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Education

Ph.D. Physics, 2002

University of Arkansas, Fayetteville, AR, USA.

Title: Investigation of parametric processes in periodically poled lithium niobate (LiNbO₃).

Advisor: Yuji Ding

M.Sc. Physics, 1997

Wilkes University, Wilkes-Barre, PA, USA.

Title: High-field quantum transport in the inversion layer of a metal-oxide-semiconductor field effect transistor.

Advisor: Vijay Arora.

B.Sc. Physics, 1989

Yarmouk University, Irbid-Jordan

Work Experience

Head of Basic Sciences Department (2022-Present)

School of Basic Science and Humanities, German Jordanian University, Madaba, Jordan

Teaching & Research Experience

Professor (2022-Present), German Jordanian University, Madaba, Jordan.

Associate Professor (2016-2022), German Jordanian University, Madaba, Jordan.

Assistant Professor (2013-2016), German Jordanian University, Madaba, Jordan.

Assistant Professor (2008-2013), Lebanese American University, Byblos, Lebanon.

Research Assistant Professor (2002- 2008), University of Arkansas, Fayetteville, AR USA

Research Assistant Professor (2002- 2007), University of Arkansas, Fayetteville, AR USA

Research Assistant (1998-2002) University of Arkansas, Fayetteville, AR USA

Physics Instructor (1998-1998), University of Pittsburgh at Johnstown, Johnstown PA, USA.

Science Teacher (1990-1996) Islamic Scientific College, Amman, Jordan.

Honors

- Member of the international society for optics and photonics (SPIE) 2018-2020
- American Optical Society 2002-2020
- Member IEEE 2007-2008
- Member Material Research Society 2003-2006

Scientific Community Services

Reviewer for the

- Material Research Society 2002-2006
- Electrochemical Society 2006-2008
- American Optical Society 2015-
- Applied Optics 2016-
- Advanced Optical Materials 2021-

Proposals and Grants

National Science Foundation, 2008

US-India Cooperative Research: Investigating Metal Induced Crystallization on Thin Films of Amorphous Silicon, Annual Reports written

German Jordanian University Seed Grants

- Investigating third order nonlinearities in nonorganic nanomaterials (Grant SBSH 2016/32) 2016-2018)
- Correlating the state of oxidation in Human Low- and High-Density Lipoprotein, triacylglycerols and glucose with cardiometabolic biomarkers (age and gender) using z-scan technique (Grant SBSH 2021/02) 2021-2022

Publications

Please see attached list

Husam H. Abu-Safe
Journal Publications and Conference Presentations

2022

- 72 Abu-Safe, H.H., Al-Adamat, K.M., Esaifan, M., El-Nasser, H. and Ware, M.E., Investigating the linear and nonlinear optical properties of Al alloyed Ni nanofilms in the cw regime. *Nano-Structures & Nano-Objects*, 30, pp.100856. (2022).

2021

- 71 Husam H. Abu-Safe, Kawther M. Al-Adamat, Husam El-Nasser, Malak Refaei c, Mirsaeid Sarollahi, Reem Alhelais, Morgan E. Ware, "Investigation of linear and nonlinear optical properties of amorphous carbon nanofilms prepared by electron beam evaporation", *Applied Surface Science*, Volume 576, pp. 151818 (2021).
- 70 Husam H. Abu-Safe, Razan Al-Esseili, Hussein Al-Taani, Husam El-Nasser, Malak Refaei, Mirsaeid Sarollahi, Reem Alhelais, Mohammad Zamani-Alavijeh, and Morgan E. Ware, "The nonlinear optical properties of nickel nano-films in the cw regime: proposed model", *Optical Materials*, Volume 121, pp. 111531 (2021).
- 69 Husam Abu-Safe, "Thermally -induced nonlinear optical properties near the band edge of one-dimensional Si/SiO_x photonic crystal", *Optical Materials*, Volume 114, pp. 110974 (2021).

