

Xiang Fan

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EDUCATION \diamond North Carolina State University, Raleigh, NC USA

- Ph.D. in Applied Mathematics, GPA 4.0, expected completion date: August 2009
Advisor: Ralph C. Smith
Dissertation Topic: *Adaptive Control of Hysteresis in Smart Materials*
- M.S. in Applied Mathematics, GPA 4.0, Dec 2006

\diamond Wuhan University, China

- B.S. in Computer Science, May 2003
- Minor in Applied Mathematics, May 2003

RESEARCH INTERESTS

My research focuses on nonlinear dynamic systems, control theory, optimization and signal processing. This includes control design and implementation for smart material systems operating in highly hysteretic and nonlinear regimes. Topics under current investigation include:

- Analysis and develop of nonlinear control systems.
- Model based control design with experimental validation.

RESEARCH PAPERS

- \diamond X. Fan, R.C. Smith, "Adaptive Control Design for Hysteretic Smart Systems", Proceedings from the SPIE Smart Structures/NDE, 16th Annual International Symposium, San Diego, CA, March 2009.
- \diamond X. Fan, R.C. Smith, "Model-based \mathcal{L}_1 Inverse Control of Hysteresis in Smart Material Systems", Proceedings from 47th IEEE Conference on Decision and Control, Page(s):3251 - 3256, Dec 2008
- \diamond X. Fan, R.C. Smith, " \mathcal{L}_1 Adaptive Control of Hysteresis in Smart Material Systems", Proceedings from the SPIE Smart Structures/NDE, 15th Annual International Symposium, San Diego, CA, March 2008.

RESEARCH PRESENTATIONS

- \diamond "Adaptive Control Design for Hysteretic Smart Material Systems", 16th SPIE Conference, San Diego, CA, March 2009
- \diamond " \mathcal{L}_1 Adaptive Control of Hysteresis in Smart Material Systems", 15th SPIE Conference, San Diego, CA, March 2008

Xiang Fan

INDUSTRIAL EXPERIENCE ◇ **Tech Assistant**, FiberHome Telecommunication Technologies Co., Ltd., China,
May 2003 - May 2004

- Provided technical support, training for clients
- Participated in software development in C++, writing the user manual, help system

ACADEMIC EXPERIENCE ◇ **Graduate Research Assistant**, North Carolina State Univ., Jun 2008 - Present
Advisor: Ralph C. Smith

- ◇ **Teaching Assistant**, North Carolina State Univ., 2007 - May 2008
- ◇ **Graduate Research Assistant**, North Carolina State Univ., 2005 - 2007
Advisor: Ralph C. Smith
- ◇ **Tutor for Undergraduates**, North Carolina State Univ., Summer II 2005
- ◇ **Teaching Assistant**, North Carolina State Univ., Aug 2004 - May 2005

TECHNICAL SKILLS ◇ Programming: Matlab, Java, HTML, SQL scripts, C++

- ◇ Applications: Maple, LATEX and other common productivity packages for Windows, OS X, and Linux platforms
- ◇ Statistical Software: SAS

AWARDS ◇ Outstanding undergraduate thesis in computer science award, Wuhan University,
April 2003

- ◇ University Scholarship, Wuhan University, 2001 - 2003 (yearly Scholarship)

PROFESSIONAL MEMBERSHIP ◇ Society for Industrial and Applied Mathematics (SIAM)

◇ American Mathematical Society (AMS)

- ◇ Phi Kappa Phi Society