.I.) of Lamia, Electronics  
Department, Assistant Professor (non-tenured)  
1994-2002, Technological Educational Institute (T.E.I.) of Lamia, Electronics  
Department, Lecturer (permanent)  
2002 - 2009, Technological Educational Institute (T.E.I.) of Lamia, Electronics  
Department, Assistant Professor.  
2009 - 2014, Technological Educational Institute (T.E.I.) of Lamia and Technological  
Institute of Central Greece, Electronics Department, Associate Professor.  
2014 - 2019, Technological Educational Institute (T.E.I.) of Lamia and Technological  
Institute of Central Greece, Electronics Department, Professor.  
2019 - 2020, University of Thessaly, Department of Physics, Professor.

## RESEARCH INTERESTS

Quantum mechanical calculation on Solid state materials  
Atomic clusters: Calculations, Measurements and properties.  
Applications of atomic clusters on electronic devices and circuits (micro and nano scale).

## PUBLICATIONS

### A. JOURNAL PUBLICATIONS

1. "Determination of the harmonic oscillator energy level spacing for atomic clusters" M. E. Grypeos and B. A. Kotsos, J. Phys. B. At. Mol. and Opt. Phys. 29 (1996) L473-479.
2. "Particle number dependence of size and energy quantities in sodium clusters" B. A. Kotsos and M. E. Grypeos, J. Physica B : Condensed Matter 229 (1997)173-193.
3. "On a single particle potential for atomic clusters" B. A. Kotsos, T. E. Liolios, M. E. Grypeos, C.G.Koutroulos, S.E.Massen, J. Physica B : Condensed Matter 269 (1999) 424-431.
4. "Variation of the  $\hbar\omega$  with the particle number and the appearance of "kinks" for atomic clusters", B. A. Kotsos and M. E. Grypeos, Intl. J. Quant. Chem., Vol. 86, No 5, 2002, pp 426-432.
5. "A new Shape Transformation Approach to Handwritten Character Recognition", N. Liolios, K. Anastasiou and B. A. Kotsos, Advances in Modeling & Analysis (A.M.S.E.) Vol 4, No 56, 2003, pp55-64.
6. "Rotationally invariant Hamiltonians for Nuclear Spectra based on Quantum Algebras", D. Bonatsos, B. A. Kotsos, P.P.Raychev and P.A.Terziev, Phys. Rev. C 66, (2002), pp. 054306-054327.
7. "Molecular Spectra from rotationally invariant Hamiltonians based on the Quantum Algebra  $su_q(2)$  and Irreducible Tensor Operators under  $su_q(2)$ ", D. Bonatsos, B. A. Kotsos, P.P.Raychev and P.A.Terziev, Intl. J. Quant. Chem. Vol.95, No 1, 2003, pp1-20.
8. "Quantum Algebraic Symmetries in Atomic Nuclei and Metal Clusters", D. Bonatsos, B. A. Kotsos, P.P.Raychev and P.A.Terziev, Inst. Phys. Conf. Ser. (IOP), Vol. 173, 2003, 387-390.
9. "Generalizations of the Ostrowski's inequality" K. S. Anastasiou, A. I. Kechriniotis and B. A. Kotsos. Journal of Interdisciplinary Mathematics (JIM), 2006, pp 49-60.

10. "New forms of the Taylor's remainder", A. I. Kechriniotis, K. S. Anastasiou and B. A. Kotsos, Journal of Interdisciplinary Mathematics (JIM), 2006, pp. 37-48.
11. "Temperature dependence on the emission Characteristics of a AuGe Liquid Metal Alloy Ion Source", T.Ganetsos, L. Bischoff, W. Pilz, Ch. Akmadaliev, N. Laskaris and B.Kotsos, American Institute of Physics, pp.423-424, 2007.
12. "Mass spectrum analysis of a L.M.A.I.Ss using a novel software by MATLAB", T.Ganetsos, N. Laskaris, Ch. Lontos and B.Kotsos. IEEE Xplore 2.0, pp 352-353
13. "A chaotic system controller", N. Assimakis and B. Kotsos. Intl. Journal of Math. Analysis, Vol.3, 2009, no.29, 1405-1411.
14. "Parametric Two – Point Integral Inequalities For n-Time Differentiable Functions with applications", A.I.Kechriniotis, B.A.Kotsos, C.A.Tsonos, Applied Mathematics E-Notes, 9 (2009), 216-224.
15. "Electrical Properties and Raman study of In-doped effects in CdTe". Procedia Engineering, Elsevier, 25(2011) 354-357.

