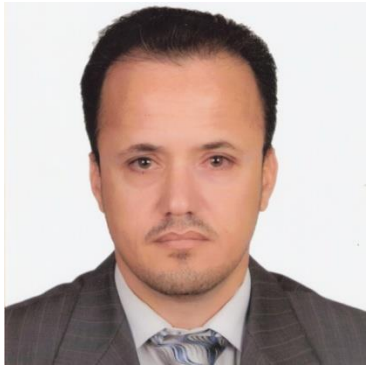
Curriculum Vitae

Ghassan Ali Alna'washi



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Personal Details:

Birth Date: March 5th, 1974
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Citizenship: Jordan

Education:

Ph.D. (Atomic and Molecular Physics), University of Nevada Reno, Reno, NV. USA, 2007.

M.Sc. (Solid State Physics), Yarmouk University, Irbid, Jordan, 1999.

B.Sc. (Physics), Yarmouk University, Irbid, Jordan, 1996.

Ph.D Dissertation:

Photoionization of the Multiply Charge Cl-Like Ions Using Synchrotron Radiation, University of Nevada, Reno, USA.

Ph.D Advisor

Ronald A. Phaneuf
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M.Sc Thesis:

On the Effect of Atomic Order-Disorder on the Hyperfine Interactions of $Fe_{3-x}Mn_xSi$ Using Mössbauer Spectroscopy, Yarmouk University, Irbid, Jordan.

Employment History:

July 2015, to Present
Associate Professor
Department of Physics
The Hashemite University
Zarqa, 13115 Jordan

September 2016, to present
Associate Professor
Department of Physics
Imam AbdulRahman Bin Faisal University
Dammam, Saudi Arabia

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Chairman of physics department
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Assistant Professor
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June, 2010 - September, 2010
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June, 2009 - September, 2009
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2004-2007
Graduate Research Assistant
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2002-2004:
Graduate Teaching Assistant
Department of Physics/220
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1999-2002
Lab. Instructor
Jordan University of Science and Technology
Irbid 22110, Jordan

1997-1999
Physics High School Teacher
Ministry of Education
Amman, Jordan

Professional Awards:

1. **Mackenzie Scholarship** for outstanding academic performance, University of Nevada, Reno, Nevada, USA, 2003/2004.
2. **The Hashemite university** competitive scholarship toward the Ph.D degree in physics (atomic and molecular physics) in University of Nevada, Reno, USA.

Experience:

Teaching:

- **Undergraduate level:**
  Teaching of different courses including general physics I, general physics II, electricity and magnetism I, electricity and magnetism II , quantum mechanics I, quantum mechanics II, Waves and vibrations, in addition to different lab. courses including general physics, mechanics, electricity and magnetism, thermal physics, modern optics, modern physics, and nuclear physics.

- **Graduate level**:
  Advanced quantum mechanics, Electrodynamics, atomic and molecular physics, Dynamics and structure of atoms and molecules, and Mathematical physics.

Research:

- Interactions of multiply charged ions with photons; photoexcitation and photoionization using the photon-ion beam endstation at beamline 10.0.1 at the Advanced Light source in Lawrence Berkeley National Lab.

- Electron impact ionization of multiply charge ions.

- Mossbauer spectroscopy and hyperfine interactions between the nucleus and the nearest neighbors in solids including Isomer shift, magnetic dipole interaction, and electric quadrupole interaction.

Graduate student supervision:

1. Mohammad Al-Harrab:
   M.Sc Physics
   Thesis title: One-dimensional spin-polarized atomic gas

2. Manal Almasa'eed.
   MSc physics
   Thesis title: One-Dimensional trapped bose atomic gases

<u>Research Projects:</u>

1. Magnetic study of M-Type Co-Ti doped Strontium hexaferrites nanocrystalline particles.

2. Fabrication and Characterization of MgO -based Magnetic Tunnel Junctions.

Publications:

1. "Investigation on X-ray photoelectron spectroscopy, structural and low temperature magnetic properties of Ni-Ti co-substituted M-type strontium hexaferrites prepared by ball milling technique", **G. A. Alna'washi**, A. M. Alsmadi, I. Bsoul, B. Salameh, Gassem M. Alzoubi, M. Shatnawi, S. M. Hamasha, and S. H. Mahmood, Results in Phys. 28, 104574 (2021).

