A NOVEL, OPTIMIZED CORDIC CORE FOR PHASE CORRELATION MOTION ESTIMATION (ThuPmOR4)

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Abstract :

This paper describes a CORDIC−based architecture to efficiently compute the phase difference between two complex numbers. The problem of fast phase difference computation is central in many signal processing algorithms. Our main focus has been posed on the Phase Correlation technique applied to Motion Estimation. A reduced complexity solution is proposed and specifically tailored to suit the application needs. The presented algorithm has been completely implemented in 0.25 micron standard cell CMOS technology. As far as the performance are concerned the designed core outperforms a recently designed solution by more than 50% under area and energy standpoints.

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