

Curriculum Vitae

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Name: Sveinn Ólafsson
Date of birth: 25 January 1961.
Address: Vogatunga 14 200
Kópavogur Iceland
Telephone: 354-5254693 (Work)
354-5645634 (Home)
Civil status: Married (three children)
Sex: Male
Nationality: Icelandic
Languages: Icelandic, Swedish, English
and some skill in German
and Japanese



Present position: Since June 1998, Description

Senior Researcher
Science Institute University of Iceland
Dunhaga 3
Reykjavik
Iceland

Conducting research on growth of thin films by sputtering in general and hydrogen interactions in thin films and superlattices. Growth of nano-structured materials with STM and MBE growth of semiconductors.

Education

B.S. Electronic Engineering June 1984. University of Iceland
B.S. Physics June 1986. University of Iceland
Dr. Doctoral Dissertation 23. May 1995 Uppsala in Physics

Research experience

Iceland

Research Engineer: Science Institute of University of Iceland 1987-1988
Assisting Prof. Hafliði Gíslason to build a research lab in studying defects in semiconductors. Experiences with ESR Ion, Dye and Excimer lasers. Programming a multipurpose control program called LabCard used by the Institute.

Japan

Monbusho scholarship 1985-1987. Japan Educational Ministry.
Intensive course in Japanese 1985-1986 Hokkaido University Japan
Research Student ,1986-1987 Muroran Technical University
Research: Production of FET transistors using anodic oxidation for growing the SiO₂ insulating layer. Use of Auger Spectroscopy and SIMS. 1986-1987

Sweden Uppsala

PhD student Sept. 1989- May 1995 Uppsala University.

Supervisor Prof. Erik Karlsson

Doctoral Dissertation 23. May 1995
Title of thesis: Hydrogen interactions in thin metallic films.

Operation and use of the Tandem Van de Graaf accelerator in Uppsala

Sample production: Sputter deposition ,operation of sputtering chambers in Uppsala and in Linköping.

Sample Characterisation techniques:
XRD operation of powder diffractometer and use of simulation packages Gix and Suprex. Ion beam analysis: RBS and NRA.

Electronics and Computers

Experience in analog and digital electron design. Design and programming (Labview) of automated data collection system for the hydrogen profiling method. Construction of a hydrogenation equipment, gas system, On-line resistance system (Labview). Design and construction of computer control of automatic RBS chamber. Programming: Matlab C, Pascal and Assembler PC and Macs.

Conferences.

International Symposium on Metal-Hydrogen Systems, Banff Alberta Canada, September 1990 (Poster).
Nordic Symposium on Mössbauer Spectroscopy Iceland June 1991
Ion Beam Analysis (IBA-10) Eindowen, Netherlands, July 1991.
The Studsvik Condensed Matter Meeting, Studsvik, May 1990.
International Symposium on Metal-Hydrogen Systems, Uppsala Sweden June 1992 (Paper,Poster).
The first International Symposium on Metallic Multilayers 1993 Kyoto Japan (paper)
Gordon Conference on hydrogen in metals Heinniken New Hampshire USA July 1995
International Symposium on Metallic Multilayers MML Aachen 2001
Hydrogen Metals Systems Annecy 2002

Shorter Visits.

Dept. of Physics SUNY, Albany USA June 1990
Centre D'etudes Nucleaires de Grenoble, Grenoble , France 22/10 1991
University of Friburg 21/10 1991
Electrotechnical laboratory Tsukuba Japan 1993
Physics department Prof Shinjo. Kyoto University Japan 1993
Bochum 1995,1996 and 1998
KTH Stockholm 2002

Students

Guðmundur Þ. Reynaldsson Ph.D. Physics, August 2003
Hydrogen interactions in superlattices

Unnar Bjarni Arnalds M.S. Physics, June 2002
Construction of a scanning tunneling microscope

Ívar Meyvantsson M.S. El. Eng. June 2003
Ultra-Thin Conductors and Insulators Synthesis and Characterization

Publications.

