

**Astronomy has  
always captured  
our imagination**





**Stars emit light**

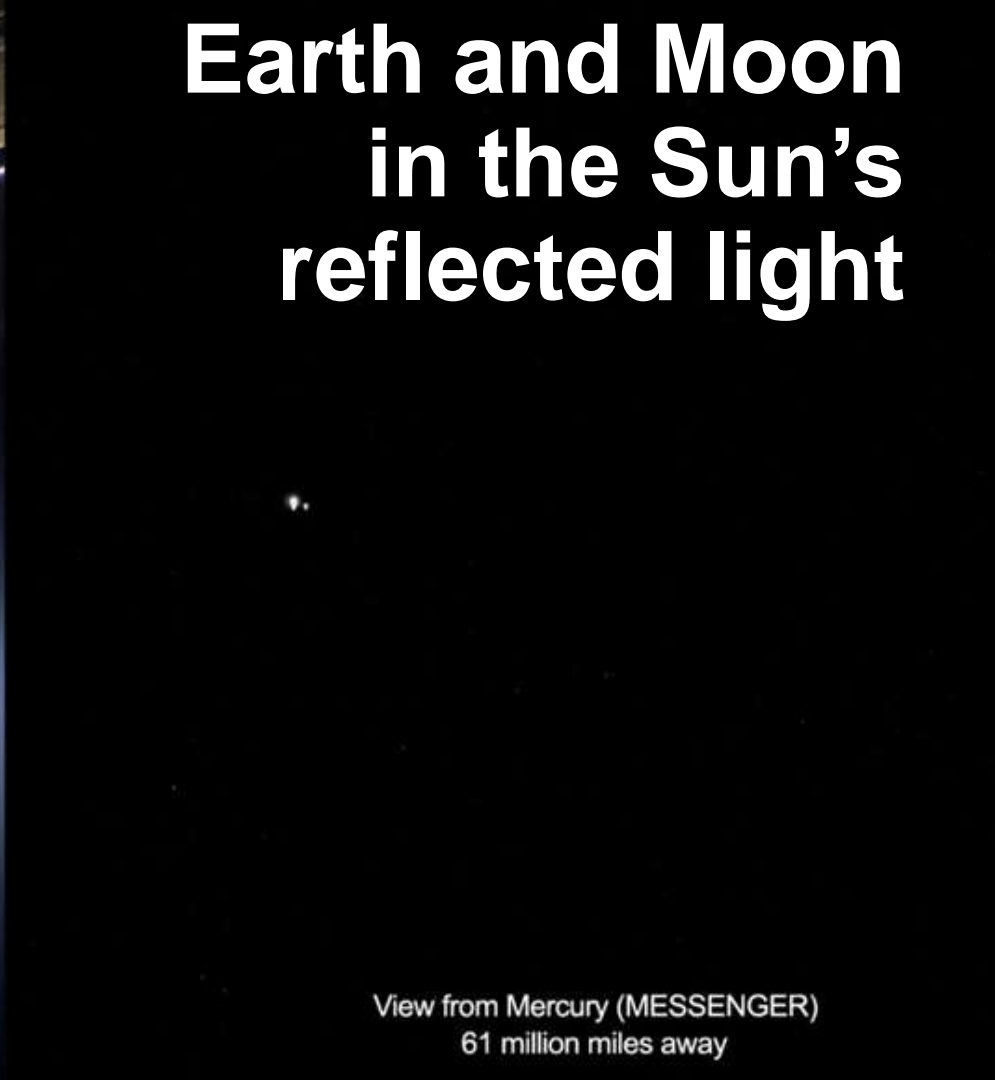
# Planets reflect light



# Earth and Moon in the Sun's reflected light



View from Saturn (Cassini)  
900 million miles away



View from Mercury (MESSENGER)  
61 million miles away

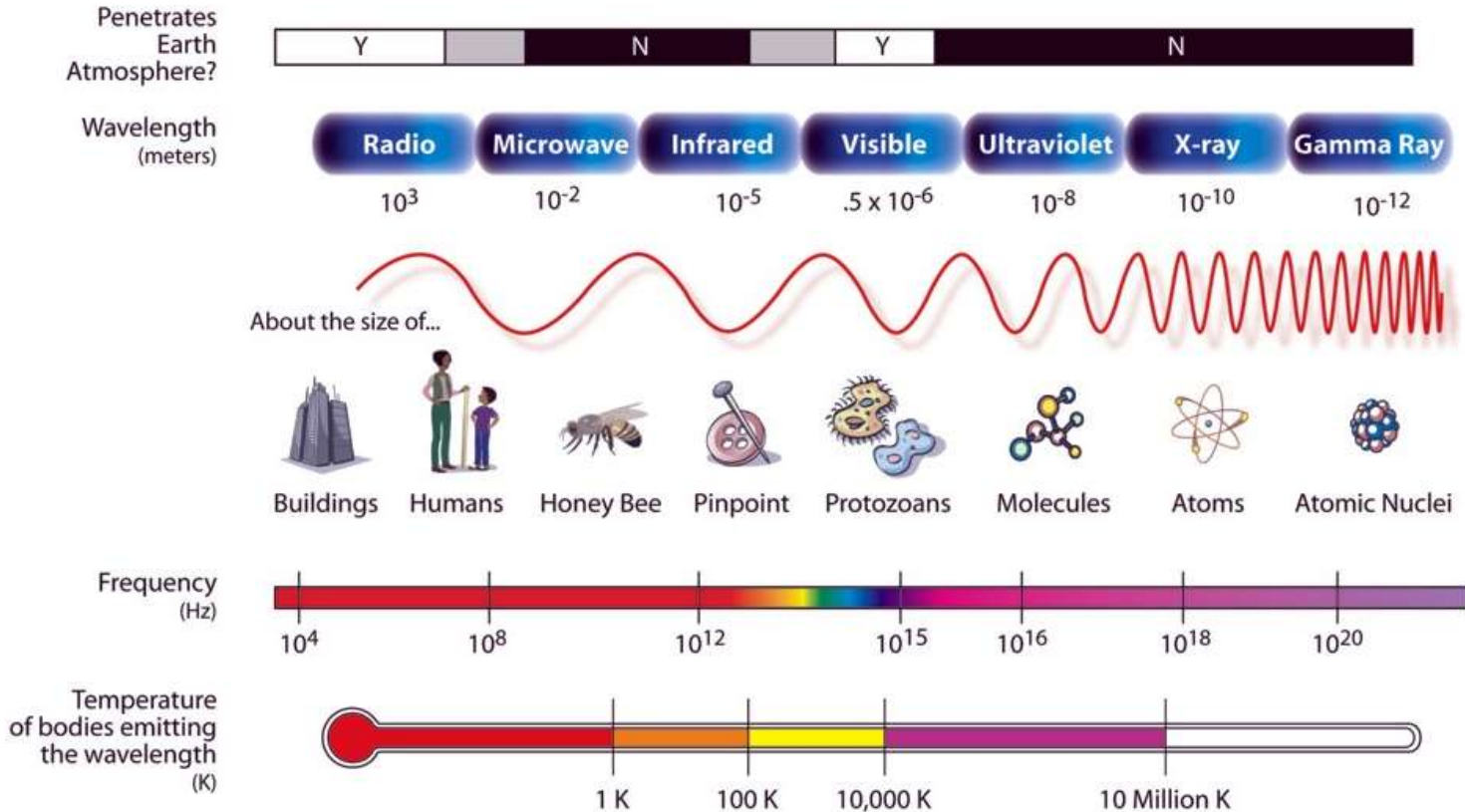




