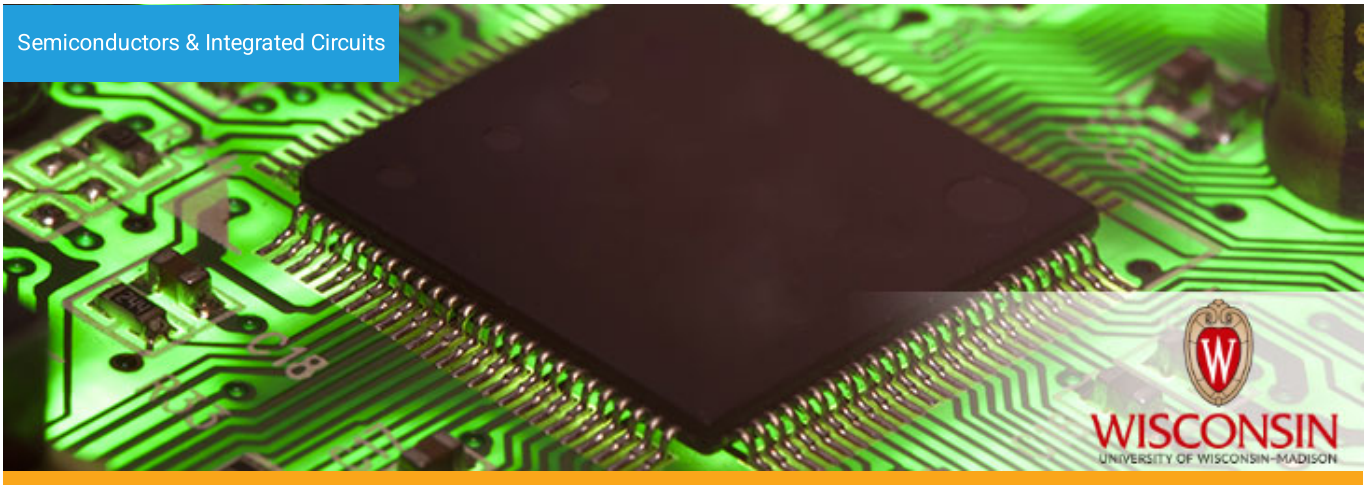

Spin Transistors Based On Voltage Controlled Magnon Transport In Multiferroic Antiferromagnets

View U.S. Patent No. 12,080,783 in PDF format.

WARF: P200170US01

Inventors: Chang-Beom Eom, Tianxiang Nan, Jonathon Schad

The Invention

Voltage-controlled spin field effect transistors ("spin transistors") and methods for their use in switching applications are provided. In the spin transistors, spin current is transported from a spin injection contact to a spin detection contact through a multiferroic antiferromagnetic channel via magnon propagation. The spin current transport is modulated by the application of a gate voltage that increases the number of domain boundaries the multiferroic antiferromagnetic material.

Additional Information

For More Information About the Inventors

- Chang-Beom Eom

Tech Fields

- Semiconductors & Integrated Circuits : Design & fabrication

For current licensing status, please contact Michael Carey at mcarey@warf.org or 608-960-9867