



May 20, 2020

Résumé of Ahmed H. Hussein, PhD, PPhys, SmIEEE¹

CONTACT INFORMATION

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PERSONAL INFORMATION

Dual citizen of Canada and Egypt. Fluent in English and Arabic.

EDUCATION

Ph.D. in Nuclear Physics University of Alberta, Edmonton, Alberta, Canada.	1976
M.Sc. in Nuclear Physics University of Alberta, Edmonton, Alberta, Canada.	1970
B.Sc. in Applied Physics University of Alexandria, Alexandria, Egypt.	1963

WORK EXPERIENCE

University of Northern British Columbia (Department of Physics)	
<i>Founding Chair of Physics</i>	April 1994-March 2005
<i>Professor of Physics</i>	April 1994-June 2005
<i>Professor Emeritus of Physics</i>	Lifetime

¹PPhys: Professional Physicist, grand by the Canadian Association of Physicists.
SmIEEE: Senior member of the Institute of the Electronic and Electrical Engineers (IEEE)).

Institute for Solid-State Nuclear Physics, Berlin, Germany
Associate Member **2012-Present**

Tri-University Meson Facility (TRIUMF) (Science Division)
Affiliate Scientist **2016-Present**

King Fahd University of Petroleum and Minerals (Department of Physics)
Professor 1990 - 1993
Associate Professor 1982 - 1990
Assistant Professor 1976 - 1982

Visiting Scientist/Professor (Through out many years)
 Sabbatical Leaves at: CSR², TRIUMF, LAMPF³, DRAGON⁴.
 Summer and short visits for experiments: TUNL⁵, LAMPF, University Texas at Austin⁶,
 Salford University, Salford, UK.

External Organization Memberships

- Canadian Association of Physicists (CAP).
- Institute for Electrical and Electronic Engineers (IEEE).
- TRIUMF Users Group.
- American Physical Society (APS).
- Los Alamos Meson Physics Facility (LAMPF) Users Group (former member).

Other Activities

- **Co-coordinator**, British Columbia & Yukon high school prize exam, Canadian Association of Physicists.
- **British Columbia and Yukon Councilor**, Canadian Association of Physicists (1997 - 1999).
- **International Workshop Organizer**, Applications of Accelerator Mass Spectrometry, UNBC (1999).
- **Peer Reviewer**, Natural Sciences and Engineering Council (of research proposals) and various IEEE journals (of publications).
- **Conference Presentation**, numerous international scientific conferences.

²Centre for Subatomic Research, University of Alberta, Canada

³Los Alamos Meson Physics Facility, New Mexico, USA

⁴Detector for Recoils and Gammas of Nuclear Reaction facility at TRIUMF

⁵Triangle University Nuclear Laboratory, Duke University, Durham, NorthCarolina, USA

