Chaos computing in hybrid digital-analog systems[1] VIVEK KO-
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DITTO, North Carolina State University, Raleigh, NC 27695-8202 — Nonlinear dy-
namical systems, especially when operating in chaotic regime, are very sensitive to
noise and the deviations due to noise restrict the exploitation of the large number
of dynamical behaviors contained in these systems. We discuss the super-stability
of some initial conditions of nonlinear dynamical systems [2] and how such initial
conditions can be utilized in chaos computing to implement all Boolean functions in
hybrid digital-analog systems [3] consisting of digital AND gates and a $3-$transistor
analog circuit. We further discuss the super-linear scaling of noise robustness of
these super-stable initial conditions when a number of identical nonlinear dynami-
cal systems are coupled together in various network topologies [4].

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