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## **Implementation of an All-digital Phase-locked Loop Using a New DCO**

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### **Abstract**

A novel digitally controlled oscillator (DCO) is implemented for All-digital phase lock loop (ADPLL) applications. The DCO exactly matches the gate-delay time and is implemented with faster phase alignment and wider locking range using the same number of ring oscillator stages. Simulation results are presented to evaluate the performance of the DCO.

Key words : ADPLL; Digitally controlled oscillator (DCO); Ring oscillator stages