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Quantum Information and Quantum Metrology

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Prof. Hong Guo got PhD at Shanghai Institute of Optics and Fine Mechanics, CAS in 1995 and is now the Professor and Director of Center for Quantum Information Technology at Peking University. His research area covers theory and experiment of quantum key distribution and quantum metrology, and theory of quantum open system and entanglement dynamics. He is the Fellow of Institute of Physics (UK) and Chair of Commission D: Electronics and Photonics, URSI-CIE. He is also the Chair of Quantum Information Technology Division, National Hi-Tech R&D Program of China and Vice Chair of Quantum Cryptography Society, Chinese Association for Cryptologic Research and Vice Chair of Quantum Electronics and Optoelectronics Society, Chinese Institute of Electronics. He has more than 170 peer-reviewed articles in peer-reviewed (OSA, APS, AIP, IEEE, IOP) journals and presented many invited talks at international conferences, symposiums or workshops.

Abstract The research on quantum information and quantum metrology related science and technologies carried on at the Center for Quantum Technology of Peking University is presented and the emphasis is made on: 1) Quantum key distribution (QKD) with source monitoring and true random number generation (TRNG); 2) Quantum metrology, including quantum magnetometry and quantum optical filter; and 3) Quantum open system and entanglement dynamics.

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