2020

- 68 Husam H. Abu-Safe, Razan Al-Esseili, Husam El-Nasser, Mirsaeid Sarollahi, Malak Refaei, Mohammad Zamani-Alavijeh, Hameed Naseem, and Morgan E. Ware, "Au–Ag–Al Nano-Alloy Thin Films as an Advanced Material for Photonic Applications: XPS Analysis, Linear and Nonlinear Optical Properties Under CW Regime", *Crystal Research Technology*, Volume 55, pp. 1900228 (2020).
- 67 H. Abu-Safe, R. Al-Esseili, M. Sarollahi, M. Refaei, H. Naseem, M. Alavijeh, T. AlAbdulaale and, M. Ware "Thermally induced nonlinear optical properties of silver nano-films near surface plasmon resonance", *Optical Materials*, Volume 105, pp. 109858 (2020).
- 66 Husam Abu-Safe, "Influence of linear permittivity on thermally-induced nonlinear optical properties of aluminum-doped zinc oxide thin films: the visible range", *Optical Materials Express*, Volume 10, pp. 2866 (2020).
- 65 Husam Abu-Safe, Razan Al-Esseili, Sameer Arabasi, Husam El-Nasser, and Yahya Zakaria "Thermally-induced nonlinear optical properties of Ti-Al oxide nano films with double epsilon-near-zero behavior", *Optical Materials Express*, Volume 11, pp. 412 (2020).
- 64 Husam Abu-Safe, "Thermally-induced nonlinear optical properties of Al-alloyed Au nano-films", *Optics and Laser Technology*, Volume 130, pp. 106360 (2020).

2018

- 63 Husam H. Abu-Safe, Issra Hammoudeh, Husam Al-Nasser, Timothy A. Morgan, Morgan E. Ware, Radwan A. Al Faouri, Hameed Naseem, "Ellipsometric study of aluminum-nickel nano-films for plasmonic application ", Proc. SPIE 10731, Nanostructured Thin Films XI, Volume 10731, pp. 107310J (2018).

2015

- 62 Aboozar Mosleh, Murtadha Alher, Larry Cousar, H. Abu-Safe, W. Dou, P. Grant, Sattar Al-Kabi, Seyed Amir Ghetmiri, B. Alharthi, H. Tran, Wei Du, Mourad Benamara, B. Li, M. Mortazavi, Shui-Qing Yu, and Hameed A Naseem, "Enhancement of Material Quality of (Si)GeSn Films Grown by SnCl₄ Precursor", ECS Trans. Volume 69 issue 5, pp. 279-286 (2015).

2014

- 61 Aboozar Mosleh, Seyed Amir Ghetmiri, Benjamin R Conley, Husam Hamza Abu-Safe, Mourad Benamara, Zafar Waqar, Samir El-Ghazaly, Shui-Qing Yu, and Hameed A Naseem, "Investigation of Growth Mechanism and Role of H₂ in Very Low Temperature Si Epitaxy", ECS Trans. Volume 64 issue 6, pp. 967-975 (2014).
- 60 Omar H. Alzoubi, Husam Abu-Safe, Khalid Alshurman and Hameed A. Naseem, "Broadband Absorptance High Efficiency Silicon Nanowire Fractal Arrays for Photovoltaic Applications", MRS Proceedings, Volume 1707 (2014).
- 59 Khaled M. Al-shurman, Omar Alzoubi, Hameed Naseem, Husam Abu-Safe, Murtadha Alher, "Large-Area Synthesis of Uniform Graphene Film on Thin Nickel Film at Low Temperature Using Hot-Wire Chemical Vapor Deposition", New Diamond and Nano Carbons Conference (NDNC 2014), Chicago, Illinois, May 25-29, (2014).

