

## **Progress Towards a Robust, Calibration Free and Ultra-Sensitive Quantum Technology-Based Magnetometer for Fire-and-Forget Applications**

Thane Unruh, Sajib Halder, Kapildeb Ambal  
Department of Mathematics, Statistics and Physics  
Wichita State University, Wichita, KS

A magnetometer, or magnetic field sensor, are used on all types of aircrafts and spacecrafts to measure magnetic field intensity. We will be using EDMR or, electrically detected magnetic resonance, to measure these magnetic fields. We are working to miniaturize the design because as of now EDMR is fairly large and does not fit well on small satellites or aircrafts. But with the smaller design we don't want to lose any of the sensitivity of the sensor. Therefore, we are making our sensor as small as we can without losing and sensitivity and maybe even improve sensitivity.