2. "Magnetic study of M-type Co-Ti doped Strontium hexaferrite nanocrystalline particles", **G. A. Alna'washi**, A. M. Alsmadi, I. Bsoul, Gassem M. Alzoubi, B. Salameh, M. Shatnawi, F.M. Al-Dweri, and S. H. Mahmood, J. Supercond. Nov. Magn. **33**, 1423-1432 (2019).

3. " Valence-shell single photoionization of chlorine-like K^{2+} ions: Experiment and Theory", **G. A. Alna'washi**, M. Lu, M. Habibi, D. Esteves-Macaluso, J. C. Wang, R. A. Phaneuf, A. L. D. Kilcoyne, C. Cisneros, B. M. McLaughlin, Phys. Rev. A, **90**, 023417 (2014).

4. " Electron-impact ionization of Se^{2+}", **G A Alna'washi**, N B Aryal, K K Baral, C M Thomas, and R A Phaneuf, J. Phys. B. At. Mol. Opt. Phys, **47**, 135203 (2014).

5. " Electron-impact ionization of Se^{3+}", **G A Alna'washi**, K K Baral, N B Aryal, C M Thomas, and R A Phaneuf, J. Phys. B. At. Mol. Opt. Phys, **47** 105201 (2014).

6. "Valence-shell photoionization of the Chlorine-like Ca^{3+} Ion", **Ghassan A. Alna'washi**, M. Lu, M. Habibi, R. A. Phaneuf, A. L. D. Kilcoyne and A. S. Schlachter, C. Cisneros, B. M. McLaughlin, Phys. Rev. A **81**, 053416 (2010).

7. "Magnetic study of M-type Ru-Ti doped strontium hexaferrite nanocrystalline particles" A. M. Alsmadi, I. Bsoul, S. H. Mahmood, **G. Alnawashi**, F. M. Al-Dweri, Y. Maswadeh, U. Welb, J. Alloys Compd 648, 419-427, (2015)

8. " Magnetic and optical properties of Co-doped ZnO nanocrystalline particles", M. Shatnawi , A.M. Alsmadi, I. Bsoul, B. Salameh, **G.A. Alna'washi**, F. Al-Dweri, F. El Akkad, J. Alloys Compd **655,** 244-252**,** (2016)

9. "Confinement Resonances in Photoionization of $Xe@C_{60}^{+}$", A. L. D. Kilcoyne, A. Aguilar, A. Müller, S. Schippers, C. Cisneros, **G. Alna'Washi**, N. B. Aryal, K. K. Baral, D. A. Esteves, C. M. Thomas, and R. A. Phaneuf, Phys. Rev. Lett. **105**, 213001 (2010).

10. "Valence-shell single photoionization of Kr^{+} ions: Experiment and theory", G. Hinojosa, A. M. Covington, **G. A. Alna'Washi**, M. Lu, R. A. Phaneuf, M. M. Sant'Anna, C. Cisneros, I. Álvarez, A. Aguilar, A. L. D. Kilcoyne, A. S. Schlachter, C. P. Ballance, and B. M. McLaughlin, Phys. Rev. A, 86, 063402 (2012).

11. "Thermodynamics of a repulsive and attractive harmonically-trapped one-dimensional atomic Bose gas", M. K. Al-Sugheir, F. M. Al-Dweri**, G. Alna'washi**, M. G. Shatnawi, Physica B **408**, 151-157 (2012).