2013

- 58 Young, M.G.; Newton, B.; Benamara, M.; Abu-Safe, H.; Shui-Qing Yu; Naseem, H., "Fabrication of Si nanoroot/a-Si composite films using physical vapor deposited Al nanodots," Photovoltaic Specialists Conference (PVSC), 2013 IEEE 39th, proceedings pp. 0347-0352, 16-21 June (2013).
- 57 Abu-Safe, H.; Hickerson, A.; Hui Zhong; Naseem, H.; Shui-Qing Yu, "Selected area crystallization of amorphous Si and Ge thin films on glass substrates for solar cell and 3D-optoelectronic applications," Photovoltaic Specialists Conference (PVSC), 2013 IEEE 39th, proceedings pp.1314-1317, 16-21 June (2013).
- 56 Liang Huang; Huixu Deng; Thach Pham; Young, M.; Naseem, H.; Abu-Safe, H.H.; Xiaodong Yang; Shui-Qing Yu, "Amorphous silicon solar cells using metallic fishnet nanostructures simultaneously for Schottky contact and plasmonics enhancement," Photovoltaic Specialists Conference (PVSC), 2013 IEEE 39th, proceedings pp.1353-1356, 16-21 June (2013).

- 55 Mosleh, A.; Ghetmiri, S.A.; Conley, B.R.; Abu-Safe, H.; Waqar, Z.; Benamara, M.; Shui-Qing Yu; Naseem, H.A., "Nucleation-step study of silicon homoepitaxy for low-temperature fabrication of Si solar cells," Photovoltaic Specialists Conference (PVSC), 2013 IEEE 39th, proceedings pp. 2646-2650, 16-21 June (2013).
- 54 Zhou, Huajun; Deng, Huixu; Ghetmiri, Seyed A.; Abu-Safe, Husam H.; Yu, Shui Q.; Yang, Xiaodong; Tian, Z. Ryan, "Optimizing Height and Packing Density of Oriented One-Dimensional Photocatalysts for Efficient Water Photoelectrolysis", Journal of Physical Chemistry C Volume 117 issue 40, pp. 20778-20783 (2013).
- 53 Hui Zhong, H. Abu-Safe, A. Hickerson, B. R. Conley, H. Naseem, Yu Shui-Qing Yu, "Crystallization of patterned amorphous Si and Ge thin films for 3D integrated optoelectronics", 10th IEEE International Conference on Group IV Photonics (GFP), Proceedings pp.53 -54 28-30 Aug. (2013).

2012

- 52 S. L. Mensah, Hameed H. Naseem, Husam Abu-Safe, and M. H. Gordon, "Investigating the role of hydrogen in silicon deposition using an energy-resolved mass spectrometer and a Langmuir probe in an Ar/H₂ radio frequency magnetron discharge", Phys. Plasmas Volume 19, pp. 073521-073527 (2012).
- 51 Naseem, Hameed; Yu, Shui-Qing; El-Ghazaly, Samir; Waqar, Zafar; Abu-Safe, Husam; Adcock, Shannen; Conley, Ben; Mosleh, Aboozar; Hankton, Bryant; Munasinghe, Asanka, "Safety Considerations in Building Ultra-High Vacuum Plasma Enhanced Chemical Vapor Deposition System for Low Temperature Group IV Epitaxy", University/Government/Industry, Micro/Nano Symposium (UGIM), 2012 19th Biennial, Issue Date: 9-10 July 2012 (2012).

