

Spintronic transistor is developed

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Researcher Christian Schoenenberger and colleagues at the University of Basel, Switzerland, developed a carbon nanotube transistor, opening a promising avenue toward the introduction of spin-based devices into computer chips, the journal *Nature Physics* reports in its November issue.

Conventional computer chips process information by encoding it in the form of electronic charge. But the spin of an electron can, in principle, be used for the same operations. Advantages of spin-based circuits -- or spintronics -- include lower power consumption, higher speed, and, most importantly, the potential to do things, such as quantum computation, that conventional electronics can't perform.

Schoenenberger's team developed a device consisting of a single carbon nanotube connected to two magnetic electrodes that control the orientation of the electrons' spins.

Theoretical proposals for constructing so-called "spin transistors" have been around for many years, but this is the first time that such a device has been realized, *Nature Physics* reported.

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