A Multi Cordic Architecture on FPGA Platform

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Abstract : Coordinate Rotation Digital Computer (CORDIC) is a unique digital computing unit intended for the computation of mathematical operations and functions. This paper presents a multi-CORDIC processor that integrates different CORDIC architectures on a single FPGA chip and allows the user to select the CORDIC architecture to proceed with based on what he wants to calculate and his/her needs. Synthesis show that radix 2 CORDIC has the lowest clock delay, radix 8 CORDIC has the highest LUT usage and lowest register usage while Hybrid Radix 4 CORDIC had the highest clock delay.