Osama Mohsen

Personal Data

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Education

2016 - 2021 Doctor of Philosophy in Physics, **Northern Illinois University**, Dekalb, IL, USA
Advisor: Prof. *Philippe Piot*

2012 - 2015 Master of Science in Physics, , **University of Jordan.** Amman, Jordan
Advisor: Prof. *Sami Mahmood*

2007 - 2012 Bachelor of Science in Applied Physics **Jordan Uni. of Science and Technology**, Irbid, Jordan

Work Experience

2021- Postdoctoral Research Associate, Fermi national laboratory
Instabilities in intense hadron beams

2016-2021 Graduate Research Assistant, Northern Illinois University
High Brightness Electron Sources and their Applications

2012- 2015 Graduate Research Assistant, University of Jordan
Structural Analysis of Y- and W-Type Hexaferrites

Awards

Thesis completion fellowship, 2020-2021

Non Academic Experience

2019- 2021 Member, Graduate Student Colloquium Committee
2018- 2019 Representative, Graduate Student Advisory Committee (GSAC)
2017- 2019 Secretary and Co-founder, Physics Graduate Student Association (PGSA)

Languages

Arabic: Mothertongue
English: Fluent

Computer Skills

Basic Knowledge: Linux, C++, Bash
Intermediate Knowledge: Python
Beam Physics codes: Impact-T, Astra, WARP, SPIFFE, Elegant, ACE3p,SUPERFISH

Courses and Certificates

U.S. Particle Accelerator School	Simulation of Beam and Plasma Systems	2018
U.S. Particle Accelerator School	Beam Physics with Intense Space Charge	2017
Joint Universities Accelerator School	The science of particle accelerators	2016

References

Prof. Philippe Piot	piot@nicadd.niu.edu
Dr. Jayakar C. Thangaraj	jtobin@fnal.gov
Dr. Giorgio Paolucci	giorgio.paolucci@elettra.eu
Prof. Sami Mahmood	s.mahmood@ju.edu.jo

Publications and Proceedings

Mohsen, O., Mihalcea, D., Tom, N., Adams, N., Dhuley, R. C., Geelhoed, M. I., & Xu, T. (2021). A field-enhanced conduction-cooled superconducting cavity for high-repetition-rate ultrafast electron bunch generation. Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1005, 165414.

Mohsen, O., Divan, R., Korampally, V., Lueangaramwong, A., Piot, P., Sumant, A., & Valluri, S. (2019, June). *Performances of Silicon-Based Field-Emission Cathodes Coated with UltraNano Crystalline Diamond*. In 10th Int. Partile Accelerator Conf.(IPAC'19), Melbourne, Australia, 19-24 May 2019 (pp. 2117-2120). JACOW Publishing, Geneva, Switzerland.

Mohsen, O., McKeown, A., Mihalcea, D., Dhuley, R. C., Geelhoed, M. I., Korampally, V., & Thangaraj, J. C. T. (2019, June). *Simulations and Experimental Plans for a High-Repetition-Rate Field-Enhanced Conduction-Cooled Superconducting RF Electron Source*. In 10th Int. Partile Accelerator Conf.(IPAC'19), Melbourne, Australia, 19-24 May 2019 (pp. 2113-2116). JACOW Publishing, Geneva, Switzerland.

Lueangaramwong, A., **Mohsen, O.**, & Piot, P. (2018, August). *Design of the Low-energy DC Gun for Field-emission Cathode Investigation*. In 2018 IEEE Advanced Accelerator Concepts Workshop (AAC) (pp. 1-4). IEEE.

Mohsen, O. , Lueansaramwong, A., Valluri, S., Korampally, V., Piot, P., & Chattopadhyay, S. (2018, August). *Field Emission from Silicon Nanocones Cathodes*. In 2018 IEEE Advanced Accelerator Concepts Workshop (AAC) (pp. 1-5). IEEE.

Mohsen, O., Gonin, I., Kephart, R., Khabiboulline, T., Piot, P., Solyak, N., ... & Yakovlev, V. (2018). *Initial beam dynamics simulations of a high-average-current field-emission electron source in a superconducting radiofrequency gun*. Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment.

Mahmood, S. H., Al Sheyab, Q., Bsoul, I., **Mohsen, O.**, & Awadallah, A. (2018). *Structural and magnetic properties of Ga-substituted Co2 W hexaferrites*. Current Applied Physics, 18(5), 590-598.

Alhwaitat, E. S., Mahmood, S. H., Al-Hussein, M., **Mohsen, O.** E., Maswadeh, Y., Bsoul, I., & Hammoudeh, A. (2018). *Effects of synthesis route on the structural and magnetic properties of Ba3Zn2Fe24O41 (Zn2Z) nanocrystalline hexaferrites*. Ceramics International, 44(1), 779-787.

Lueangaramwong, A., Buzzard, C., Chattopadhyay, S., Divan, R., Korampally, V., **Mohsen, O.**, & Piot, P. (2017, May). *Experimental Investigation of Field-Emission From Silicon Nano-Cone Cathodes*. In 8th Int. Particle Accelerator Conf.(IPAC'17), Copenhagen, Denmark, 14â 19 May, 2017 (pp. 548-550). JACOW, Geneva, Switzerland.

Mohsen, O., Mahmood, S. H., Awadallah, A., & Maswadeh, Y. (2017). *Effect of heat treatment on the structural and microstructural properties of the Co2-Y hexaferrites*. arXiv preprint arXiv:1709.02964.

Mahmood, S. H., Zaqsaw, M. D., **Mohsen, O. E.**, Awadallah, A., Bsoul, I., Awawdeh, M., & Mohaidat, Q. I. (2015). *Modification of the Magnetic Properties of Co2Y Hexaferrites by Divalent and Trivalent Metal Substitutions*. Solid State Phenomena, 241, 93–125.