

RESUME

NAME: HADI SAVALONI, **BSc, MSc, PhD, CPhys, MInstP**

ACADEMIC RECORD:

- **Ph.D.** Nuclear Structure Physics, 1985, University of Edinburgh, Scotland, UK.
- **M.Sc.** Nuclear Instrumentation, 1979, University of Edinburgh, Scotland, UK.
- **B.Sc.** Honors Physics, 1976, Ferdowsi University, Mashhad, Iran.

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PUBLICATIONS:

1. *Robert B. Galloway and Hadi Savaloni* "The Dependence on Scintillator Size of Response of NE213 to Electrons and Protons";
Nuclear Instruments and Methods; 199(1982)549-555.
2. *R B Galloway and H Savaloni* "The Analysing Powers of Medium-Mass Nuclei for 3MeV Neutrons";
Journal of Physics. G:Nuclear Physics; 13(1987)527-534.
3. *Alan R Jones and Hadi Savaloni* "A Light Scattering Instrument to Discriminate and Size Fibres; I- A Theoretical Description Using The RGD Approximation.";
Particle & Particle Systems Characterization; 6(1989)110-118.
4. *Alan R Jones and Hadi Savaloni* "A Light Scattering Instrument to Discriminate and Size Fibres. II- Experimental System.";
Particle & Particle Systems Characterization; 6(1989)144-150.
5. *S A Al-Chalabi, A R Jones, H Savaloni and R wood* "A Light Scattering Method to Discriminate and Size Small Diameter Fibres.";
Measurement Science and Technology; 1(1990)29-35.
6. *Hadi Savaloni, Michael A Player and Geoffrey Marr* "Nucleation and Growth of Erbium Clusters on Amorphous Carbon Substrates. I- Cluster Size and Spatial Distribution.";
Nanotechnology; 1(1990)145-151.
7. *Hadi Savaloni, Michael A Player and Geoffrey Marr* "Nucleation and Growth of Erbium Clusters on Amorphous Carbon Substrates. II- Rate equation approaches to nucleation kinetics.";
Nanotechnology; 1(1990)152-155.
8. *M A Player, H Savaloni, E Gu and Geoffery Marr* "Growth and Structure of Erbium Films as a Function of Deposition Conditions and EXAFS Studies of Early Growth Phases in Erbium Films";
Synchrotron Radiation, Daresbury Annual Report 1990/1991, pp.83.

9. *M A Player, H Savaloni, E Gu, N Oncan and Geoffery Marr* "Diffraction and XAFS Studies of UHV Evaporated Erbium Thin Films";
Synchrotron Radiation, Daresbury Annual Report 1991/1992, pp.130.
10. *E D Gu, H Savaloni, M A Player and G V Marr* "Characterization of Evaporated Erbium Films at Various Stages of Growth";
Journal of Physics and Chemistry of Solids; 53(1992)127-136.
11. *Hadi Savaloni, Michael A Player, Erdan Gu and Geoffery Marr* "Influence of substrate temperature, deposition rate, surface texture and material on the structure of UHV Deposited erbium films.";
Vacuum; 43(10)(1992)965-980.
12. *M A Player, G V Marr, E Gu, H Savaloni and N Oncan* "Preferred Orientation in Erbium Thin Films Observed Using Synchrotron Radiation";
Journal of Applied Crystallography; 25(1992)770-777.
13. *M A Player, G V Marr, E Gu, H Savaloni* "Extended X-ray Absorption Fine Structure Studies of Structure and Short-Range Order in Er/C Bilayer and Er/C Multilayer Films";
Review of Scientific Instruments; 63(1)(1992)1474-1477.
14. *H Savaloni, E Gu, M A Player and G V Marr* "Influence of Deposition Conditions and Film Thickness on The <001> Orientation of Erbium Films";
Review of Scientific Instruments; 63(1)(1992)1494-1496.
15. *H Savaloni, M A Player, E Gu and G V Marr* "Influence of Substrate Temperature and Deposition Rate on The Structure of Erbium Films Deposited on Glass and a-C Substrates";
Review of Scientific Instruments; 63(1)(1992)1497-1500.
16. *E Gu, M A Player and G V Marr and H Savaloni* "Fabrication and x-ray diffraction studies of Er/C multilayer films";
Journal of Magnetism and Magnetic Materials; 126(1993)48-51.
17. *Hadi Savaloni, Kok H Loong and Michael A Player* "Mobility of Tungsten Clusters and Microstructure of Tungsten Films on Amorphous Carbon Substrates";
Nanotechnology; 5(1)(1994)44-56.
18. *Hadi Savaloni and Michael A Player* "Influence of Deposition Conditions and Substrate on The Structure of UHV Deposited Erbium Films";
Vacuum; 46(2)(1995)167-197.
19. *Hadi Savaloni and Michael A Player* "Morphological Changes in UHV Deposited Er/a-C films: Nucleation, growth and grain structure";
Thin Solid Films; 256(1995)48-58.
20. *Hadi Savaloni, Said Ali Shahrestani and Michael A Player* "Influence of Deposition Rate and time on Nucleation of Erbium on a-C";
Nanotechnology; 8(1997)172-178.
21. *Hadi Savaloni and Abdolah Bayan* "Growth Simulation of Thin Films";

Journal of Science, University of Tehran; 2(1997)55-66.