2011

- 50 Liang Huang; Abu-Safe, H.H.; Young, M.; Shumate, S.; Newton, B.; Naseem, H.; Shui-Qing Yu, "Fabrication and characterization of c-si solar cells integrated with ordered metallic nanostructure arrays," Photovoltaic Specialists Conference (PVSC), 2012 38th IEEE , Proceedings pp.53-56, 3-8 June (2012).
- 49 Shumate, S.D.; Hutchings, D.A.; Mohammed, H.; Beilke, G.; Newton, B.S.; Young, M.G.; Abu-Safe, H.; ShiuYu, S.; Naseem, H., "Self aligned hydrogenated selective emitter for n-type solar cells," Photovoltaic Specialists Conference (PVSC), 2012 38th IEEE , Proceedings pp.1110-1114, 3-8 June (2012).
- 48 Young, M.G.; Benamara, M.; Abu-Safe, H.; Shui-Qing Yu; Naseem, H.A., "A-Si:H/c-Si nanocomposite material for solar cells fabricated from PECVD," Photovoltaic Specialists Conference (PVSC), 2012 38th IEEE , Proceedings pp.1236-1240, 3-8 June (2012)
- 47 H. H. Abu-Safe, "TEM investigation of horizontal-grown silicon nanowires", Advanced Materials Research. Volume 324 pp. 201-204 (2011).

- 46 M. Roumie, S. Abboudy,, M. Al Sabbagh, H. H. Abu-Safe,, M. Soueidan,B. Nsouli, "RBS study of multilayer structure material of Si/SiO₂ nano films", Advanced Materials Research, Volume 324 pp. 310-313 (2011).

2010

- 45 Hafeezuddin K. Mohammed, Husam Abu-Safe, Benjamin Newton, Samir El-Ghazaly, Hameed A. Naseem, "Fabrication of horizontally grown silicon nanowires using a thin aluminum film as a catalyst", Thin Solid Films, Volume 519, pp. 1681-1686 (2010).
- 44 Khaleel Abu-Shgair, Husam H. Abu-Safe, Aditya Aryasomayajula, Ben Beake, and Matt H. Gordon, "Characterizing Crystalline Chromium Oxide Thin Film Growth Parameters, Rev. Adv. Mater. Sci. Volume 24, pp. 64-68 (2010).
- 43 Husam H. Abu-Safe, Hameed A. Naseem, Samir El-Ghazaly, Mahmoud EL-Sabbagh, Mohammad Roumie, Hsin-Yen Cheng, and Wan-Yu Wu, "One-Dimensional Photonic Crystal-Based Absorber/Emitter Systems Fabricated in Amorphous Matrices", World Renewable Energy Congress XI Proceedings, pp. 1532 (2010).
- 42 Abu-Shgair, Khaleel; Al-Hasan, Mohammad; Jawwad, A. K. Abdul; Al-Bashir, Adnan; Abu-Safe, H. H.; Gordon, M. H., "Characterizing (Ti,Al)N film coating produced by inverted cylindrical magnetron sputtering for metal machining applications", Reviews on Advanced Materials Science Volume 24 (1/2), pp. 48-55, (2010).

2009

- 41 H.H. Abu-Safe, K. Abu-shgair, M.H. Gordon, "Effect of Substrate Positioning for TiAlN Films Deposited by an Inverted Cylindrical Magnetron Sputtering System", Surface and Coatings Technology, Volume 204, issue 6-7, pp. 927-930 (2009).

2008

- 40 A.N. Cloud, S. Kumar, M. Kavdia, H.H. Abu-Safe, M.H. Gordon, "Protein adsorption on low temperature alpha alumina films for surgical instruments", Surface and Coatings Technology, Volume 203 issue 5-7, pp. 913-917 (2008).
- 39 S.P. Koirala, H.H. Abu-safe, S.L. Mensah, H.A. Naseem, M.H. Gordon, "Langmuir probe and optical emission studies in a radio frequency (rf) magnetron plasma used for the deposition of hydrogenated amorphous silicon", Surface and Coatings Technology, Volume 203 issue 5-7, pp. 602-605 (2008).
- 38 A.N. Cloud, S. Canovic, H.H. Abu-Safe, M.H. Gordon, M. Halvarsson, "TEM investigation of alpha alumina films deposited at low temperature", Surface and Coatings Technology, Volume 203 issue 5-7, pp. 808-811 (2008).
- 37 Verma, W. Jiang, H. Abu-Safe, W. Brown, A. Malshe, "Tribological Behavior of Deagglomerated Active Inorganic Nanoparticles for Advanced Lubrication", Tribology Transactions, Volume 51 Issue 5, pp 673-678, (2008).

