

## **Improved subtraction function for logarithmic number system**

### **Abstract**

Logarithmic number system can be highly considered as an alternative to floating-point, specifically for applications that require a wide dynamic range of numbers for their arithmetic operations. To date, its implementation is still restricted by complexity of performing addition and subtraction functions as a result of using large lookup tables. In this paper, a method is revealed to substantially reduce these tables by means of using second order co-transformation procedure. The results predominantly show that the proposed technique offers significantly better speed, area and accuracy than current state-of-the-art logarithmic number system.

### **Keywords**

High-speed; LNS