

RIGHT QUATERNIONIC COHERENT STATES AND THE HEISENBERG UNCERTAINTY PRINCIPLE

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ABSTRACT. Parallel to the quantization of the complex plane, using the canonical coherent states of a right quaternionic Hilbert space, quaternion field of quaternionic quantum mechanics is quantized and using the quantization the position and momentum operators are obtained by us in [1]. In this article, we show that the right quaternionic canonical coherent states saturate the Heisenberg uncertainty relation and thereby they form a set of intelligent states and also we show that they are a set of minimum uncertainty states.

Key words: Quaternion, Quantization, Coherent states, Heisenberg uncertainty.