- 36 Mensah, S. L.; Abu-Safe, H. H.; Naseem, H.; Gordon, M. H. "Langmuir probe investigation of the effect of pressure and hydrogen concentration in an Ar-H-Si plasma", 51st Annual Technical Conference Proceedings – Society of Vacuum Coaters, Proceedings pp. 545-549. (2008).
- 35 Cloud, A. N.; Mohanty, P.; Abu-Safe, H. H.; Gordon, M. H., "Low temperature alpha alumina coatings for biomedical implant application", 51st Annual Technical Conference Proceedings - Society of Vacuum Coaters, pp. 183-188. (2008).
- 34 Herring, K. A.; Abu-Safe, H. H.; Naseem, H. A.; Gordon, M. H., "Measurement of absolute argon excited state populations and electron energy distribution functions in an Ar a-Si plasma", 51st Annual Technical Conference Proceedings - Society of Vacuum Coaters, pp. 531-534. (2008).
- 33 Koirala, S. P.; Abhulimen, I. U.; Gordon, M. H.; Abu-Safe, H.; Burkett, S. L., "Optical studies in a deep reactive ion etching (DRIE) system", 51st Annual Technical Conference Proceedings - Society of Vacuum Coaters, pp. 527-530. (2008).
- 32 Vandross, G. C.; Abu-Safe, H. H.; Abu-Shgair, K.; Gordon, M. H., "TiAlN films deposited by AC reactive magnetron sputtering", 51st Annual Technical Conference Proceedings - Society of Vacuum Coaters, pp. 635-638, (2008).

2007

- 31 Li Cai, Min Zou, Husam H. Abu-Safe, Hameed Naseem, and William Brown, "Understanding the Effects of Stress on the Crystallization of Amorphous Silicon" Journal of Electronic Materials, Volume 36 issue 3, pp. 191-196, (2007).
- 30 Husam Abu-Safe, Abul-Khair M. Sajjadul-Islam, Hameed A. Naseem and William D. Brown, "Analytical Studies of the Capping Layer Effect on Aluminum Induced Crystallization of Amorphous Silicon". MRS Proceedings, Volume 910, pp. 547-552 (2006).
- 29 Husam Abu-Safe, Hameed A. Naseem and William D. Brown, "Fabrication of Poly-silicon Thin Films on Glass and Flexible Substrates using Laser Initiated Metal Induced Crystallization of Amorphous Silicon". MRS Proceedings, Volume 910, pp.553-558 (2006).
- 28 Khalil Sharif, Husam H. Abu-Safe, Hameed A. Naseem, William D. Brown, Mowafak Al-Jassim and Ram Kishore, "Epitaxial Silicon Thin Films by Low Temperature Aluminum Induced Crystallization of Amorphous Silicon". MRS Proceedings, Volume 910, pp.517-522 (2006).

2006

- 27 Maruf Hossain, Harry M. Meyer III, Husam H. Abu-Safe, Hameed A. Naseem and William D. Brown, "The effect of hydrogen in the mechanism of aluminum-induced crystallization of sputtered amorphous silicon using scanning Auger microanalysis", Thin Solid Films, Volume 510, pp.184-190, (2006).