12. "A microscopic study of the finite two-dimensional trapped bose atomic gas", M.K. Al-Sugheir, **G. Alna'washi**, H.B. Ghassib, A. Sandouqa, Physica B **407**, 2313–2320, (2012).

13. "High-resolution photoionization of Xe^{+} ions", A Aguilar, **G. Alna'washi**, R. C. Bilodeau, A. Carr, D. A. Esteves, A. L. D. Kilcoyne, A. Müller, R. A. Phaneuf, E. Red, S. Schippers, N. C. Sterling, C. P. Ballance and B. M. McLaughlin, J. Phys. Conf. Ser. **388**, 022038 (2012).

14. "Confinement Resonances in Photoionization of $Xe@C_{60}^{+}$", A. L. D. Kilcoyne, A. Aguilar, A. Müller, S. Schippers, C. Cisneros, **G. Alna'Washi**, N. B. Aryal, K. K. Baral, D. A. Esteves, C. M. Thomas, and R. A. Phaneuf, J. Phys. Conf. Ser. **388**, 022003 (2012).

15. "Photoionization and electron-impact ionization of Ar^{5+}," Jing Cheng Wang, M. Lu, D. Esteves, M. Habibi, **G. Alna'Washi**, R.A. Phaneuf and A.L.D. Kilcoyne, Phys. Rev. A **75**, 062712 (2007).

16. "Photoionization and electron-impact ionization of Kr^{3+}", M. Lu, **G. Alna'Washi**, M. Habibi, M.F. Gharaibeh, R.A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A.S. Schlachter, C. Cisneros and G. Hinojosa, Phys. Rev. A **74**, 062701 (2006).

17. "Photoionization and electron-impact ionization of Kr^{5+}", M. Lu, M.F. Gharaibeh, **G. Alna'Washi**, R.A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A.S. Schlachter, A. Müller, S. Schippers, J. Jacobi and C. Cisneros, Phys. Rev. A **74**, 012703 (2006).

18. "On the Effects of the Interaction Potential Parameters on Bose_Einstein Condensation", M.K. Al-Sugheir, H.A. Al-Khzon, M. Al-Maghrabi and **G.A. Alna'washi**, Acta Physica Polonica A,**122** (4), 704 (2012).

19. "New Atomic Data for Trans-Iron Elements and Their Application to Abundance Determinations in Planetary Nebulae", N. C. Sterling, M. C. Witthoeft , D. A. Esteves, R. C. Bilodeau, A. L. D. Kilcoyne, E. C. Red, R. A. Phaneuf, **G. Alna'Washi**, A. Aguilar, Canadian Journal of Physics, **89** (4), 379-385 (2011).

20. "Magnetic study of M-type doped barium hexaferrite nanocrystalline particles", A. M. Alsmadi, I. Bsoul, S. H. Mahmood, **G. Alnawashi**, K. Prokes, K. Siemensmeyer, B. Klemke, and H. Nakotte, J. Appl. Phys. **114**, 243910 (2013).

21. "Influence of Mn doping on the magnetic and optical properties of ZnO nanocrystalline particles", M. Shatnawi, A.M. Alsmadi, I. Bsoul, B. Salameh, M. Mathai, **G. Alnawashi**, Gassem M. Alzoubi, F. Al-Dweri, M.S. Bawa'aneh, Results in physics, **6**, 1064 (2016).

22. "Multistream instability in two and three−species plasma", M.S. Bawa'aneh, Ghada Assayed, Moath Shatnawi, **Ghassan A. Alna'washi** and Saud Al−Awfi, JJP, Vol. **2** No. 2, pp 113-123 (2009).

23. "Mössbauer Spectroscopic Study of Order-Disorder Phenomena in $Fe_{3-x}Mn_xSi$", **Ghassan A. Alna'washi**, Sami H. Mahmood, Abdel-Fatah D. Lehlooh and Ahmad S. Saleh. Physica B. **321** (2002) pp. 167-172.

References:

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