⁶For research experiments at LAMPF



May 20, 2020

PUBLICATIONS⁷

- 1. Search for the rare decays $\pi^+ \rightarrow \mu^+ \nu_\mu \nu \bar{\nu}$ and $\pi^+ \rightarrow e^+ \nu_e \nu \bar{\nu}$**
A. Aguilar-Arevalo, M. Aoki, M. Blecher, D.I. Britton, D. vom Bruch, D.A. Bryman, S. Chen, J. Comfort, S. Cuen-Rochin, L. Doria, P. Gumplinger, A. Hussein, Y. Igarashi, S. Ito, S. Kettell, L. Kurchaninov, L.S. Littenberg, C. Malbrunot, R.E. Mischke, T. Numao, D. Protopopescu, A. Sher, T. Sullivan, D. Vavilov, D. Gorbunov, and D. Kalashnikov
To be submitted to Physical Review D (2020)
- 2. Improved search for two body muon decay $\mu^+ \rightarrow e^+ X_H$**
A. Aguilar-Arevalo, M. Aoki, M. Blecher, D.I. Britton, D. vom Bruch, D. A. Bryman, S. Chen, J. Comfort, S. Cuen-Rochin, L. Doria, P. Gumplinger, A. Hussein, Y. Igarashi, S. Ito, S. Kettell, L. Kurchaninov, L. S. Littenberg, C. Malbrunot, R. E. Mischke, T. Numao, D. Protopopescu, A. Sher, T. Sullivan, and D. Vavilov (The PIENU Collaboration)
Phys. Rev. **D101** (2020) 052014
- 3. Search for Heavy Neutrinos in $\pi \rightarrow \mu \nu$ Decay.**
A. Aguilar-Arevalo, M. Aoki, M. Blecher, D.I. Britton, D. vom Bruch, D.A. Bryman, S. Chen, J. Comfort, L. Doria, S. Cuen-Rochin, P. Gumplinger, A. Hussein, Y. Igarashi, S. Ito, S.H. Kettell, L. Kurchaninov, L.S. Littenberg, C. Malbrunot, R.E. Mischke, T. Numao, D. Protopopescu, A. Sher, T. Sullivan, D. Vavilov
Physics Letters **B798** (2019) 134980
- 4. Improved Search for Heavy Neutrinos in the Decay $\pi \rightarrow e \nu$.**
A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D. vom Bruch (British Columbia U.), D.A. Bryman (British Columbia U. & TRIUMF), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), S. Cuen-Rochin (British Columbia U.), L. Doria (TRIUMF & Mainz U.), P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U. & TRIUMF), Y. Igarashi (KEK, Tsukuba), S. Ito (Osaka U.), S. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L.S. Littenberg (Brookhaven), C. Malbrunot (British Columbia U.), R.E. Mischke (TRIUMF),

⁷Some publication (# 2 - 21) in the list include authors' institutions to emphasize the national and international spread of my research.

T. Numao (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher (TRIUMF), T. Sullivan, D. Vavilov (TRIUMF).
Physical Review. **D97**, (2018) 072012.

5. Dual-fluid reactor (Book Chapter).

Armin Huke (IFK, Berlin), Götz Ruprecht (IFK, Berlin), Daniel Weißbach (IFK, Berlin), Konrad Czerski (IFK, Berlin & Szczecinski U.), Stephan Gottlieb (IFK, Berlin), **Ahmed Hussein** (IFK, Berlin & Northern British Columbia U.), Fabian Herrmann (IFK, Berlin)
Chapter 25 in Molten Salt Reactors, Thorium Energy
Editor: Thomas J. Dolan
Publisher: Elsevier, WoodHead, 2017, pp 619-633.

6. Initial results from the PIENU experiment.

T. Sullivan (British Columbia U.), A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman (British Columbia U.), D.vom Bruch (Mainz U.), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), S. Cuen-Rochin (British Columbia U.) L. Doria, P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), S. Ito (Osaka U.), S.H. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L.S. Littenberg (Brookhaven), C. Malbrunot (CERN), R.E. Mischke, T. Numao (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher (TRIUMF), D. Vavilov (TRIUMF)
6th International Symposium on Symmetries in Subatomic Physics (SSP 2015) 08-12 Jun 2015. Victoria, BC, Canada. Hyperfine Interaction. **238** (2017) no.1, 3.

7. Initial results from the PIENU experiment.

Tristan Sullivan (British Columbia U.), A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I Britton (Glasgow U.), D.A Bryman (British Columbia U.), D. vom Bruch (Mainz U.), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U., Tempe), S. Cuen-Rochin (British Columbia U.) L. Doria, P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), S. Ito (Okayama U.), S.H Kettell (Brookhaven Natl. Lab.), L. Kurchaninov (TRIUMF), L.S Littenberg (Brookhaven Natl. Lab.), C. Malbrunot (CERN), R.E Mischke, T. Numao (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher, D. Vavilov (TRIUMF).
13th International Conference on Heavy Quarks, Leptons 22-27 May 2016. Blacksburg, Virginia, USA.
PoS HQL2016 (2017) 043.

8. Search for massive neutrinos in $\pi^+ \rightarrow e + \nu_e$ decay.

S. Ito (Osaka U.), A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman, D.vom Bruch (British Columbia U.), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), S. Cuen-Rochin (British Columbia U.) L. Doria, P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), S. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), C. Malbrunot (British Columbia U. & CERN), R.E. Mischke, T. Numao (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher (TRIUMF),

T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF).
Proceedings, 6th International Symposium on Symmetries in Subatomic Physics. Victoria, BC, Canada, June 8-12, 2015.
Hyperfine Interactions 238 (2017) no.1, 1

9. Status of the TRIUMF PIENU Experiment.

PiENU Collaboration: S. Ito (Osaka U.), A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman, D. vom Bruch (British Columbia U.), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), S. Cuen-Rochin (British Columbia U.), L. Doria, P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), S. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), C. Malbrunot (CERN & British Columbia U.), R.E. Mischke, T. Numao (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher (TRIUMF), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF).