22. *Hadi Savaloni* "Electron Diffraction study of Ultra-Thin (Discontinues) Erbium Films";
Journal of Science, University of Tehran;3(1998)139-150.

23. *Hadi Savaloni and Simin Bagheri Najmi* " Characteristics of Cu and Zn Films Deposited on Glass and Stainless Steel Substates at Different Substrate Temperatures and Angles of Incidence";
Vacuum; 66(2002)46-56.

24. *Hadi Savaloni and Mehran Gholipur Shahraki* " A 2D Growth Simulation Model for Thin Films";
(Journal of Sciences, Islamic Azad University: in print).

25. *Hadi Savaloni and Simin Bagheri najmi* "On the Origin of Oscillations with Particle Size in the Mie Theory of Light Scattering";
(Journal of Sciences, Islamic Azad University: in print).

26. *Hadi Savaloni and Mehran Gholipour Shahraki* "A Computer Model for the Growth of Thin Films in Structure Zone Model";
Nanotechnology; 18 (2004)311-319.

27. *Hadi Savaloni , Ali Taherizadeh and Akbar Zendehtnam* "Residual stress and Structural Characteristics in Ti and Cu Sputtered films on Glass Substrates at Different Substrate Temperatures and Film Thickness";
Physica B, 349 (2004)44-55.

28. Substrate Temperature Dependence on the Optical Properties of Cu and Ag Thin Films";
European Physical Journal-Applied Physics. (in print).

29. *Hadi Savaloni and Ahmad Reza Khakpour* "Optical Properties of Thin Cu Films as a function of Substrate Temperature";
Journal of Science, Islamic Republic of Iran, 14(1)(2003)71-79.

30. *Hadi Savaloni , Ali Taherizadeh and Akbar Zendehtnam* " Residual stress in Cu Sputtered films on Glass Substrates at Different Substrate Temperatures";
Journal of Science, Islamic Republic of Iran, 15(3)(2004)277-282.

31. *Hadi Savaloni and Mehran Gholipour Shahraki* "Thin Films' Growth Characteristics by Computer Simulation; I- structural changes as a function of deposition conditions";
(submitted to Journal of Applied Surface Science).

32. *Hadi Savaloni and Mehran Gholipour Shahraki and Behdad Jalali Jafari* "Thin Films' Growth Characteristics by Computer Simulation; II- residual stress developed in simulated thin films";
(submitted to Journal of Applied Surface Science).

33. *Hadi Savaloni and Ali Taherizadeh* “ Stress in Obliquely Deposited Thin Films: a Computer Simulation Study”;
(Journal of Science, Islamic Republic of Iran; in print).

34. *M. Ghoranneviss, A. Sari, M. Esmaeelpour, M. R. Hantehzadeh and H. Savaloni* “Nitrogen Implantation and Heat Treatment Effect on the Hardness Improvement of the Chromium Film Surface Deposited on Si(111) Substrate”;
Applied Surface Science 237(2004)326-331.

35. *Hadi Savaloni, Gholam Reza Moradi and Michael A. Player* “ Texture Development and Residual Stress in UHV evaporated silver films On Glass Substrates as a Function of Substrate Temperature”; **Vacuum 77 (2005) 245-257.**

Conference Papers

1. *Hadi Savaloni and Abdollah Bayan* “Simulation of Thin Film’s Structures”;
Physics Conference, Mashhad, Iran, July 1996.

2. *Mehran Gholipur Shahraki and Hadi Savaloni* “Computer Simulation of Alloy and YBaCuO Thin Films”;
Physics Conference, Shahrud, Iran, August 2000.

3. *Hadi Savaloni and Simin Bagheri Najmi* " Characteristics of Cu and Zn Films Deposited on Glass and Stainless Steel Substates at Different Substrate Temperatures and Angles of Incidence";
First Conference on Nanotechnology, the Next Industrial Revolution, 5th and 6th of March 2002, Tehran, Iran.

4. *Hadi Savaloni and Michael A Player* "Influence of Deposition Conditions and Substrate on The Structure of UHV Deposited Erbium Films";
First Conference on Nanotechnology, the Next Industrial Revolution, 5th and 6th of March 2002, Tehran, Iran.

5. *Hadi Savaloni and Michael A Player* "Morphological Changes in UHV Deposited Er/a-C films: Nucleation, growth and grain structure";
First Conference on Nanotechnology, the Next Industrial Revolution, 5th and 6th of March 2002, Tehran, Iran.

