Binary Angle Measurement (5A)

- Vritex-4 500MHz CORDIC
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Please send corrections (or suggestions) to youngwlim@hotmail.com.

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BAM Background

C. Dick, "Chapter 25 CORDIC Architectures for FPGA Computing", Reconfigurable Computing: The Theory and Practice of FPGA-Based Computation by S. Hauck, 2008

Computational Accuracy

- Angle Approximation Error

- Datapath Rounding Error

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Full Range CORDIC

- Quadrant Mapping

Critical Path Analysis

Barrel Shifter

- Realization in logic fabric with the multiplier in the DSP48 tile

- Using an embedded multiplier in any FGPA family

Comparison

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References

[1] http://en.wikipedia.org/
[2] CORDIC FAQ, www.dspguru.com
[3] R. Andraka, A survey of CORDIC algorithms for FPGA based computers
[4] J. S. Walther, A Unified Algorithm for Elementary Functions
[5] J. P. Deschamps, G. A. Bioul, G.D. Sutter, Synthesis of Arithmetic Circuits
[6] T.K. Rodrigues, "Adaptive CORDIC: Using Parallel Angle Recording to Accelerate
     Rotations", IEEE Trans on Computers, 2010