Yibin Pan
Curriculum Vitae

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Education: University of Beijing, China 1985 – B.S. Physics
University of Wisconsin-Madison 1991 - Ph.D. Physics
Thesis Title: Charged Particle Pair Production Associated With a Lepton Pair in Z Decays: Indication for an Excess in the Tau Channel

Professional Positions:

September 2004-present .. Associate Professor, Physics Dept., Univ. of Wisconsin-Madison
January 1999-2004 ..... Assistant Professor, Physics Dept., Univ. of Wisconsin-Madison
1996-1998 ..... Assistant Scientist, Univ. of Wisconsin-Madison
1992-1996 ..... Associate Researcher, Univ. of Wisconsin-Madison
Work conducted on the ALEPH Experiment, CERN
1988-1991 ..... Research Assistant, Univ. of Wisconsin, Madison
Work conducted on the ALEPH Experiment, CERN
1986-1987 ..... Summer Research Assistant, Univ. of Wisconsin, Madison
Work conducted on the ALEPH Experiment, CERN

Teaching Activities at UW-Madison:

- Physics 201: General physics for engineering students (Fall 2011, Spring 2013, Fall 2013)
- Physics 103: General physics (Spring 2010)
- Physics 202: General physics for engineering students (Fall 2003, Fall 2006, Fall 2008, Spring 2009, Fall 2009, Fall 2010, Spring 2011, Spring 2012, Fall 2012)
- Physics 202: General physics for engineering students (Fall 2003, Fall 2006)

- Physics 207: General physics for science students (Fall 2005)
- Physics 208: General physics for science students (Spring 2006)
- Physics 205: Modern Physics for engineers (Spring 2003)
- Physics 241: Modern Physics (Spring 2001)
- Physics 308: Intermediate physics labs (Spring 2004)
- Physics 735: Particle Physics (Spring 1999, Spring 2000, Spring 2002, Spring 2004)

Thesis Advisor:

- Steve Sekula (PhD in 2004)
- Mousumi Datta (PhD in 2005)
- Ran Liu (PhD in 2004) – co-advisor
- Jinwei Wu (PhD in 2005) – co-advisor
- Zhitang Yu (PhD in 2005) – co-advisor
- Attila Mihalyi (PhD in 2005) – co-advisor
- Baosen Chen (PhD in 2005) – co-advisor
- Paul Kutter (PhD in 2006) – co-advisor
- Xin Chen (PhD in 2009) – co-advisor

Experiments:

- 1988-1995..... ALEPH experiment at LEP, physics at the Z° peak (LEP I)
- 1995-2000..... ALEPH experiment at LEP, physics at 200 GeV (LEP II)
- 1998-2005..... BaBar experiment at the SLAC B-factory, physics on B mesons
- present..... ATLAS experiment at CERN,

Research Statements: Experiments (past 5 years):

In the past 5 years, I have been mainly working on physics of the ATLAS experiment at the LHC collider. The topics I contributed to include searches for the Higgs Boson, searches for various Super Symmetric particles, and searches for the exotic particles. Until 2009, I was working as a co-PI within the DOE Wisconsin Task H. In fiscal years 2010-2013, I, together with former Wisconsin Assistant Professor Bruce Mellado, became the co-PI of an independently funded DOE task project: Wisconsin Task H2. Our Task H2 comprised of 4 people: Profs Pan and Mellado, postdoc Xin Chen and PhD student Amanda Kruse. The annual budget of our Task force as funded by DOE was about $230k.

The Wisconsin Task H2 under leadership of Prof. Mellado and I myself was very efficient and productive. In our three years of existence, we have worked on a broad range of physics topics and made direct and significant contributions to the ATLAS research program. Below are a few highlights:

- We have been actively working on the searches for the Standard Model Higgs Boson. Searching for the Higgs Boson is arguably the name of the game of the LHC project and we have put our best efforts there. We developed a full chain of analysis in three major discovery channels: Higgs to WW, Higgs to $\gamma\gamma$, and Higgs to $\tau\tau$. In each of these channels, we developed effective methods to extract signals, to fight off backgrounds, and, very importantly, to accurately estimate the residual backgrounds levels from data. After the bulk of data arrived since 2012, our group was very active in understanding any potential excesses, in ruling out all kinds of fake "discoveries", and eventually in establishing true Higgs signals which was officially confirmed in early summer of 2013.
  Our work was well recognized by our collaborators in the Collaboration. It is very fair to say that we have made **significant and direct contributions** to the discovery of the Higgs Boson.

- In the meanwhile of our Higgs search efforts, we also put a substantial portion of our work in another important domain of Atlas physics --- searching for the Super Symmetric (SUSY) particles. Especially, we pioneered works in a theoretically very interesting SUSY sub-channel: SUSY with degenerate Gauginos. Although no discovery was made there, our work directly lead to an important ATLAS paper on SUSY search.

- It is worth noting that our postdoc Xin Chen, who worked mainly under my direct supervision, has played a significant and well recognized role in our physics efforts. He served as a physics coordinator in ATLAS Higgs to $\tau\tau$ sub-working group. And he was one of the main authors of the Higgs to $\tau\tau$ paper (and a paper on the degenerating SUSY as well). In reflecting his talent and contribution, he was recently appointed as a tenure track assistant professor in the Physics Department of China's Tsinghua University, a prestigious and highly completive position.

In summary, it is only fair to state my efforts in the physics research in the past several years, while having much more to be desired, were decent and fruitful. I am proud of what I was able to achieve under the situation I was put in. And I hope that was fairly recognized.