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| Title: | Noise-assisted morphing of memory and logic function |
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| Abstract: | We demonstrate how noise allows a bistable system to behave as a memory device, as well as a logic gate. Namely, in some optimal range of noise, the system can operate flexibly, both as a NAND/AND gate and a Set-Reset latch, by varying an asymmetrizing bias. Thus we show how this system implements memory, even for sub-threshold input signals, using noise constructively to store information. This can lead to the development of reconfigurable devices, that can switch efficiently between memory tasks and logic operations. |
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