Greinar í alþjóðlegum viðurkenndum tímaritum

Öll tímaritin eru í Science Citation Index

- Oxygen concentration gradients in Y-Ba-Cu-O**
Pernestal-K; Olafsson-S; Wappling-R; Lundstrom-T
Journal-of-the-Less-Common-Metals.vol.164-165, pt.B; 15 Oct. 1990; p.1172-77
- Hydrogen uptake in Mo/V multi layered single crystal superlattices. The role of charge transfer at interfaces**
B. Hjörvarsson, S. Ólafsson, F. Stillesjö, E. Karlsson, J. Birch and J.-E. Sundgren; Z. Phys. Chem. Bd. 181 (1993) 343.
- Hydride formation in Mg/Ni multilayers, studied by hydrogen profiling and volumetric measurements.**
F. Stillesjö, Sveinn Ólafsson, B. Hjörvarsson, E. Karlsson.
Z. Phys. Chem. 181 (1993)
- Hydrogen uptake of Mo/V superlattices**
Hjörvarsson-B; Stillesjo-F; Olafsson-S; Karlsson-E; Birch-J; Sundgren-J-E
Journal-of-Magnetism-and-Magnetic-Materials.vol.126, no.1-3; Sept. 1993; p.612-14. 1993
- On the near surface yield of the $^1\text{H}(^15\text{N}, \text{ag})^{12}\text{C}$ nuclear reaction and initial charge state equilibration.**
Sveinn Ólafsson, B. Hjörvarsson, F. Stillesjö. NIM B94, 345 (1994)
- Charge transfer at interfaces in $\text{Mo}_x\text{V}_{1-x}/\text{V}$ superlattices**
S. Ólafsson, B. Hjörvarsson, F. Stillesjö, E. Karlsson, J. Birch and J.-E. Sundgren; Phys Rev. B 15 okt 1995.
- Orientation dependence of the hydrogen distribution within Mo/V (011) and (001) multilayered superlattices**
B. Hjörvarsson, J. Birch, F. Stillesjö, S. Ólafsson and J.-E. Sundgren.
Journal-of-Physics:-Condensed-Matter.vol.9, no.1; 6 Jan. 1997; p.73-85.
- Thermodynamic properties of hydrogen in quasi-two-dimensional vanadium lattices**
Stillesjo-F; Olafsson-S; Isberg-P; Hjoervarsson-B
Journal-of-Physics:-Condensed-Matter.vol.7, no.42; 16 Oct. 1995; p.8139-50.
- Synthesis of yttrium trihydride films for ex-situ measurements**
Huiberts-JN; Rector-JH; Wijngaarden-RJ; Griessen-R;
Hjoervarsson-B; Olafsson-S; Cho-YS
Journal-of-Alloys-and-Compounds.vol.239, no.2; 1 June 1996; p.158-71.
- Growth and field dependent dielectric properties of epitaxial $\text{Na}_{0.5}\text{K}_{0.5}\text{NbO}_3$ thin films**
Xin Wang, Ulf Helmersson, Sveinn Ólafsson et. al
Department of Physics, Linköping University, S-581 83 Linköping, Sweden
Applied physics Letter 73, 927 (1998)
- Growth and characterization of $\text{Na}_x\text{K}_{1-x}\text{NbO}_3$ thin films grown on polycrystalline $\text{Pt}_{80}\text{Ir}_{20}$ substrates**
Wang X, Olafsson S, Madsen LD, Rudner S, Ivanov IP, Grishin A, Helmersson U
Department of Physics, Linköping University, S-581 83 Linköping, Sweden
J MATER RES 17 (5): 1183-1191 MAY 2002
- Growth and characterization of epitaxial films of tungsten-doped vanadium oxides on sapphire (110) by reactive magnetron sputtering**
P. Jin,a) M. Tazawa, M. Ikeyama, and S. Tanemura
National Industrial Research Institute of Nagoya, Kita-ku, Nagoya 462-8510, Japan
K. Maca´k, X. Wang, S. Olafsson, and U. Helmersson
Department of Physics and Measurement Technology, Linköping University, S-581 83 J. Vac. Sci. Technol. A 17 – 4 – , Jul/Aug 1999 1817
- Low temperature growth of $\text{Na}_x\text{K}_{1-x}\text{NbO}_3$ on glass fiber laminate substrates**
Xin Wang, Sveinn Ólafsson, Ulf Helmersson,
Department of Physics, Linköping University, S-581 83 Linköping, Sweden
Ferroelectrics 225 pp. 287-294 1999.
- Electrostatic powder impact deposition (EPID) of Ge on Si and Cu substrates, microstructure and morphology study**
H.G. Svavarsson and S.Olafsson
Science Institute University of Iceland Dunhaga 3 107 Reykjavik
N. Hellgren and Ulf Helmersson
Department of Physics, Linköping University, S-581 83 Linköping, Sweden
J. Phys. D: Appl. Phys. 33 No 10 (21 May 2000) 1155-1160
- Low temperature growth of SrTiO_3 on LaAlO_3 (001) single crystal substrates: the influence of growth temperature on the composition, orientation and the surface morphology**
Xin Wang, Sveinn Ólafsson, Ulf Helmersson,
Department of Physics, Linköping University, S-581 83 Linköping, Sweden
Thin solid film 2000, Vol 360, Iss 1-2, pp 181-186
- Hydrogen interactions in Mo/Nb(001) superlattice**
G. Reynaldsson S.Olafsson H.P. Gislason and B. Hjörvarsson
Science Institute University of Iceland Dunhaga 3 107 Reykjavik
Accepted Phys.Rev B 2004
- Hydrogen Interactions in ultrathin two dimensional Vanadium Layers**
G. Reynaldsson S.Olafsson B. Hjörvarsson and H.P. Gislason
Science Institute University of Iceland Dunhaga 3 107 Reykjavik
Journal of Magnetism and Magnetic Materials 240 (1-3): 478-480 FEB 2002
- Electrical and optical properties of CN_x ($0 < x < 0.25$) films deposited by reactive magnetron sputtering**
E. Broitman,a) N. Hellgren, and K. Järrendahl, M. P. Johansson, S. Olafsson
G. Radnóczy, J.-E. Sundgren, L. Hultman
Journal of applied physics volume 89, number 2 15 january 2001
- Hydrogen-induced lattice expansion in 8/4 u.c. Mo/V superlattice**
G. Reynaldsson, S. Ólafsson, H.P. Gislason, G. Song, and H. Zabel
Journal of Alloys and Compounds, Volumes 356-357, 11 August 2003,Pages 549-552
- Influence of biaxial strain on thermodynamical properties of hydrogen in (001) oriented Mo/V superlattices,**
G. Reynaldsson, S. Olafsson and H. P. Gislason
Journal of Alloys and Compounds, Volumes 356-357, 11 August 2003, Pages 545-548

