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The algorithm is capable to perform the CORDIC computation for an operand word-length of 54 bits. Additionally, there is a higher degree of freedom in choosing the pipeline cutsets due to the novel feature of independence of the iterations i and $i - 1$ in the CORDIC rotation.

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Rotation of vectors through fixed and known angles has wide applications in robotics, digital signal processing, graphics, games, and animation. But, we do not find any optimized coordinate rotation digital computer (CORDIC) design for vector-rotation through specific angles. Therefore, in this paper, we present optimization schemes and CORDIC circuits for fixed and known rotations with ...

This paper describes the implementation of CORDIC algorithm for various DSP algorithms such as Discrete Hartely Transforms (DHT), Discrete Fourier Transform (DFT), Fast Fourier Transform (FFT), Kalman Filtering, Chirp Z Transform (CZT), ODF, Eigen Value and Singular value decomposition, and QR factorisation etc. Lakshmi et al. [9] has discussed the comparison of various CORDIC techniques that are used to improve the computational speed and reduce the area.

A novel digital frequency synthesizer (DDS) is introduced using CORDIC algorithm module instead of ROM look-up table module in the paper. Application of CORDIC algorithm module can greatly reduce the amount of storage and cancel the amount of storage to improve data accuracy and improve the DDS frequency resolution limits.

The CORDIC algorithm is a basic iterative algorithm which uses a fixed vector rotation method in order to evaluate the trigonometric functions. This algorithm simplifies hardware implementation...

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An Introduction to the CORDIC Algorithm—Technical Articles

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