#### **B. PUBLICATIONS IN PROCEEDINGS (selection)**

1. «Parametrization of the effective potential in sodium clusters». (B.A.Kotsos and M.E.Grypeos). Proc. 2<sup>nd</sup> International Conference on Atomic and Nuclear Clusters (Santorini, Greece) 1993. Ed. by G.S.Anagnostatos and W. von Oertzen (Berlin : Springer) p.242
2. «Parametrization of the effective potential in sodium clusters» (B.A.Kotsos and M.E.Grypeos. Proc. 4<sup>th</sup> Hellenic Symposium on Nuclear Physics, Ioannina,Greece, 1993, p.75
3. «Particle number dependence of size and energy quantities in sodium clusters» B.A.Kotsos and M.E.Grypeos. «Advances in Nuclear Physics». Proc. Of the 5<sup>th</sup> Hellenic Symposium of Nuclear Physics, Patras, Greece. p.57, ed. by C.Syros and C. Ronchi , European Commission (EUR 16302 EN) (1995).
4. «Observation of "kinks" in the variation of the  $h\omega$  with the particle number for atomic clusters"» B.A. Kotsos, M.E. Grypeos, Proc. Of Europ. Conf. On Advances in Nuclear Physics and related Areas, Thessaloniki, Greece, 8-12-July 1997 , Ed: D.M. Brink - M.E. Grypeos - S.E. Massen p. 935.
5. «The study of Atomic Clusters by means of a single particle potential ». B.A. Kotsos , T.E. Liolios , M.E. Grypeos , C.G. Koutroulos. Proc. of Europ. Conf. On Advances in Nuclear Physics and related Areas, Thessaloniki, Greece, 8-12-July 1997, Ed: D.M. Brink - M.E. Grypeos - S.E. Massen p. 936.

6. "The variation of the  $h\omega$  with the particle number and the appearance of "kinks" for metal clusters" Proc. Of the Intl. Conf. On Condensed Matter Theories, 2000, Nova Publishers Inc. Vol.15, pp325-335.
7. "Quantum groups in Nuclear Spectra". D. Bonatsos, B.A.Kotsos, P.P.Raychev and P.A.Terziev. Proceedings of the XXI International Workshop on Nuclear Theory, Rila Mountains, Bulgaria, 10-15 June 2002. Ed. by V.Nikolaev, 2002 (Heron Sofia), pp306-322.
8. "Quantum groups in Nuclear Spectra and in Metal Clusters" D. Bonatsos, B.A.Kotsos, P.P.Raychev and P.A.Terziev. Proceedings of the 12<sup>th</sup> Hellenic Symposium on Nuclear Physics, NCRS "Demokritos". Athens, 10-11 May 2002.
9. "A Simplified Analytic Treatment of Shell-Effects in Metal Clusters" B.A.Kotsos and M.E.Grypeos. Proceedings of the 14<sup>th</sup> Hellenic Symposium on Nuclear Physics, NTUA, Athens, 21 -22 May 2004.
10. "A study of a tin liquid metal ion source", Th. Ganetsos, N. Laskaris, B. Kotsos, C. Anastasiou and G. Doulgeris, XXI Conference of Solid State Physics and Materials Science, pp.15-17, 28-31/8/2005, Nicosia, Cyprus.
11. "Liquid Metal Alloy Ion Sources : Mechanism and Applications", Th. Ganetsos, B. Kotsos, L. Bischoff and N. Laskaris, 11<sup>0</sup> Hellenic Conference EEP, 30/3 – 2/4/2006, Larisa.
12. "The energy spread of ions drawn from a BiGa liquid metal alloy ion source", Th. Ganetsos, B. Kotsos, L. Bischoff and W. Pilz, N. Laskaris, A. Kartrantou, Proceedings of the 3<sup>rd</sup> Workshop on Nanosciences & Nanotechnologies, 10-12/7/2006 Thessaloniki.
13. "Energy deficit measurements on a BiGa alloy liquid metal alloy ion source", Ganetsos T.H., Bischoff L., Pilz W., Akhmadaliev C., Kotsos B., Laskaris N., XXIII IUPAP International Conference on Statistical Physics, 9-13/7/2007, Genova, Italy.
14. «An in-depth investigation of chalcogenide glasses using FTIR, SEM and AF Microscopy». Th. Ganetsos, Yani Skarlatos , B. Kotsos and N. Laskaris, LPHYS09.
15. «A 90 nm Manchester Code Generator with CMOS Switches running at 2.4 GHz and 5GHz», Karagounis A., Polyzos A., Kotsos B., Assimakis N., 16<sup>th</sup>

Intl. Conference on Systems, Signals and Image Processing, 2009, IWSSIP 2009, 18-20 June 2009, Chalkida, Greece.