- 26 Maruf Hossain, Harry M. Meyer, III, Husam H. Abu-Safe, Hameed Naseem and W. D. Brown, "Large Grain Poly-Crystalline Silicon Thin Films Prepared by Aluminum-Induced Crystallization of Sputter-Deposited Hydrogenated Amorphous Silicon," Journal of Material Research, Volume 21, issue 3, pp. 761-766, (2006).
- 25 Maruf Hossain, Husam H. Abu-Safe, Hameed Naseem, and William D. Brown, "The Effects of Hydrogen on Aluminum-Induced Crystallization of Sputtered Hydrogenated Amorphous Silicon," Journal of Electronic Materials, Volume 35, issue 1, pp. 113-117, (2006).
- 24 Maruf Hossain, Husam H. Abu-Safe, Hameed Naseem and William D. Brown, "Characterization of hydrogenated amorphous silicon thin films prepared by magnetron sputtering," Journal of Non- Crystalline Solids, Volume 352, issue 1, pp. 18-23, (2006).
- 23 Hossain, Maruf; Abu-Safe, Husam H.; Naseem, Hameed; Brown, William D. "Effect of stress on the aluminum-induced crystallization of hydrogenated amorphous silicon films", Journal of Materials Research, Volume 21 issue 10, pp. 2582-2586. (2006).
- 22 K. Sharif, Husam H. Abu-Safe, Hameed Naseem, William Brown M. Al-Jassim, Harry Meyer, "Epitaxial silicon thin films by low-temperature aluminum induced crystallization of amorphous silicon for solar cell applications" Conference Record of the 2006 IEEE 4th World Conference on Photovoltaic Energy Conversion, Hilton Waikoloa Village, 7- 12 May, Waikoloa, HI, USA, Volume 2, Page(s): 1676 – 1679 (2006).

2005

- 21 Husam H. Abu-Safe, "Difference frequency mixing of strongly-focused Gaussian beams in periodically poled LiNbO₃", Applied Physics Letters, Volume 86, issue 23, pp. 231105-231107 (2005). Virtual Journal of Ultrafast Science Volume 4, Issue 7, July (2005).
- 20 Husam H. Abu-Safe, "Investigation of the multi-conversion processes in periodically poled LiNbO₃ based optical parametric oscillators", Applied Optics. Volume 44, issue 34, pp. 7458-7466, (2005).
- 19 Marwan Barghouti, Husam Abu-Safe, Hameed Naseem, W. D. Brown, and Mowafak Al-Jassim, "The Effect of an Oxide Layer on the Kinetics of Metal-Induced Crystallization of a-Si:H," Journal of The Electrochemical Society, Volume 152, issue 5, pp. G354-G360, (2005).
- 18 Vincent H. Liu, Husam H. Abu-Safe, Hameed A. Naseem, and William D. Brown, "Fabrication of silicon nanowire network in aluminum thin films," Mater. Res. Soc. Symp. Proceedings Volume 862, pp. 363-368, (2005).
- 17 Husam H. Abu-Safe, M. Saad Abbasi, Hameed A. Naseem, W. D. Brown, and Ram Kishore, "Synthesis of Crystalline Nanowires inside Amorphous Silicon Thin Films at Low Temperature," Proc. 15th International Photovoltaic Sci. and Eng. Conf. (PVSEC-15), Volume 1, pp. 322, (2005).
- 16 Hameed A. Naseem, Husam H. Abu-Safe, Khalil Sharif, Marwan A. Albarghouti, Maruf Hossain, William D. Brown, and Ram Kishore, "Comprehensive study of the mechanism of metal induced

crystallization of hydrogenated amorphous silicon thin films," IWPSD-2005 conference proceedings, IWPSD-2005, pp.1279 (2005). (INVITED PAPER)

- 15 R. Kishore, A.S. Islam, S. Goeke, Husam Abu-Safe, H.A. Naseem and W.D. Brown, "TEM investigation of Capping Layer Effect on Aluminum Induced Crystallization of Amorphous Silicon," IWPSD-2005 conference proceedings, IWPSD-2005, (2005).
- 14 Marwan A. Albarghouti, Husam H. Abu-Safe, Hameed A. Naseem, William D. Brown, Mowafak M. Al-Jassim, and Kim M. Jones, "Large grain poly-Si thin films by metal induced crystallization of aSi:H," Proc. 31st IEEE Photovoltaic Specialists Conference (IEEE-PVSC), pp. 1070, (2005).
- 13 Maruf Hossain, Husam Abu-Safe, Hameed Naseem, William D. Brown, Harry Meyer, "Aluminum induced crystallization of sputtered hydrogenated amorphous silicon for economically viable thin film silicon solar cells", Proc. of the 31st IEEE Photovoltaic Specialists Conference (IEEE-PVSC), pp. 1088, (2005).