# Dust obscures light



# Electromagnetic Spectrum





# The Murchison Widefield Array: a low frequency survey machine

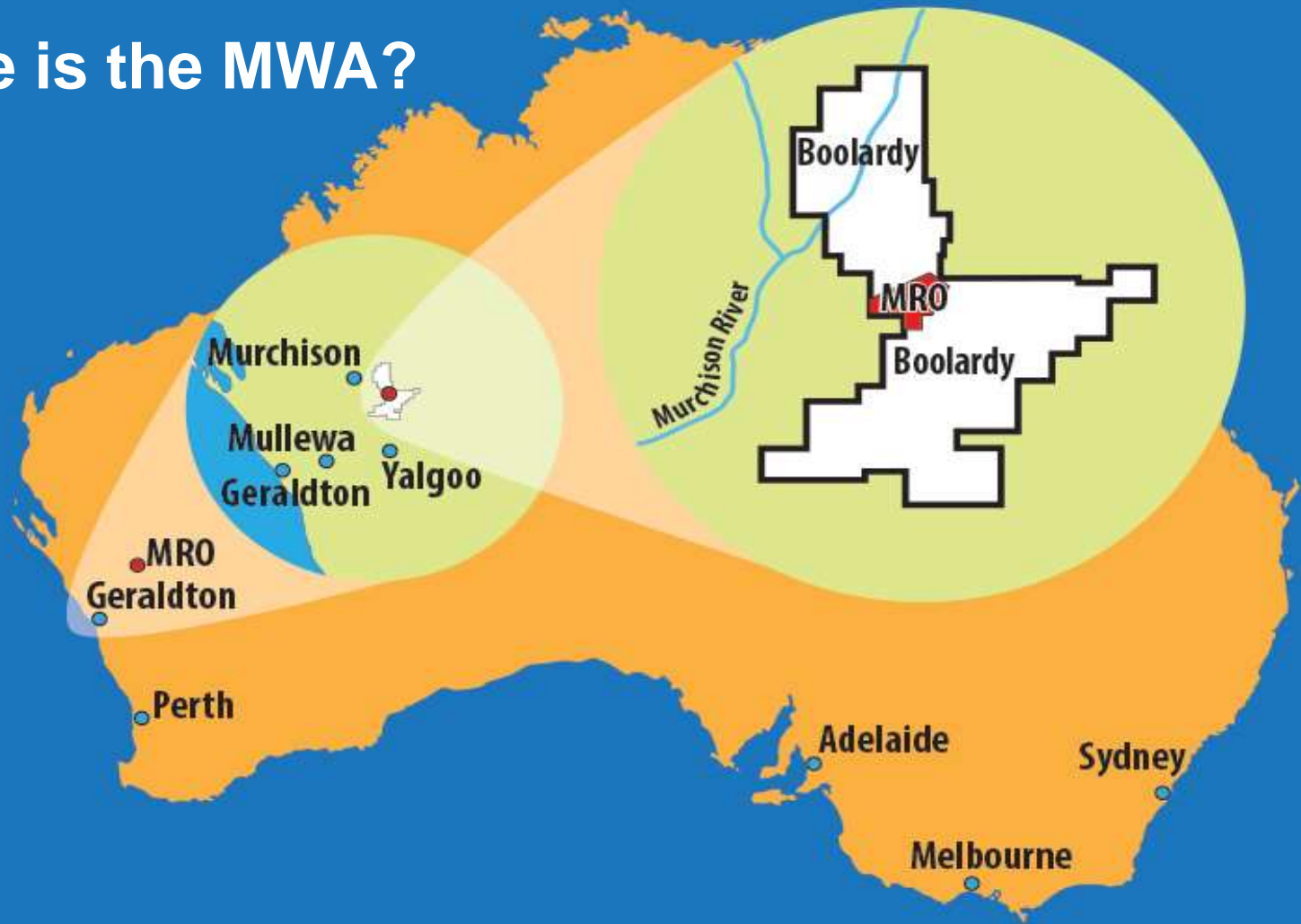


# The Australian SKA Pathfinder: exploring the sky at 1 GHz





# Where is the MWA?



# RADIO QUIET ZONE

You are now entering the Murchison  
