Quantum Remote Sensing High Resolution Imaging Big Data

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Based on the application requirements of remote sensing high-resolution imaging of big data, this paper firstly summarizes the significance and application prospects of high-resolution imaging data obtained through methods and technologies of big data, pointing out that due to classical remote sensing, based on Maxwell's electromagnetic field theory, will be influenced by quantum noise, its imaging resolution can’ t break through the quantum noise limit, because over 70% of noise is the inherent noise caused by light field quantum fluctuation. Therefore, in area of achieving high resolution of remote sensing application, such as detector, large aperture optical system, imaging processing signal-noise ratio, the resolution of traditional remote sensing can’ t be improved continuously through algorithm and techniques. While the quantum remote sensing can obtain high-resolution imaging data through quantization imaging technology and quantum remote sensing image data processing technology to achieve quantum remote sensing high-resolution imaging of big data. Then, the differences and advantages in theory, method and technology of quantum remote sensing compared with classical remote sensing are introduced, emphasizes the achievements in the experiments, development of principle prototype, satellite-borne quantum remote sensing imaging scheme and quantum remote sensing image data processing. Finally, the further research plan and application prospects of future technologies in earthquake prediction, anti-stealth and detecting submarine are briefly described.

Keywords: Quantum remote sensing, Big data, High resolution imaging, light field quantization technology, Quantum remote sensing image processing

