

## **Thomas Huber, Ph.D.**

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### **Education**

**Ph.D., Physics (1989)**, *Thesis: Mixing of Muonium and Antimuonium*  
University of Wyoming, Laramie, WY

**Bachelor of Science, Physics and Math/Computer Science (1983)**  
St. John's University, Collegeville, MN

### **Experience**

**Assistant, Associate, and Full Professor, Gustavus Adolphus College  
(September 1989-Present)**

#### **Undergraduate Physics Courses and Labs Including:**

Classical Physics I; Classical Physics II; Cosmic Universe; Engineering Modeling; Modern Physics; Quantum Universe; Applied Mathematical Methods for Physics and Engineering; Electronics I & Lab; Experimental Modern Physics Lab; Mechanics; Advanced Mathematical Methods in Physics; Electronics II & Lab; Electromagnetic Fields; Optics; Quantum Mechanics; Statistical and Thermal Physics; Senior Seminar in Physics.

#### **Undergraduate General Education and Service Courses and Labs including:**

General Physics I and II; Life Science Physics I and II, Energy: Where are We and What's Next (First Term Seminar and January Term formats); Robotics Workshop; Introduction to Cosmology; Natural World; Fortran for the Physical Sciences; Scientific Programming in C and MATLAB; Computer Tools for Physics; How Musical Instruments Work; Physics of Sound & Music.

#### **Selected Committee Service and Leadership Positions**

Chair of Physics Department (2016-2000)  
Director of Undergraduate Research, Scholarship and Creativity (2014-2017)  
Kendall Center Faculty Associate for Undergraduate Research (2011-2014)  
Faculty Senate, Compensation Subcommittee (2013-2015)  
Faculty Development Committee (2012-2015), Chair (2014-2015)  
International and Domestic Programs Committee (2007-10), Chair (2007-9)  
Gustavus Global Insight: China Steering Committee (2007-8), Chair, (2007-8)  
Academic Operations Committee (1997-2001), Co-Chair (1997-8)

Information Technology Advisory Committee (1997-2000), Chair (1997-9)  
Gustavus Sigma Xi Chapter (Vice Chair 1993-4, 2007-8; Chair 1995-6, 2008-9)  
Gustavus Radiation Safety Officer (1995-6)

### **Research Assistant, University of Wyoming (1986 - 1989)**

Thesis experiment at the TRIUMF accelerator in Vancouver, British Columbia, Canada. Performed extensive work with muon beams, nuclear detectors and electronics, ultrahigh vacuum systems, surface science, Monte Carlo simulation and data analysis.

### **Physics Instructor, St. John's University, Collegeville, MN (1985 - 1986)**

Undergraduate Physics Courses and Labs Including: Foundations of Physics II; Foundations of Physics III; Mechanics; Digital and Analog Electronics Lab.  
Undergraduate General Education Course: Physics of Music.

### **Hardware / Equipment Expertise**

Substantial data acquisition/analysis experience using Ultrasound transducers and Pulsers/RF amplifiers, Polytec laser Doppler vibrometers (scanning and single point), Lock-in amplifiers, Digital and Analog Electronic circuits, Microphones, Speakers, Amplifiers, Test equipment (Oscilloscopes, function generators, multimeters, ADC/DAC cards), Laser interferometry and optical breadboarding including heterodyne (Bragg cell / Acoustic Optical Modulator) techniques, Vacuum systems, Nuclear Detectors and Electronics.

### **Programming / Software Expertise**

Expert programming proficiency in MATLAB, Python, LabVIEW, C/C++/C#, Assembly code, Xcode (for iOS apps), Java (for Android apps), Javascript, Visual Basic, COMSOL.

Extensive experience with digital signal processing including Deep Learning Convolution Neural Networks (CNN) using TensorFlow and Keras, Fourier-transform analysis methods, data acquisition/analysis hardware/software.

### **Patent**

**Vibroacoustic System for Vibration Testing, US Patent 7,987,718**

Thomas M. Huber, James F. Greenleaf\*, and Mostafa Fatemi-Booshehri\* (Mayo Clinic, Rochester, MN).

