

# SILICON-GERMANIUM HETEROSTRUCTURES WITH SHEAR STRAIN AND GERMANIUM CONCENTRATION OSCILLATIONS FOR ENHANCED VALLEY SPLITTING

### WARF: P230400US01

Inventors: Mark Friesen, Benjamin Woods, Mark Eriksson, Robert Joynt, Emily Joseph

## **Overview**

Quantum dot qubits in Si/SiGe quantum wells are an attractive platform for quantum computation due to their long coherence times, fast gate operations, nuclear-spin free isotopes, and compatibility with the microelectronics industry.

## The Invention

UW-Madison researchers have designed semiconductor heterostructures having Ge-seeded, shear-strained silicon quantum wells for enhanced valley-splitting. They have also designed gate-controlled qubits based on the heterostructures and quantum computing systems based on the qubits.

## **Additional Information**

### For More Information About the Inventors

- <u>Mark Friesen</u>
- <u>Robert Joynt</u>

#### **Tech Fields**

Information Technology : Hardware

For current licensing status, please contact Emily Bauer at emily@warf.org or 608-960-9842

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