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Title:	Manipulating potential wells in Logical Stochastic Resonance to obtain XOR logic
Authors:	Sinha, Sudeshna (/jspui/browse?type=author&value=Sinha%2C+Sudeshna)
Keywords:	Alternate computation Logic gate Stochastic Resonance
Issue Date:	2012
Publisher:	Elsevier B.V
Citation:	Physics Letters, Section A: General, Atomic and Solid State Physics, 376(8-9), pp.930-937.
Abstract:	Logical Stochastic Resonance (LSR) is the application of Stochastic Resonance to logic computation, namely the phenomenon where a nonlinear system driven by weak signals representing logic inputs, under optimal noise, can yield logic outputs. We extend the existing results, obtained in the context of bistable systems, to multi-stable dynamical systems, allowing us to obtain XOR logic, in addition to the AND (NAND) and OR (NOR) logic observed in earlier studies. This strategy widens the scope of LSR from the application point of view, as XOR forms the basis of ubiquitous bit-by-bit addition, and conceptually, showing the ability to yield non-monotonic input-output logic associations.
Description:	Only IISERM authors are available in the record.
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