### **National Science Foundation Grants**

#### **Detection of Ultrasound Waves in Water and Air Using a Laser Interferometer**

NSF, Research at Undergraduate Institutions, \$200,000 (2016-2020)

#### **Collaborative Research: Enabling Non-Contact Structural Dynamic Identification with Focused Ultrasound Radiation Force**

NSF, with P. Avitabile, C. Niezrecki, X. Wang (Mechanical Engineering Department, University of Massachusetts, Lowell) \$204, 918 (Gustavus), \$313,407 (UMass-Lowell) (2013-2016)

#### **Excitation of Macro and Micro Cantilevers Using Ultrasound Radiation Force**

NSF, Research at Undergraduate Institutions, \$219, 943 (2009-2014)

#### **MRI-R2: Acquisition of a Scanning Laser Doppler Vibrometer System**

NSF, Major Research Instrumentation, \$310,000 (2010-2013)

#### **ARI-R2: Laboratory and Ancillary Space Upgrade to Support Undergraduate Faculty-Student Research in Physics**

NSF, Academic Research Infrastructure (T. Huber, S. Mellema, C. Niederriter, J. Petricka, P. Saulnier), \$253,150 (2010-2013)

#### **Modal Testing Using Ultrasound Radiation Force Excitation**

NSF, Research at Undergraduate Institutions, \$149,947 (2005-2009)

#### **Acquisition of Equipment for Acoustical, Optical, and Computational Scattering Studies**

NSF, Major Research Initiative (P. Saulnier, T. Huber, S. Mellema, C. Niederriter) \$101,939 (1997-2000)

#### **Reactions of Muonic Hydrogen Isotopes**

NSF, Research at Undergraduate Institutions, \$90,423 (1995-98)

#### **Enhancements in Experimental Nuclear Physics**

NSF, Instrumentation and Laboratory Improvement (T. Huber, S. Mellema), \$18,042

(1994-96)

### **Computer Simulation of a Muon Catalyzed Fusion Experiment**

NSF, Research at Undergraduate Institutions, \$50,000 (1993-95)

### **Electronics and Instrumentation Laboratory Development Project**

NSF, Instrumentation and Laboratory Improvement (D. Henry, T. Huber, C. Niederriter) \$23,000 (1992-94)

### **Other External Grants**

#### **Robotics Workshop using SunSPOT Processors**

Sun SPOT Classroom Curriculum Program (T. Huber, M. Hvidsten), \$6,050 (2008)

#### **Kinetics of Muon Catalyzed Fusion in a Multilayered Target System**

NATO Linkage Grant (With colleagues in Canada and Russia), \$25,000. (1993-94)

#### **Reactions of Muonic Hydrogen Isotopes**

Research Corporation, Renewal, \$13,320 (1993-94)

#### **Reactions of Muonic Hydrogen Isotopes**

Research Corporation, \$24,500 (1991-93)

### **Publications**

S. Chen\*, A. Sabato\*, C. Niezrecki\*, P. Avitabile\*, T. Huber, *Characterization and modeling of the acoustic field generated by a curved ultrasound transducer for non-contact structural excitation*, Journal of Sound and Vibration **432**, 33-49 (2018); <https://doi.org/10.1016/j.jsv.2018.06.028>. \*Department of Mechanical Engineering, University of Massachusetts, Lowell.

N.R. Huber, T.M. Huber, M.T. Huber\*, *Optical imaging of propagating Mach cones in water using refracto-vibrometry*, J. Acoust. Soc. Am. **141**(3), EL239 (2017); <https://doi.org/10.1121/1.4977099>. \*Department of Physics, Rhodes College.

T.M. Huber, M. Algren, C. Raisbeck, *Spatial distribution of acoustic radiation force for non-contact modal excitation*. In Topics in Modal Analysis & Testing, Volume 10: Proceedings of the 34th IMAC, A Conference and Exposition on Structural

Dynamics, Springer International Publishing, 155-162 (2016);  
[https://link.springer.com/chapter/10.1007/978-3-319-30249-2\\_12](https://link.springer.com/chapter/10.1007/978-3-319-30249-2_12).

T. M. Huber, S. M. Batalden, W. J. Doeblner, *Measurement of Vibration Resulting from Non-contact Ultrasound Radiation Force*, in Topics in Modal Analysis: Proceedings of the 33rd IMAC, A Conference and Exposition on Structural Dynamics, vol. 10, Springer International Publishing, 87–92 (2015);  
[https://link.springer.com/chapter/10.1007/978-3-319-15251-6\\_10](https://link.springer.com/chapter/10.1007/978-3-319-15251-6_10).

T.M. Huber, N.M. Beaver, J.R. Helps, *Noncontact Modal Excitation of a Classical Guitar Using Ultrasound Radiation Force*, Experimental Techniques **37**(4), 38-46 (2013);  
<https://doi.org/10.1111/j.1747-1567.2011.00775.x>.