12th Conference on the Intersections of Particle, Nuclear Physics (CIPANP 2015) 19-24 May 2015. Vail, Colorado, USA.

J. Phys. Conf. Ser. 631 (2015) no.1, 012044.

10. Improved Measurement of the $\pi \rightarrow \nu e$ Branching Ratio.

PiENU Collaboration: A. Aguilar-Arevalo (Mexico U., CEN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman, D. vom Bruch (British Columbia U.), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), M. Ding (Tsinghua U., Beijing), L. Doria (TRIUMF), S. Cuen-Rochin (British Columbia U.), P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), S. Ito (Osaka U.), S.H. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L.S. Littenberg (Brookhaven), C. Malbrunot (British Columbia U.), R.E. Mischke, T. Numao (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher (TRIUMF), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF), K. Yamada (Osaka U.)

Physical Review Letters. 115 (2015) no.7, 071801,

11. The Dual Fluid Reactor - A novel concept for a fast nuclear reactor of high efficiency.

Armin Huke (IFK, Berlin), Götz Ruprecht (IFK, Berlin), Daniel Weißbach (IFK, Berlin), Ahmed Hussein (IFK, Berlin, & Northern British Columbia U.), Konrad Czerski (IFK, Berlin, & Szczecinski U.), Stephan Gottlieb (IFK, Berlin).

Annals of Nuclear Energy 80 (2015) 225-235.

10. Detector for measuring the $\pi^+ \rightarrow e + \nu_e$ branching fraction.

PiENU Collaboration: A. A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D. vom Bruch, D. Bryman (British Columbia U.), J. Comfort (Arizona State U.), S. Cuen-Rochin (British Columbia U.), L. Doria, P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), N. Ito, S. Ito (Osaka U.), S.H. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), C. Malbrunot (British Columbia U.), R.E. Mischke (TRIUMF), A. Muroi

(Osaka U.), T. Numao, G. Sheffer (TRIUMF), A. Sher (TRIUMF), T. Sullivan (British Columbia U.), K. Tauchi (KEK, Tsukuba), D. Vavilov (TRIUMF), K. Yamada, M. Yoshida (Osaka U.)

Nuclear Instruments, Methods. **A791** (2015) 38-46.

11. Status of the PIENU experiment.

T. Numao (TRIUMF), A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman, D. vom Bruch (British Columbia U.), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), S. Cuen-Rochin (British Columbia U.) L. Doria, P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (Sokendai, Tsukuba), S. Ito (Osaka U.), S. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), C. Malbrunot (British Columbia U.), R. Mischke (TRIUMF), D. Protopopescu (Glasgow U.), A. Sher (TRIUMF), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF).

11th International Conference on Hyperons, Charm, Beauty Hadrons.

21-26 Jul 2014. Birmingham, United Kingdom. J. Phys. Conf. Ser. **556** (2014) no.1, 012002.

12. Reply on Comments on “Energy intensities, EROIs (energy returned on invested), energy payback times of electricity generating power plants” - Making clear of quite some confusion.

D. Weißbach (IFK, Berlin), G. Ruprecht (IFK, Berlin), A. Huke (IFK, Berlin), K. Czerski (IFK, Berlin, & Szczecinski U.), S. Gottlieb (IFK, Berlin), **A. Hussein** (IFK, Berlin, & Northern British Columbia U.)

Energy **68** (2014) 1004-1006.

13. The Dual Fluid Reactor - A New Concept For a Highly Effective Fast Reactor.

Armin Huke (IFK, Berlin), Götz Ruprecht (IFK, Berlin), Daniel Weißbach (IFK, Berlin), **Ahmed Hussein** (IFK, Berlin, & Northern British Columbia U.), Konrad Czerski (IFK, Berlin, & Szczecinski U.), Stephan Gottlieb (IFK, Berlin).

