

عنوان مقاله:

A Review of Single Electron Transistors

محل انتشار:

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خلاصه مقاله:

The single electron transistor (SET) is an effectual device to quantize current. It has been highly considered as the most fundamental single-electron device in the research field of nanotechnology. An electron from the single electron transistor (SET) is a pivotal element in the research field of nanotechnology. This type of transistor with very low power consumption and high-performance speed is considered as a nano-scaled switching device that can control the motion of a single electron. The principles of SET and some of its applications are discussed in this paper. In this research paper, we also focus on some basic device characteristics like 'Coulomb blockade', single electron tunneling effect & 'Coulomb staircase' on which this Single electron transistor [SET] works and the basic comparison of SET characteristics and also its [SET] advantages as well as disadvantages to make a clear picture about the reason behind its popularity in the field of nanoelectronics.

کلمات کلیدی:

Single Electron Transistor, Electron tunneling, Coulomb blockade, Coulomb staircase

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