Non-destructive imaging system as a tool for observing modulation instability in ultra-cold atoms

Dr Carlos Kuhn
Australian National University

When: Friday 19th May, 2017
Time: 2pm
Where: Level 1, Large Seminar Room 107, 10 College Walk, Clayton Campus

A non-destructive shadowgraph imaging system which is capable of imaging samples of ultra-cold atoms with signal-to-noise around 25 at 1 GHz detuning from the Rubidium-85 cooling transition atoms is presented. This method is used to observe the breakup dynamics of an elongated Bose-Einstein condensate in an optical waveguide. We will provide theoretical evidence that suggests that the physical mechanism driving the dynamics of system is modulation instability.

info: kavan.modi@monash.edu or rosemary.mardling@monash.edu