T. M. Huber, *Selective excitation using phase shifted ultrasound radiation force from focused transducers in air*, Proceedings of 2011 National Science Foundation Engineering and Research Innovation Conference, Jan. 2011.

T. M. Huber, N. M. Beaver, and J. R. Helps, *Selective excitation using phase shifted ultrasound radiation force from focused transducers in air*, Proceedings of 2011 Society for Experimental Mechanics Annual Conference.

T.M. Huber, N.M. Beaver, J.R. Helps, *Elimination of standing wave effects in ultrasound radiation force excitation in air using random carrier frequency packets*, J. Acoust. Soc. Am **130** (4), 1838-43 (2011); <https://doi.org/10.1121/1.3628336>.

T.M. Huber, B.C. Abell, D.C. Mellema, M. Spletzer\*, and A. Raman\*, *Mode-selective noncontact excitation of microcantilevers and microcantilever arrays in air using the ultrasound radiation force*, Appl. Phys. Lett. **97**, 214101, (2010);  
<https://doi.org/10.1063/1.3521256>. \*Department of Mechanical Engineering, Purdue University.

T. M. Huber, N. M. Beaver, B. J. Bjork, J. R. Helps, C. J. Hunt, and D. C. Mellema, *Selective excitation using phase shifted ultrasound radiation force from focused transducers in air*, Proceedings of IEEE Ultrasonics Symposium, 2010.

T.M. Huber, *Book Review: An Introduction to C and Ch: Your One-Stop Shop for Scientific*

*Computing*, IEEE Computing in Science and Engineering, **12** 7-11 (2010).

T.M. Huber, E.T. Ofstad, S.M. Barthell, A. Raman\*, M. Spletzer\*, *Excitation of Vibrational Eigenstates of Coupled Microcantilevers Using Ultrasound Radiation*, in Proceedings of the ASME 2008 IDETC Conference on Micro and Nanosystems, August 6, 2008, Brooklyn, NY, Paper DETC2008-49555 (2008).

T. Huber, *Measurement Uncertainty "Error Calculator:"*, The Physics Teacher 46, 447 (October 2008).

T.M. Huber, S.D. Hagemeyer, E.T. Ofstad, M. Fatemi\*, R. Kinnick\*, J. Greenleaf\*, *Noncontact modal testing of small structures using ultrasound radiation force*, Proceedings of Society of Experimental Mechanics Annual Conference, June 4, 2007, Springfield, MA, (2007). \*Physiology & Biomedical Engineering, Mayo Clinic.

T.M. Huber, D. Calhoun‡, M. Fatemi\*, R.R. Kinnick\*, and J.F. Greenleaf\*, *Noncontact modal testing of hard-drive suspensions using ultrasound radiation force*, Proceedings of International Modal Analysis Conference (IMAC XXIV), February 2, 2006, St. Louis, MO, Paper 363 (2006). ‡Hutchinson Technology, \*Physiology & Biomedical Engineering, Mayo Clinic.

T.M. Huber, M. Fatemi\*, R. Kinnick\*, and J. Greenleaf\*, *Noncontact modal analysis of a pipe organ reed using airborne ultrasound stimulated vibrometry*, J. Acoust. Soc. Am. **119** (4), 2476-2482 (2006); <https://doi.org/10.1121/1.2171516>. \* Physiology & Biomedical Engineering, Mayo Clinic.

F. Mulhauser, A. Adamczak, G.A. Beer, V.M. Bystritsky, M. Filipowicz, M.C. Fujiwara, T.M. Huber, O. Huot, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, G.M. Marshall, A. Olin, C. Petitjean, T.A. Porcelli, L.A. Schaller, V.A. Stolupin, J. Woźniak, J. Zmeskal, *Ramsauer-Townsend effect in muonic atom scattering*, Physical Review A, **73**, 034501 (2006).

J. Woźniak, M. Filipowicz, V.M. Bystritsky, V.A. Stolupin, O. Huot, R. Jacot-Guillarmod, P.E. Knowles, F. Mulhauser, L.A. Schaller, A. Adamczak, G.M. Marshall, G.A. Beer, A. Olin, M.C. Fujiwara, T.A. Porcelli, V.E. Markushin, C. Petitjean, P. Kammel, A.R. Kunselman, T.M. Huber, S.K. Kim, J. Zmeskal, *Scattering of muonic atoms  $\mu\mu$  in solid hydrogen*, Physical Review A, **68**, 062502 (2003).

