

Modeling/simulation of large signal phenomena in PLL, by Rick Poore, Agilent EEs of EDA

We present different simulation techniques for PLLs, in order of the increasing circuit complexity (circuit size, divide ratio, frequency resolution) that can be handled. Circuit-level time-domain and steady-state methods are presented, mixed-mode behavioral and circuit methods, and pure behavioral methods. Various large-signal phenomena are shown such as startup, lock and switching time, output spectra including spurs and harmonics, and phase noise and jitter results.