

# ANTONIOS N. ANDRIOTIS

## Publications in refereed journals and proceedings of International Conferences:

### A. Until 2004

#### Papers

1. "Magnetic phases of the Hubbard model"  
A.N.Andriotis, P.N.Poulopoulos and E.N.Economou,  
Solid State Communicatiuons **39** , 1175 (1981).
2. "Off-diagonal disorder and the metal-insulator transition in impurity bands in semiconductors"  
A.C.Fertis,A.N.Andrio- tis and E.N.Economou,  
Phys. Rev.B**24**, 5806 (1981).
3. "Theory of Semi-Infinite Metals"  
A.N.Andriotis,  
Surface Science, **116**, 501 (1982).
4. "Variations of the surface dipole moment due to anisotropy and chemisorption"  
A.N.Andriotis and C.A.Nicolaides,  
Surface Science, **116**, 513 (1982).
5. "Inner electron binding energies of chemisorbed atoms"  
C.A.Nicolaides and A.N.Andriotis,  
Solid State Commun., **44**, 99 (1982).
6. "Photoelectron Spectroscopy of Chemisorbed Atoms"  
C.A.Nicolaides and A.N.Andriotis,  
Int.Journal of Q.Chem., **23**, 561 (1983).
7. "Incorporation of lattice effects in surface energy calculations"  
A.N.Andriotis,  
Surface Science, **138**, 269 (1984).
8. "Angular dependence of the X-ray Raman scattering intensity from polycrystals"  
A.N.Andriotis and C.A.Londos,  
Solid State Commun., **49**, 213 (1984).
9. "State-specific,many-electron theory of core levels in metals:the 1s binding energy of Be metal"  
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10. "Interaction of Argon with the Al(100) surface"  
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11. "Exchange energy contribution to the interaction of helium with a metal surface"  
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12. "Work Function changes due to surface anisotropy and imperfections"  
A.N.Andriotis,  
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13. "Analytic approach to the equation of Esbjerg and Norskov"  
A.N.Andriotis,  
Phys. Rev. B**33**, 1482 (1986).
14. "Theory of short-range order in binary metal alloys using the coherent potential approximation"  
A.N.Andriotis and J.E.Lowther,  
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15. "Pseudopotential approach to the embedding of Helium atoms in metallic jellium"  
A.N.Andriotis,  
Solid State Communications, **59**, 761 (1986).
16. "Analytic CPA approach to non-stoichiometric PdH : I"  
A.N.Andriotis,  
J. Phys. F: Metal Physics **17**, 75 (1987).
17. "Dressed-Atom approach to embedding and physisorption in metals"  
A.N.Andriotis and C.A.Nicolaidis,  
Phys. Rev. B**35**, 2583 (1987).
18. "Directionality of the metallic bonding in Titanium Carbide"  
J.E.Lowther and A.N.Andriotis,  
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19. "Verification of the Esbjerg-Norskov relation from small-cluster calculations"  
A.N.Andriotis,  
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20. "Generalized coherent potentials and the cluster Bethe lattice"  
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21. "Non-local Hartree-Fock Approach to Embedding"  
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22. "Alkali-metal-atom chemisorption onto a metal surface"  
A.N.Andriotis,  
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23. "Impurity atoms/ions embedded in metals"  
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24. "Single Impurity Calculations using the Quadratic Korringa-Kohn-Rostoker method"  
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25. "Local Spin clustering and Phase Separation in the Hubbard Model"  
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26. "The Bimetallic Interface : A periodic planar jellium approach "  
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27. "The Complex Hamiltonian Approach "  
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28. "Phase Separation in the Hubbard Model"  
A.N.Andriotis,E.N.Economou,Qiming Li and C.M.Soukoulis,  
Phys. Rev **B47**, 9208 (1993).
29. "The applicability of scaling laws in Tight-Binding Molecular Dynamics "  
N.Lathiotakis and A.N.Andriotis,  
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30. "Tight-Binding Molecular Dynamics Study of Transition Metal Clusters "  
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31. "Structure and stability of Ni clusters : A Tight-Binding Molecular Dynamics study"  
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32. "The Scaling of the Tight-Binding Hamiltonian"  
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34. "Electronic Structure and Optical Properties of Si/Ge Superlattices"  
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35. "Tight Binding Molecular Dynamics Study of Ni Clusters"  
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37. " Magnetic Properties of Clusters of Transition Metal Atoms "  
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38. " Dependence of onset optical absorption on interface diffusion in Si(m)Ge(n) superlattices "  
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41. " Utilization of Locally Shifted Potentials in Approximate Electronic Structure Calculations "  
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45. " Self-consistent Tight-Binding Molecular Dynamics Method for cluster studies "
 

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46. " Tight-Binding Molecular Dynamics Study of Transition metal Carbide Clusters "
 

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47. " Tight Binding Molecular Dynamics Study of Heteronuclear systems : Application to Si(m)Ge(n) clusters "
 