F. Mulhauser, A. Adamczak, G.A. Beer, V.M. Bystritsky, M. Filipowicz, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, A. Olin, C. Petitjean, T.A. Porcelli, V.A. Stolupin, J. Woźniak, J. Zmeskal, *Ramsauer-Townsend effect in solid hydrogen*, *Hyperfine Interactions* **138**, 41-46 (2001).

V.M. Bystritsky, A. Adamczak, G.A. Beer, M. Filipowicz, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, V.A. Stolupin, J. Woźniak, J. Zmeskal, *Generation of the ultracold muonic hydrogen flux*, *Hyperfine Interactions* **138**, 47-53 (2001).

G.M. Marshall, A. Adamczak, J.M. Bailey, J.L. Beveridge, G.A. Beer, J.H. Brewer, V.M. Bystritsky, M.P. Faifman, B.M. Forster, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, K.R. Kendall, N.P. Kherani, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, V.S. Melezhik, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, L.A. Schaller, V.A. Stolupin, J. Zmeskal, *Advantages and limitations of solid layer experiments in muon catalyzed fusion*, *Hyperfine Interactions* **138**, 203-211 (2001).

M.C. Fujiwara, A. Adamczak, J.M. Bailey, G.A. Beer, J.L. Beveridge, M.P. Faifman, T.M. Huber, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, V.E. Markushin, G.M. Marshall, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, J. Woźniak, J. Zmeskal, *Resonant scattering of muonic hydrogen atoms and dynamics of the muonic molecular complex*, *Hyperfine Interactions* **138**, 245-248 (2001).

T.A. Porcelli, A. Adamczak, J.M. Bailey, G.A. Beer, J.L. Beveridge, M.P. Faifman, M.C. Fujiwara, T.M. Huber, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, J. Woźniak, and J. Zmeskal, *Measurement of the resonant  $d\mu t$  molecular formation rate in solid HD*, *Physical Review Letters* **86**, 3763-3766 (2001).

M.C. Fujiwara, A. Adamczak, J.M. Bailey, G.A. Beer, J.L. Beveridge, M.P. Faifman, T.M. Huber, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E.

Markushin, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, J. Woźniak, and J. Zmeskal, *Resonant formation of  $d\mu t$  molecules in deuterium: An atomic beam measurement of muon catalyzed  $dt$  fusion*, Physical Review Letters **85**, 1642-1645 (2000). See also Physical Review Focus article at <http://focus.aps.org/v6/st7.html>.

T.M. Huber, A. Adamczak, J.M. Bailey, G.A. Beer, J.L. Beveridge, B.P. Ellerbusch, M.C. Fujiwara, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, G.J. Lindquist, M. Maier, V.E. Markushin, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, J. Woźniak, and J. Zmeskal, *Time-of-flight studies of emission of  $\mu t$  from frozen hydrogen films*, Hyperfine Interactions **118**, 159-161 (1999).

J. Woźniak, A. Adamczak, G.A. Beer, V.M. Bystritsky, M. Filipowicz, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, V.A. Stolupin, and J. Zmeskal, *New effects in the low energy scattering of  $p\mu$  atoms in solid hydrogen*, Hyperfine Interactions **119**, 63-69 (1999).

M.C. Fujiwara, A. Adamczak, J.M. Bailey, G.A. Beer, J.L. Beveridge, M.P. Faifman, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, J. Woźniak, and J. Zmeskal, *Time-of-flight spectroscopy of muonic tritium*, Hyperfine Interactions **118**, 151-157 (1999).

F. Mulhauser, A. Adamczak, G.A. Beer, V.M. Bystritsky, M. Filipowicz, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, A. Olin, C. Petitjean, T.A. Porcelli, V.A. Stolupin, J. Woźniak, and J. Zmeskal, *Scattering of muonic hydrogen atoms*, Hyperfine Interactions **119**, 35-44 (1999).

G.M. Marshall, T.A. Porcelli, A. Adamczak, J.M. Bailey, G.A. Beer, M.P. Faifman, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.R. Mason, F. Mulhauser, A. Olin, C.

Petitjean, and J. Zmeskal, *Resonant formation measurements of  $d\mu$  via time of flight*, *Hyperfine Interactions* **118**, 89-101 (1999).

