

Curriculum Vitae

First name: Zhi

Family name: YIN

Room 514, Gewu Building, Harbin Institute of Technology,
Harbin, China. (150006)

Cell: +86 13545108360

Email: hustyinzhi@163.com

Present Data:

Date of birth: 19. 02.1984

Place of birth: China

Education:

- **Université de Franche-Comté and
Wuhan Institute of Physics and Mathematics, CAS**
Ph.D. in Mathematics (Double diploma) Sep 2006-Jun 2012
- **Huazhong University of Science and Technology**
B.S. in Physics Sep 2002-Jun 2006

Career:

- Sep 2016-Present, Institute for Advanced Study in Mathematics, **Harbin
Institute of Technology**
- Jan 2016-Aug 2016, **School of Mathematics and Statistics, Wuhan University**
- Aug 2012-Dec 2015, **Gdansk University/National Quantum Information
Center of Gdansk**, Postdoc
- Jul 2011-Jul 2012, **School of Mathematics and Statistics, Wuhan University**,
Postdoc
- May 2010-Oct 2010, **Laboratoire de Mathématiques, Université de
Franche-Comté**, Visiting Scholar

Research Interest:

- Quantum information theory, Quantum probability, Operator spaces, and Noncommutative harmonic analysis.
- Ph. D. thesis: Hardy spaces of quantum probability and operator valued harmonic analysis.
Advisers: Zeqian Chen and Quanhua Xu.

Recognition:

My paper “Operator space approach to steering inequality”, joint with Marciniak and Horodecki, was selected among the highlights of the 2015 collections in *Journal of Physics A: Mathematical and Theoretical*.

List of Publications:

1. Sobolev, Besov and Triebel-Lizorkin spaces on quantum tori. X. Xiong, Q. Xu and **Z. Yin**, Accepted by *Memoirs Amer. Math. Soc.* Arxiv:1507.01789.
2. Random and free observables saturate the Tsirelson bound for CHSH inequality. **Z. Yin**, A. W. Harrow, M. Horodecki, M. Marciniak and A. Rutkowski, Accepted by *Phys. Review A*. Arxiv: 1512.00223.
3. Function spaces on quantum tori. X. Xiong, Q. Xu and **Z. Yin**, *C. R. Acad. Sci. Paris, Ser. I* 353 (2015) 729-734.
4. Geometric Bell-like inequalities for steering. M. Zukowski, A. Dutta, and **Z. Yin**, *Phys. Review A*. 91 (2015) 032107.
5. Unbounded violation of steering inequalities. M. Marciniak, A. Rutkowski, **Z. Yin**, M. Horodecki, R. Horodecki, *Phys. Review Lett.* 115 (2015) 170401.
6. Large bipartite Bell violations with dichotomic measurements. C. Palazuelos and **Z. Yin**, *Phys. Review A*. 92 (2015) 050213.
7. Operator space approach to steering inequality. **Z. Yin**, M. Marciniak and M. Horodecki, *J. Phys. A: Math. and Theor.* 48 Number 13 (2015) 135303. (Selected among the highlights of the 2015 collections)

8. Bell and steering scenarios in terms of operator systems. M. Marciniak, M. Horodecki, and **Z. Yin**, Arxiv: 1412.0522.
9. Multisetting Greenberger-Horne-Zeilinger theorem. J. Ryu, C. Lee, **Z. Yin**, R. Rahaman, D. G. Angelakis, J. Lee, and M. Zukowski, *Phys. Review A*. 89 (2014) 024103.
10. Harmonic analysis on quantum tori. Z. Chen, Q. Xu and **Z. Yin**, *Commun. Math. Phys.* 322, Issue 3 (2013) 755-805.
11. Wavelet approach to operator-valued Hardy spaces. G. Hong and **Z. Yin**, *Revista Mat.Iberoa*. 29, Issue 1 (2013) 293-313.
12. Littlewood-paley theorem and multipliers on the quantum torus. Z. Chen and **Z. Yin**, *Acta Math. Scientia*, 32, Issue 3 (2012) 1255–1261.
13. Analytic Hardy spaces on the quantum torus. Z. Chen and **Z. Yin**. *Acta Math. Scientia*, Volume 31, Issue 5, (2011) 1985–1996.
14. Atomic decomposition and interpolation for Hardy spaces of noncommutative martingales. T. N. Bekjan, Z. Chen, M. Perrin, **Z. Yin**. *J. Funct. Anal.* 258, Issue 7, (2010) 2483–2505.

Grants:

- NSFC under Grant No.11301401. 2014/01--2016/12

Teaching Experience/Seminar Talks:

Wuhan University

- Noncommutative L_p spaces; August 2011-October 2011, A short course for graduate student

Wuhan Institute of Physics and Mathematics

- Noncommutative Geometry; Fall 2009, Seminar speaker
- Harmonic Analysis; Fall 2008-Spring 2009, Seminar speaker

- Mathematical Quantization; Fall 2007, Seminar speaker

Conferences/Events:

- Noncommutative workshop. Kracow, Poland. 20/09/2015--25/09/2015. Talk: Function spaces on quantum tori.
- Randomness in Quantum Physics and Beyond. Barcelona, Spain. 04/05/2015--08/05/2015. Poster: Nonlocality via free observables.
- Conference on Operator Space and Quantum Probability. Besancon, France. 15/12/2014--19/12/2014. Talk: Unbounded largest violation for quantum steering.
- Winter School OS-NCP-QG-2014 “Operator Spaces, Noncommutative Probability, and Quantum Groups”. Matebief, France. 01/12/2014--12/12/2014.
- 16th workshop: noncommutative harmonic analysis. Bedlewo, Poland. 06/07/2014--12/07/2014. Talk: Operator space approach to steering inequality.
- Mathematical Challenges in Quantum Information. Newton Institute, Cambridge, UK. 25/11/2013--07/12/2012.
- Noncommutative workshop. Kracow, Poland. 09/09/2013--12/09/2013. Talk: Sobolev spaces on quantum tori.
- Intensive month on operator algebra and harmonic analysis. Instituto de Ciencias Matematicas. Madrid, Spain. 19/05/2013--17/06/2013.
- 15th workshop: noncommutative harmonic analysis. Bedlewo, Poland. 23/09/2012--29/09/2012. Poster: Harmonic analysis on quantum tori.