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48. " Geometry and bonding in small (C<sub>60</sub>)<sub>n</sub>Ni<sub>m</sub> clusters"
 

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49. "Curvature dependence of the metal catalyst atom interaction with carbon nanotubes walls"
 

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50. "Anomalous temperature dependence of the single wall carbon nanotubes resistivity"
 

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51. "Contrasting bonding behaviors of 3-d transition metal atoms with graphite and C60"
 

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52. "Various bonding configurations of transition-metal atoms on carbon nanotubes : Their effect on contact resistance"
 

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54. "Rectification properties of carbon nanotube Y-junctions"
 

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55. "Ballistic switching and rectification in single wall carbon nanotube Y-junctions"
 

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56. "Green's function embedding approach to quantum conductivity of single wall carbon nanotubes"  
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57. "Extreme hydrogen sensitivity of the transport properties of single wall carbon nanotubes"  
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58. "Structural properties of metal-benzene, M(n)-Benzene(m), M= Ni, V complexes : An ab initio study"  
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60. "Structure and stability of Ni-encapsulated Si nanotube"  
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61. "Transport properties of Single Wall Carbon Nanotube Y-Junctions"  
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63. "Stabilization of Si-based cage clusters and nanotubes by encapsulation of transition metal atoms"  
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64. "Magnetic properties of C60 polymers"  
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65. "Nonlinear Resistance Dependence on Length in Single Wall Carbon Nanotubes"  
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66. "Temperature evolution of structural and magnetic properties of transition metal clusters"  
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72. "Formation pathways of single-wall carbon nanotubes multiterminal junctions"  
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73. "Structure and stability of SiC nanotubes"  
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74. "Degradation of inter-atomic bonds during structural phase change in intermediate Ni-clusters"  
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75. "Magnetic enhancement and magnetic reduction in binary clusters of transition metal atoms"  
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76. "Orbital magnetism : Pros and cons for enhancing the cluster magnetism"  
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### **Proceedings Chapters in Books**

- (i) "Cluster Bethe lattice approach to chemically disordered alloys with short range order"  
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in "Alloy Phase Stability" Edited by G.M.Stocks and A.Gonis,NATO-ASI Series E:Vol.163 Kluwer Academic Publishers, p.357 (1989).
- (ii) "The Hubbard Model for  $n = 1$  : Preliminary results"  
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- (iii) " The charge on a single impurity in a metal "  
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- (iv) " Study of magnetic clusters using a tight-binding molecular dynamics approach "  
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- (v) "Transition metal atoms on nanocarbon surfaces"  
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## **B. 2005-2012**

### **Papers**

78. "Are s-p- and d-ferromagnetism of the same origin ? "  
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79. "Role of Co in enhancing the magnetism of small Fe clusters"  
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80. "Transport properties of carbon nanotubes with odd-numbered carbon rings"  
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81. "Defect-originated magnetism in carbon-based and non-traditional inorganic compounds : A new class of magnetic materials"  
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82. "Carbon-nanotube tips with edge made of a transition metal"  
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83. "Structure and stability of small diameter silicon nanowires"  
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84. "Structural stability, electronic properties, and quantum conductivity of small-diameter silicon nanowires"  
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85. "Silicon carbide nanotube tips : Promising materials for atomic force microscopy and/or scanning tunneling microscopy",  
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90. "Enhancement of the ionization potential of K and Rb upon chemisorption on a C60 molecule",  
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91. "Structural and conducting properties of metal carbon-nanotube contacts : Extended molecule approximation",  
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92. "Strong dependence of transport properties of metal-semiconductor-metal graphene ribbons on their geometrical features",  
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93. "Oscillatory Band Gap behavior in Small Diameter Si-Clathrate Nanowires",  
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95. "Realistic nanotube-metal contact configuration for molecular electronics applications",  
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96. "Surface conductivity of hydrogenated diamond films",  
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97. "Codoping : A possible pathway for inducing ferromagnetism in ZnO",  
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98. "Electronic transport in metal-soldered carbon nanotube multiterminal junctions",  
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99. "Tailoring the induced magnetism in carbon-based and non-traditional inorganic nanomaterials",  
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100. "Defect-induced optical absorption in the visible range in ZnO nanowires",  
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101. "Structural, electronic, and magnetic properties of nanometer-sized iron-oxide atomic clusters: Comparison between GGA and GGA+U approaches",  
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103. "Identification of Descriptors for the CO Interaction with Metal Nanoparticles,  
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106. "Ferromagnetic interactions in hosted bipartite materials - Generalized-double-exchange and generalized-superexchange interactions",  
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108. "Magnetic coupling in dilute magnetic semiconductors: A new perspective",  
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112. "Magnetic anisotropy and engineering of magnetic behavior of the edges in Co embedded graphene nanoribbons,

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### **Proceedings and Chapters in Books**

- (i) "The magnetism of the polymerized C60 materials"  
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