

## Random number generation unit and computing system

Comparable computing ability with quantum annealing at room temperature

### Effect

- At room temperature, a superb computing ability is fulfilled by using MTJ, comparable with quantum annealing.

### Background

Quantum annealing has been intensively investigated recent years. However, it requires a superconductivity condition (at extreme low temperature), and complicate system like quantum bit connection. Meanwhile, magnetic tunnel junction (MTJ), a solid-state component gives probability output in MRAM, has been noticed among those research. This invention applies MTJ's property and successfully provides a probability information processing computer system, which is comparable with quantum annealing's computing ability but much simpler to use.

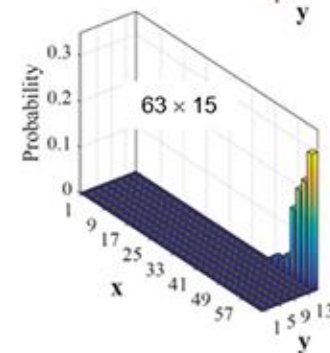
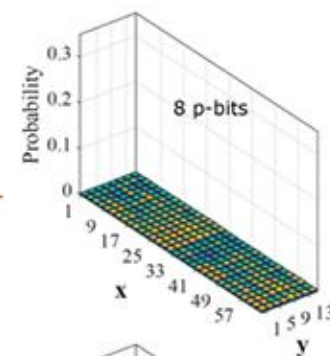
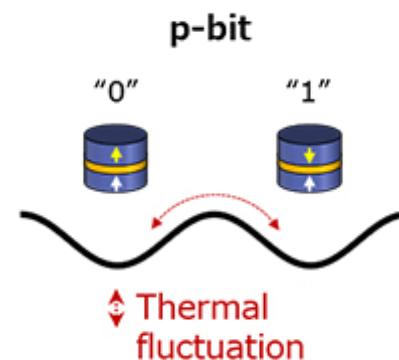
Patent Data Sheet

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### Details

#### Magnetic tunnel junction



The result of integer factorization using 945 p-bits for 945

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