A. Olin, A. Adamczak, G.A. Beer, V.M. Bystritsky, M. Filipowicz, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, F. Mulhauser, C. Petitjean, T.A. Porcelli, V.A. Stolupin, J. Woźniak, and J. Zmeskal, *Study of  $\mu$ -catalyzed fusion in H-D mixtures*, *Hyperfine Interactions* **118**, 163-170 (1999).

M.C. Fujiwara, G.A. Beer, J.L. Beveridge, J.L. Douglas, T.M. Huber, R. Jacot-Guillarmod, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, G.M. Marshall, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, and J. Zmeskal, *Characterization of solidified gas thin film targets via alpha particle energy loss*, *Nuclear Instruments & Methods* **A395**, 159-168 (1997).

P.E. Knowles, G.A. Beer, G.R. Mason, T.A. Porcelli, A. Adamczak, J.M. Bailey, J.L. Beveridge, G.M. Marshall, A. Olin, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, F. Mulhauser, P. Kammel, J. Zmeskal, S.K. Kim, A.R. Kunselman, C.J. Martoff, and C. Petitjean, *Muon catalyzed fusion in 3 K solid deuterium*, *Physical Review A* **56**, 1970-1982 (1997).

M.C. Fujiwara, J.M. Bailey, G.A. Beer, J.L. Beveridge, J.L. Douglas, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, and J. Zmeskal, *Emission of muonic tritium into vacuum: An atomic beam for muon experiments*, *Hyperfine Interactions* **106**, 257-264 (1997).

F. Mulhauser, J.L. Beveridge, G.M. Marshall, J.M. Bailey, G.A. Beer, P.E. Knowles, G.R. Mason, A. Olin, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, J. Zmeskal, S.K. Kim, A.R. Kunselman, V.E. Markushin, C.J. Martoff, and C. Petitjean, *Measurement of muon transfer from proton to triton and  $pp\mu$  molecular formation in solid hydrogen*, *Physical Review A* **53**, 3069-3080 (1996).

G.M. Marshall, A. Adamczak, J.M. Bailey, G.A. Beer, J.L. Beveridge, J.L. Douglas, M.P. Faifman, M.C. Fujiwara, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, N.P. Kherani, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, V.E. Markushin, C.J. Martoff, G.R. Mason, V.S. Melezhik, F. Mulhauser, A. Olin, C. Petitjean, C. Piller, T.A. Porcelli, C.P. Steffen, and J. Zmeskal, *Time-of-flight measurement of resonant molecular formation in muon catalyzed dt fusion*, *Hyperfine Interactions* **101-102**, 47-55 (1996).

M.C. Fujiwara, J.M. Bailey, G.A. Beer, J.L. Beveridge, E. Gete, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, N.P. Kherani, S.K. Kim, P.E. Knowles, A.R. Kunselman, V.E. Markushin, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, T.J. Stocki, J. Zmeskal, *Measuring sticking and stripping in muon catalyzed dt fusion with multilayer thin films*, *Hyperfine Interactions* **101-102**, 613-621 (1996).

M.C. Fujiwara, J.M. Bailey, G.A. Beer, J.L. Beveridge, J.L. Douglas, T.M. Huber, R. Jacot-Guillarmod, P. Kammel, S.K. Kim, P.E. Knowles, A.R. Kunselman, M. Maier, G.M. Marshall, C.J. Martoff, G.R. Mason, F. Mulhauser, A. Olin, C. Petitjean, T.A. Porcelli, and J. Zmeskal, *Characterization of solid hydrogen targets*, *Hyperfine Interactions* **101-102**, 641-646 (1996)

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Mulhauser, A. Olin, C. Petitjean, J. Woźniak, and J. Zmeskal, *Muon molecular formation and transfer rate in solid hydrogen-deuterium mixtures*, *Hyperfine Interactions* **101-102**, 239-248 (1996).

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F. Mulhauser, J.L. Beveridge, G.M. Marshall, G.A. Beer, P.E. Knowles, G.R. Mason, A. Olin, M.C. Fujiwara, P. Kammel, J. Zmeskal, R. Jacot-Guillarmod, T.M. Huber, J.M. Bailey, C. Petitjean, C.J. Martoff, A.R. Kunselman, N.P. Kherani, and S.K. Kim, *Muon catalyzed fusion at very low temperature: a new target system*, in *Muons and pions in matter: Proceedings of the 3rd International Symposium on Muon and Pion Interactions with Matter*, (MPIM-3, Dubna, Russia, 18-21 October, 1994), ed. by JINR, 227-232, JINR, Dubna (1995).

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