The 19th Pacific Basin Nuclear Conference (PBNC 2014), Vancouver, British Columbia, Canada, August 24-28, 2014.

14. Energy intensities, EROIs (Energy Returned On Invested), energy payback times of electricity generating power plants.

D. Weibach (IFK, Berlin), G. Ruprecht (IFK, Berlin), A. Huke (IFK, Berlin), K. Czerski (IFK, Berlin, & Szczecinski U.), S. Gottlieb (IFK, Berlin), **A. Hussein** (IFK, Berlin, & Northern British Columbia U.)

Energy **52** (2013) 210-221.

15. PIENU experiment at TRIUMF: A sensitive probe of new physics.

A. Sher (TRIUMF), A. Aguilar-Arevalo (Mexico U., ICN), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman, D. Von Bruch (British Columbia U.), S. Chen (Tsinghua U., Beijing, Dept. Eng. Phys.), J. Comfort (Arizona State U.), M. Ding (Tsinghua U., Beijing, Dept. Eng. Phys.), L. Doria P. Gumplinger (TRIUMF), **A. Hussein**

(Northern British Columbia U.), Y. Igarashi (Sokendai, Tsukuba), N. Ito, S. Ito (Osaka U.), S. Kettell (Brookhaven), Y. Kuno (Osaka U.), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), C. Malbrunot (Stefan Meyer Inst. Subatomare Phys.), R. Mischke, T. Numao (TRIUMF), A. Sandor (Brookhaven), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF), K. Yamada (Osaka U.), Y. Yoshida (Sokendai, Tsukuba).
American Institute of Physics Conference Proceedings **1560** (2013) 125-127.

16. Precision tests of electron-muon universality with pions.

T. Numao, A. Aguilar-Arevalo, M. Aoki, M. Blecher, D.I. Britton, D.A. Bryman, S. Chen, J. Comfort, M.M. Ding, L. Doria P. Gumplinger, **A. Hussein**, Y. Igarashi, S.H. Kettell, L. Kurchaninov, L. Littenberg, C. Malbrunot, A. Sher, T. Sullivan, V. Vavilov, Y. Yoshida, K. Yamada.

5th International Workshop on From Parity Violation to Hadronic Structure, More.(PAVI11) 5-9 Sep 2011. Rome, Italy.

Nuovo Cim. C035N04 (2012) 63-67.

17. Massive neutrino search in the decay $\pi^+ \rightarrow e^+\nu$.

C. Malbrunot (British Columbia U. & TRIUMF), M. Aoki (Osaka U., Inst. Phys.), M. Blecher (Virginia Tech.), D.A. Bryman (British Columbia U. & TRIUMF), S. Chen, M. Ding (Tsinghua U., Beijing, Dept. Eng. Phys.), L. Doria, P. Gumplinger (TRIUMF), C. Hurst (British Columbia U.), **A. Hussein** (Northern British Columbia U.) Y. Igarashi (KEK, Tsukuba), N. Ito (Osaka U., Inst. Phys.), S.H. Kettell (Brookhaven), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), T. Numao, R. Poutissou, A. Sher (TRIUMF), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF), K. Yamada, M. Yoshida (Osaka U., Inst. Phys.)

American Institute of Physics Conference Proceedings 1441 (2012) 471-473.

18. Measurement of the pion branching ratio at TRIUMF.

C. Malbrunot (British Columbia U.), A.A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U., Inst. Phys.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman (British Columbia U.), S. Chen (Tsinghua U., Beijing, Dept. Eng. Phys.), J. Comfort (Arizona State U.), M. Ding (Tsinghua U., Beijing, Dept. Eng. Phys.), L. Doria P. Gumplinger (TRIUMF), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), S. Ito (Osaka U., Inst. Phys.), S.H. Kettell (Brookhaven), Y. Kuno (Osaka U., Inst. Phys.), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), T. Numao, A. Sher (TRIUMF), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF), M. Yoshida (Osaka U., Inst. Phys.)

American Institute of Physics Conference Proceedings **1441** (2012) 564-566.

