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Statistical physics and information theory for systems with local constraints

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List of Publications

1. Qi Zhang, Diego Garlaschelli, "Information theory with coupled source under ensemble nonequivalence", *In preparation* (2021).
2. Qi Zhang, Diego Garlaschelli, "New information-theoretic bounds for systems with local constraints", *In preparation* (2021).
3. Qi Zhang, Diego Garlaschelli, "Strong ensemble nonequivalence in systems with local constraints", arXiv:2107.04920 (2021).
4. Qi Zhang, Diego Garlaschelli, "Ensemble nonequivalence and BEC in weighted networks", arXiv:2012.09998 (2020).
5. Qi Zhang, Meizhu Li, Yong Deng, "Measuring the structural similarity of nodes in complex networks based on relative entropy", *Physica A*, 491 (2017): 749-763.
6. Qi Zhang, Meizhu Li, Yong Deng, "A new structural entropy of complex networks based on Tsallis nonextensive statistical mechanics", *International Journal of Modern Physics C*, 10 (2016) 1650118.
7. Qi Zhang, Chuanhai Luo, Meizhu Li, Yong Deng, Sankaran Mahadevan, "Tsallis information dimension of complex networks", *Physica A*, 419 (2015): 707-717.
8. Liguang Fei, Qi Zhang, Yong Deng, "Identifying influential nodes in complex networks based on the inverse-square law", *Physica A*, 512 (2018): 1044-1059.
9. Meizhu Li, Qi Zhang, Yong Deng, "Evidential identification of influential nodes in network of networks", *Chaos, Solitons & Fractals*, 117 (2018): 283-296.
10. Xinyang Deng, Qi Zhang, Yong Deng, Zhen Wang, "A novel framework of classical and quantum prisoner's dilemma games on coupled networks", *Scientific reports*, 6 (2016): 23024.
11. Meizhu Li, Yong Hu, Qi Zhang, Yong Deng, "A novel distance function of D numbers and its application in product engineering", *Engineering Applications of Artificial Intelligence*, 47 (2016): 61-67.
12. Meizhu Li, Xi Lu, Qi Zhang, Yong Deng, "Multiscale probability transformation of basic probability assignment", *Mathematical Problems in Engineering*, (2014), 319264.

Curriculum Vitae

I was born in 1989 in Sichuan, a province in Southwest China. I received my early education in this province, including primary, middle and high schools.

In 2009, I left my hometown and went to Chongqing for my undergraduate studies at Southwest University. At that time, I was trained as an automation engineer. I continued my master study in the Department of Computer Science at the same university but with a focus on complex networks under the supervision of Prof Yong Deng in 2014.

In 2016, I went to Leiden, the Netherlands, to start my PhD work under the supervision of Dr Diego Garlaschelli at the Lorentz Institute for Theoretical Physics at Leiden University. I spent five years researching systems with local constraints from the viewpoint of statistical physics and information theory.

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