2004

- 12 Husam H. Abu-Safe, Maruf Hossain, Hameed Naseem, William D. Brown, and Abdullah Al-Dhafiri, "Chlorine-doped CdS thin films from CdCl₂-mixed CdS powder," Journal of Electronic Materials, Volume 33, issue 2, pp. 128-134, (2004).
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- 10 M. Hossain, Husam. H. Abu-Safe, M. Barghouti, Hameed A. Naseem, William D. Brown, "The effect of substrate temperature and interface oxide layer on aluminum induced crystallization of sputtered amorphous silicon," Mater. Res. Soc. Symp. Proc., Volume 808, p. 315-320, (2004).
- 9 S. K. Paduru, S.K., Husam H. Abu-Safe, Hameed A. Naseem, Adnan Al-Shariah, William D. Brown, "CW argon-ion laser initiated aluminum induced crystallization of amorphous silicon thin films," Mater. Res. Soc. Symp. Proc., Volume 808, p. 339-344, (2004).
- 8 M. Saad Abbasi, Maruf Hossain, Husam Abu-Safe, Hameed Naseem and W.D Brown, "Characterization of Silicon Nitride Films for the Thin Film Transistor Gate Dielectric," Electrochem. Soc. Proc., Volume 2004-01, pp. 222-229, (2004).
- 7 Maruf Hossain, Husam Abu-safe, and Hameed Naseem, "Fabricating polycrystalline silicon solar cells using aluminum induced crystallization technique," Technical Digest of the 14th International Photovoltaic Science and Engineering Conference (PVSEC-14), Volume 1, pp. 219, (2004).
- 6 Husam H. Abu-Safe, Maruf Hossain, Hameed Naseem, William Brown, and Abdullah Al-Dhafiri, "CdS:Cl thin films from CdCl₂ mixed CdS powder," Technical Digest of the 14th International Photovoltaic Science and Engineering Conference (PVSEC-14), Volume 2, pp. 577, (2004).

- 5 Maruf Hossain, Li Cai, Husam Abu-Safe, Hameed Naseem, and W. D. Brown, "Effect of stress on aluminum induced crystallization of magnetron sputtered amorphous silicon", Electrochem. Soc. Proc., Volume 2004-12, pp. 313, (2004).
- 4 Li Cai, Husam Abu-Safe, Min Zou, Marwan Barghouti, Maruf Hossain, Hameed Naseem, and William Brown, "Investigation of the Impact of Stress on Aluminum-Induced Crystallization of Amorphous Silicon", Electrochem. Soc. Proc. Volume. 2004-12, pp. 307, (2004).
- 3 M. Saad Abbasi, Hameed A. Naseem, Husam H. Abu-Safe, and W. D. Brown, "Investigation of Aluminum Induced Crystallization of Amorphous Silicon Using Lateral Crystallization," Physics of Semiconductor Devices, IWPSD-2005 conference proc., pp 331, (2004).

2003

- 2 Husam. H. Abu-Safe, "High-field quantum transport in the inversion layer of a metal-oxide - semiconductor field effect transistor", Journal of Applied Physics, Volume 93, issue 8, pp. 46164621, (2003).
- 1 Barghouti, Marwan; Abu-Safe, Husam; Naseem, Hameed; Brown, William D., "Effect of native oxide layer on metal-induced crystallization of a-Si:H", Proceedings - Electrochemical Society 2002-23 (Thin Film Transistor Technologies VI), pp. 146-154 (2003).