19. ORKA: Measurement of the $K \rightarrow \pi^+\nu\bar{\nu}$ decay at Fermilab.⁸

Joseph Comfort (Arizona State U.), Douglas Bryman, Luca Doria, Toshio Numao, Aleksey Sher, Dimitry Vavilov (British Columbia U. & TRIUMF), David Jae, Steve Kettell, Laurence Littenberg, Elizabeth Worcester (Brookhaven) Leo Bellantoni, Brendan Casey,

⁸This experiment was approved by Fermilab and all involved institution including about \$70 million budget. Unfortunately, budget cut a year later at Fermilab lead to cancellation of 5 experiments including this one.

David Christian, D.A. Jensen, reas Kronfeld, Jonathan Lewis, Sergei Striganov, Robert Tschirhart, Herman White, Peter Wilson (Fermilab), Kevin Pitts (Illinois U., Urbana), Corrado Gatto (INFN, Naples), Roberto Carosi (INFN, Pisa), Yuri Kudenko, Oleg Mineev, Artur Shaykhiev (Moscow, INR), Akram Artikov, Julian Budagov, Yuri Davydov, Vladimir Glagolev (Dubna, JINR), **Ahmed Hussein** (Northern British Columbia U.), Alexis A. Aguilar-Arevalo (Mexico U.), Jurgen Engelfried (San Luis Potosi U.), Jack Ritchie (Texas U.), Shaomin Chen, Mingming Ding, Zhe Wang (Tsinghua U., Beijing).
Nov 28, 2011 - 75 pages. FERMILAB-PROPOSAL-1021.

20. The PIENU experiment at TRIUMF : A sensitive probe for new physics.

Chloe Malbrunot (British Columbia U. & TRIUMF), A.A. Aguilar-Arevalo (Mexico U., ICN), M. Aoki (Osaka U.), M. Blecher (Virginia Tech.), D.I. Britton (Glasgow U.), D.A. Bryman (British Columbia U. & TRIUMF), S. Chen (Tsinghua U., Beijing), J. Comfort (Arizona State U.), M. Ding (Tsinghua U., Beijing), J. Doornbos L. Doria, P. Gumplinger (TRIUMF), C. Hurst (British Columbia U.), **A. Hussein** (Northern British Columbia U.), Y. Igarashi (KEK, Tsukuba), N. Ito (Osaka U.), S. Kettell (Brookhaven), Y. Kuno (Osaka U.), L. Kurchaninov (TRIUMF), L. Littenberg (Brookhaven), T. Numao, R. Poutissou, A. Sher (TRIUMF), T. Sullivan (British Columbia U.), D. Vavilov (TRIUMF), K. Yamada (Osaka U.), M. Yoshida (KEK, Tsukuba).

24th International Nuclear Physics Conference (INPC 2010). 4-9 July 2010. Vancouver, Canada.

J. Phys. Conf. Ser. **312** (2011) 102010.

21. NEURAL: A tracking detector for neutron-induced reactions of astrophysical importance.

L. Martin, L. Buchmann (TRIUMF), J.F. Carpino, A. Chen (McMaster U.), A. Couture (Los Alamos), B. Davids, J. Fallis (TRIUMF), S.P. Fox (York U., England), U. Hager (Colorado School of Mines), **A. Hussein** (Northern British Columbia U.) A.M. Laird (York U., England), K. Olchanski, D. Ottewell, C. Ruiz, G. Ruprecht, G. Sheffer, S. Sjue (TRIUMF), O. Tengblad (Madrid, Inst. Estructura Materia), F. Tovesson (Los Alamos).

24th International Nuclear Physics Conference (INPC 2010), 4-9 July 2010. Vancouver, Canada.

J. Phys. Conf. Ser. 312 (2011) 042014.

22. Search for Massive Neutrinos in the Decay $\pi \rightarrow e\nu$.

M. Aoki, M. Blecher, D. A. Bryman, S. Chen, M. Ding, L. Doria, P. Gumplinger, C. Hurst, **A. Hussein**, Y. Igarashi, N. Ito, S. Kettell, L. Kurchaninov, L. Littenberg, C. Malbrunot, T. Numao, R. Poutissou, A. Sher, T. Sullivan, K. Yamada, M. Yoshida, D. Vavilov.