6. *Hadi Savaloni, Said Ali Shahrestani and Michael A Player* "Influence of Deposition Rate and time on Nucleation of Erbium on a-C";
First Conference on Nanotechnology, the Next Industrial Revolution, 5th and 6th of March 2002, Tehran, Iran.

7. *Hadi Savaloni and Ahmad Reza Khakpour* “Influence of Substrate Temperature on the Optical Properties of Noble Metals (Cu and Ag) Thin Films”;
First Conference on Nanotechnology, the Next Industrial Revolution, 5th and 6th of March 2002, Tehran, Iran.

8. *H. Yazdanpanah Asrami, A. Morteza Ali and Hadi Savaloni* Thickness Dependence of Optical Constants of Cu Thin Films Using Kramers-Kronig Method”;
International Conference On Physics, Amirkabir University of Technology, Tehran, Iran. January 6-9 (2004).

9. *Mehran Gholipour Shahraki, Hadi Savaloni and Michael A Player* “ Structural Characteristics in UHV Deposited Ti Thin Films”;
International Conference On Physics, Amirkabir University of Technology, Tehran, Iran. January 6-9 (2004).

OTHER PUBLICATIONS:

a) Books

1. Solutions to the Problems in Solid State Physics, 1998, University of Tehran Publishing Company, Tehran, Iran, (in Persian).
2. Physics of Thin Films; by Lodmila Eckertova, Translated into Persian, 1999, Universities Central Publishing Company, Tehran, Iran (in press).

Supervision: 27 Postgraduate and Undergraduate Student

PLACE	PG*	UG**	PROJECT TITLE
Britain	Ph.D		Studies in Thin Film Systems and X-ray Multilayer Film Design. (1992)
Britain	Mphil		Instrumentation for the manufacture of the Soft X-ray Multilayer Mirrors.

		(1991)
Britain	Hons	Electron Microscopy of Thin Films. (1989)
Britain	Hons	Nucleation and Growth of Tungsten Thin Films on Amorphous Carbon. (1990)
Britain	Hons	Examination of the Growth of Tungsten Thin Films on Amorphous Carbon. (1992)
Iran	Ph.D	An Investigation of The Effect of Deposition Conditions on Optical and Mechanical Properties of Thin (fcc and hcp) Metallic Films. (in progress)
Iran	MSc	Influence of Deposition Rate and Time on Nucleation of Erbium on Amorphous Carbon. (1995)
Iran	MSc	Influence of Deposition Rate and Temperature on Nucleation of Tungsten on Amorphous Carbon. (1996)
Iran	MSc	Computer Simulation Model for the Growth of Thin Film in Structure Zone Model. (1996)
Iran	MSc	Design of a Dynamic Solar System Substrate Holder and Influence of Substrate Temperature and Material on Cu and Zn Thin Films. (2000)
Iran	MSc	Computer Simulation of Metallic and Alloy Thin Films. (2000)
Iran	MSc	Computer Simulation of Superconductive Thin Films. (in progress)
Iran	MSc	Influence of Substrate Temperature on Optical Properties of Thin Cu and Ag Films, Using “Kramer Kronig” and Ellipsometry” Methods. (2001)
Iran	MSc	Design and Construction of Optical Filters for High Power Lasers. (2001)
Iran	MSc	Computer Simulation Model for Determination of Stress and Annealing Effect
		In The Films Grown Under Different Growth Conditions. (2001)
Iran	MSc	Stress Measurements in Metallic Thin Cu, Ti Sputtered Films. (in progress)
Iran	Hons	Design of a Substrate Holder with Heating Facilities for thin Film’s Nucleation and Structure Studies. (1997)
Iran	Hons	Studies in Mie Light Scattering Theory by Spherical Particles. (1997)
Iran	Hons	On the Origin of Oscillations with Particle Size in the Mie Light Scattering Theory. (1997)
Iran	MSc	Thickness Dependence on Optical Properties of Cu and Ag Thin Films, Using “Kramers-Kronig” and (R,T) Methods. (2003)
Iran	MSc	Residual Stress Measurements and Microstructural Determination of Ag and Cu
		Thin Films. (2003)
Iran	MSc	Thickness Dependence on Electrical Properties of Cu and Ag Thin Films. (2004)
Iran	MSc	Investigation of the Structure of Ti Thin Films Deposited Under UHV Conditions as a Function of Substrate Temperature. (2004)
Iran	MSc	Influence of Film Thickness, Deposition Rate, and Deposition Angle on Optical Properties of Ag Thin Films, Using “Kramers-Kronhg” and “Ables” Methods. (2004)
Iran	MSc	Molecular Dynamic Simulation of Thin Films.
Iran	MSc	Structural Changes in Zr and ZrO2 Thin Films as a Function of Substrate Temperature and Thickness. (2004)
Iran	MSc	Optical Properties of Zr and ZrO2 Thin Films produced under different HV Conditions, Using (R,T) and Variable Angle Reflection Measurements. (2004)

*) PG; Post Graduate

**) UG; Under Graduate

RESEARCH INTERESTS: