عنوان مقاله:

A new improvement method for decimal CORDIC algorithm by optimal selection at the first step with RNS

محل انتشار:

اولین همایش ملی کاربردهای سیستم های مکاترونیکی و رباتیکی (سال: 1395)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Meghdad Aynehband - *Faculty member of Hendijan campus, Mahshahr Branch, Islamic Azad University, Mahshahr, Iran*

Ali Mokhtarbaf - *Faculty member of Islamic Azad University, Baghmalek branch, Baghmalek, Iran*

Houman Zarrabi - *Faculty member of ICT Research Institute, Tehran, Iran*

خلاصه مقاله:

Trigonometric functions are widely used in digital signal processing. CORDIC (COordinate Rotation DIgital Computer) algorithm was presented as some of best ways to calculate these functions to any desired angle. CORDIC method is a sequential algorithm and for reaching a circuiting behavior must be rotated several times.CORDIC algorithm design in the face of the delay is very high. The lack of accuracy in the binary processor's design motivate researchers to decimal processors,explicit value of some fractionsuch as. Although considerable research has been devoted to binary CORDIC techniques, rather less attention has been paid to decimal CORDIC and its improvement. This research improves convergence system speed by changing control algorithm by adding a small unit in the input circuit hardware and therefore its response time has increased. By the way with insert an RNS adder and angles table's modification, the researchers were achieved to more calculation speed. The significant optimization is provided, especially on the small angles about 12 degrees, demonstrated improvement up to 6.62%.

کلمات کلیدی:

CORDIC, decimal, transcendental functions, redundant adder

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/595828