Physical Review **D84** (2011) 052002.

23. First Direct Measurement of the Dominant Resonance in the $^{23}\text{Mg}(p, \gamma) ^{24}\text{Al}$ Reaction Relevant to Explosive Hydrogen Burning in O-Ne Novae.

L. Erikson, C. Ruiz, D. A. Hutcheon, C. Vockenhuber, U. Hager, F. Ames, P. Bricault, L. Buchmann, A. A. Chen, J. Chen, H. Dare, B. Davids, C. Davis, C. Deibel, M. Dombisky, S. Foubister, N. Galinski, U. Greife, **A. Hussein**, J. Lassen, L. Martin, D. F. Ottewell, C.

- V. Ouellet, G. Ruprecht, K. Setoodehnia, A.C. Shotter, A. Teigelhddotofer, C. Wrede, A. Wallner.
Physical Review C **81**, (2010) 045808.
- 24. Study of a large NaI(Tl) crystal**
A. Aguilar-Arevalo, M. Aoki, M. Blecher, D.A. Bryman, L. Doria, P. Gumplinger, **A. Hussein**, N. Ito, S. Kettell, L. Kurchaninov, L. Littenberg, C. Malbrunot, G.M. Marshall, T. Numao, R. Poutissou, A. Sher, K. Yamada.
Nuclear Instruments, Methods in Physics Research. **A621**, (2010) 188.
- 25. High Purity Pion Beam at TRIUMF.**
A. Aguilar-Arevalo, M. M. Blecher, D.A. Bryman, J. Comfort, J. Doornbos, L. Doria, **A. Hussein**, N. Ito, S. Kettell, L. Kurchaninove, C. Malbrunot, G.M. Marshall, T. Numao, R. Poutissou, A. Sher, B. Walker, K. Yamada.
Nuclear Instruments, Methods in Physics Research. **609**, (2009) 102.
- 26. $^{40}\text{Ca}(\alpha, \gamma)^{44}\text{Ti}$, the production of ^{44}Ti in supernovae.**
C. Vockenhuber, C. O. Ouellet, L.-S. The, L. Buchmann, J. Caggiano, A. A. Chen, J. M. D'Auria, B. Davids, L. Fogarty, D. Frekers, D. **A. Hussein** D. A. Hutcheon, W. Kutschera, D. Ottewell, M. Paul, M. M. Pavan, J. Pearson, C. Ruiz, G. Ruprecht, M. Trinczek, A. Wallner.
Journal of Physics G: Nuclear, Particle Physics, **35**, (2008) 014034.
- 27. Improvements of the DRAGON recoil separator at ISAC.**
C.Vockenhuber, L.Buchmann, J.Caggiano, A. A. Chen, J. M. D'Auria, C. A.Davis, U. Greife, **A. Hussein**, D. A. Hutcheon, D. Ottewell, C.O. Ouellet, A. Parikh, J. Pearson, C. Ruiz, G. Ruprecht, M. Trinczek, J. Zylberberg.
Nuclear Instruments, Methods in Physics Research **B266**, (2008)4167.
- 28. Background suppression by the DRAGON radiative capture facility at TRIUMF/ ISAC**
D. Hutcheon, L. Buchmann, A. A. Chen, J.M. D'Auria, C.A. Davis, U. Greife, **A. Hussein**, D.F. Ottewell, C.V. Ouellet, A. Parikh, P. Parker, J. Pearson, C. Ruiz, G. Ruprecht, M. Trinczek, C. Vockenhuber.
Nuclear Instruments, Methods in Physics Research **B266**, (2008)4171.
- 29. The $^{40}\text{Ca}(\alpha, \gamma)^{44}\text{Ti}$ reaction at DRAGON.**
Vockenhuber, C. Ouellet, C. O. Buchmann, L. Caggiano, A. A. Chen, J. D'Auria, J. M. Frekers, **Hussein, A.** Hutcheon, D. A. Kutschera, W. Jayamanna, K. Ottewell, D. Paul, J. Pearson, C. Ruiz, G. Ruprecht, M. Trinczek, M. Wallner, A.
Nuclear Instruments, Methods in Physics Research **259**, (2007) 688.
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