



Contribution ID: 605

Type: **Talk (preferred)**

Quantum Spectral Analysis by Landau-Zener Transitions

Thursday 15 December 2022 16:00 (15 minutes)

We realise a novel quantum sensing protocol for spectral analysis, utilising continuous Faraday measurement of an ultracold atomic ensemble's quantum state. Through quantum process tomography, signal parameters are retrieved from the characteristic transition driven as the sensor sweeps through resonance.

Primary author: BOUNDS, Christopher (School of Physics and Astronomy, Monash University)

Co-authors: TRITT, Alex (School of Physics and Astronomy, Monash University); TAYLOR, Hamish (School of Physics and Astronomy, Monash University); DUFF, Josh (School of Physics and Astronomy, Monash University); Dr TURNER, Lincoln (School of Physics and Astronomy, Monash University)

Presenter: BOUNDS, Christopher (School of Physics and Astronomy, Monash University)

Session Classification: Precision and Quantum Sensing Workshop

Track Classification: PQS2022: PQS: Precision and Quantum Sensing Workshop