

Hybrid logarithmic number system arithmetic unit: A review

Abstract

Logarithmic number system (LNS) arithmetic has the advantages of high performance and high-precision in complex function computation. However, the large hardware problem in LNS addition/subtraction computation has made the large word-length LNS arithmetic implementation impractical. In this paper, the concept of merging the LNS and Floating Point (FLP) operation into a single arithmetic logic unit (ALU) that can execute addition/subtraction and division/multiplication more faster, precise and less complicated has been reviewed. The advantages of using hybrid system were highlighted while comparing and explaining about FLP and LNS.

Keywords

Arithmetic logic unit; Floating point; Hybrid; Logarithmic number system