A3.2 Greinar birtar í öðrum ritrýndum fræðiritum

- Sveinn Ólafsson, Unnar B. Arnalds
Spætur og ræktun með segulspætu
Eðlisfræði á Íslandi IX., ritstjóri Ari Ólafsson, bls. 75-82 (1999).

22. Guðmundur Reynaldsson Sveinn Ólafsson,
Vetni í þunnum málmhúðum
Eðlisfræði á Íslandi IX., ritstjóri Ari Ólafsson (1999).
23. Unnar B. Arnalds, Sveinn Ólafsson
Atómmyndataka með smugsjá
Eðlisfræði á Íslandi X., ritstjóri Ari Ólafsson (2001).
24. Guðmundur Reynaldsson, Jón E. Bjarnason, Sveinn Ólafsson
Vetni í MoV yfirgrindum
Eðlisfræði á Íslandi IX., ritstjóri Ari Ólafsson (2001).

A 5.1 Fræðilegar greinar

25. Sveinn Ólafsson, Viðar Guðmundsson Smugsjá,
Verpill 2001.
26. Sveinn Ólafsson Nanótækni
Raflost 2002.
27. Jón Tómas Guðmundsson, Sveinn Ólafsson og Hafliði P. Gíslason, Ræktun með
sameindauðun, Raflost (2003)