

Quantum Entangled States and Image Processing

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Abstract : Quantum registering is another pattern in computational hypothesis and a quantum mechanical framework has a few helpful properties like Entanglement. We plan to store data concerning the structure and substance of a basic picture in a quantum framework. Consider a variety of n qubits which we propose to use as our memory stockpiling. In recent years classical processing is switched to quantum image processing. Quantum image processing is an elegant approach to overcome the problems of its classical counter parts. Image storage, retrieval and its processing on quantum machines is an emerging area. Although quantum machines do not exist in physical reality but theoretical algorithms developed based on quantum entangled states gives new insights to process the classical images in quantum domain. Here in the present work, we give the brief overview, such that how entangled states can be useful for quantum image storage and retrieval. We discuss the properties of tripartite Greenberger-Horne-Zeilinger and W states and their usefulness to store the shapes which may consist three vertices. We also propose the techniques to store shapes having more than three vertices.

Keywords : Greenberger-Horne-Zeilinger, image storage and retrieval, quantum entanglement, W states

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