16. «Optical properties of chalcogenide glasses». B. Kotsos, Y. Scarlatos and Th. Ganetsos, 10<sup>th</sup> Intl. Workshop on Non Crystalline Solids (IWNCS 10), 21-23 April 2010, Barcelona, Spain.
17. «The impact of process faults on specific parameters of a 2.3 GHz CMOS LNA», A. Karagounis, A. Kanapitsas, B. Kotsos, C. Tsonos, A. Polyzos and E. Petropoulou, 27<sup>th</sup> Intl. Conf. on Microelectronics (MIEL 2010), 16-19 May 2010, Nis, Serbia.
18. «The impact of process faults on specific parameters of a 1.9 GHz CMOS mixer». A. Karagounis, B. Kotsos, N. Assimakis, E. Petropoulou and A. Polyzos, , Annual Symposium IEEE Computer Society (ISVLSI 2010), July 5-7, 2010, Lixouri - Kefalonia, Greece.
19. «Diffusion phenomena in non-crystalline obsidian samples and applications in the dating of ancient obsidian tools by sims and ftir», Th.Ganetsos, B.Kotsos, I. Liritzis, M. Novak and N. Laskaris, 9<sup>th</sup> International Workshop on Non-Crystalline Solids (IWNCS 2008), Porto, 27-30 April 2008 .
20. “Temperature Dependence on the Emission Characteristics of a AuGe Liquid Metal Alloy Ion Source”, Th. Ganetsos, L. Bischoff, W. Pilz, Ch. Akmadaliev, N. Laskaris and B. Kotsos, 6<sup>th</sup> International conference of the Balkan Physical Union 22-26 August 2006, Istanbul, Turkey.
21. “ Mass spectrum analysis of a L.M.A.I.S using a novel software by MATLAB ” Th. Ganetsos, N. Laskaris, Ch. Lontos and B. Kotsos, *IVNC 2005, July 10-14 2005, Oxford, UK* .
22. “Electrical Properties and Raman Study of In-doped effects in CdTe”.T. Ganetsos, E. Belas and B. Kotsos, Eurosensors XXV Intl. Conference, September 4-7, 2011, Athens, Greece.
23. «Micro-Raman investigation of CdZnTe and CdTeIn». Th Ganetsos, Ed. Belas, M. Perraki, B. Kotsos , N. Laskaris, 5<sup>th</sup> International Conference on Micro-Nanoelectronics, Nanotechnologies and MEMS (Micro&Nano2012). Kokkini Hani, Heraklion 7-10 October 2012.
24. “Raman investigation of (CdZn)Te, (CdTe)In and (CdTe)Cl bulk single crystals for Gamma-ray Detectors” Th Ganetsos, Ed. Belas, M. Perraki, B. Kotsos , N. Laskaris, 1<sup>st</sup> International Turkish Congress on Molecular Spectroscopy (TURCMOS 2013), Harbiye Cultural Centre & Museum, Instabul, Turkey, Sept. 15-20, 2013.

## **EDUCATIONAL ACTIVITIES**

### **A. Supervision of diploma theses**

- Supervisor of over 100 BSc theses at Technological Educational Institute of Lamia and Technological Educational Institute of Central Greece, Department of Electronic Engineering TE.
- Member of more than 150 Committees for BSc theses, at Department of Electronic Engineering, Technological Educational Institute of Sterea Hellas, Greece

### **B. Undergraduate courses**

Optical communications, Telecommunications systems, Introduction to the communication systems, Radar systems, VLSI design (theory and lab).

## **ADMINISTRATIVE ACTIVITIES**

1. Head of Informatics and Computer Technology Department of Technological Educational Institute (T.E.I.) of Lamia (09/2000-06/2002).
2. Head of Electronics Department of Technological Educational Institute (T.E.I.) of Lamia (10/2002-08/2003).
3. Vice-Chairman of the Research and Education Committee of Technological Educational Institute (T.E.I.) of Lamia (1 year),
4. Head of the Telecommunications Sector of the Dept. of Electronics Engineering of Technological Educational Institute (T.E.I.) of Lamia for several years.

## **SKILLS**

### **Language**

- a. Greek: mother tongue.
- b. English: (read/spoken/written).

### **Computing**

- a. Operating environments: Windows XX
- b. Numerical/symbolic computation software (Mathematica, MatLab)
- c. Word-/text-processing software (Tex, latex), MS Office