Radio-Astronomy Observatory



Please switch off and do not use your mobile and satellite  
phones or CB radio while inside the Observatory.

Please only use these devices in case of Emergency.

Your co-operation is appreciated

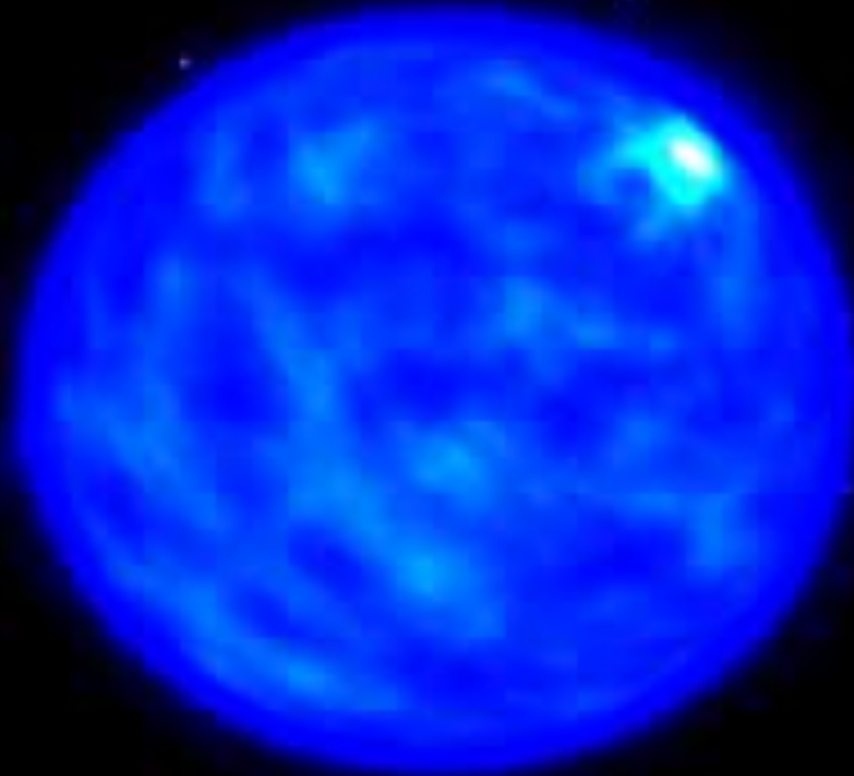




**We are conducting vast  
surveys of the radio sky**



SIM

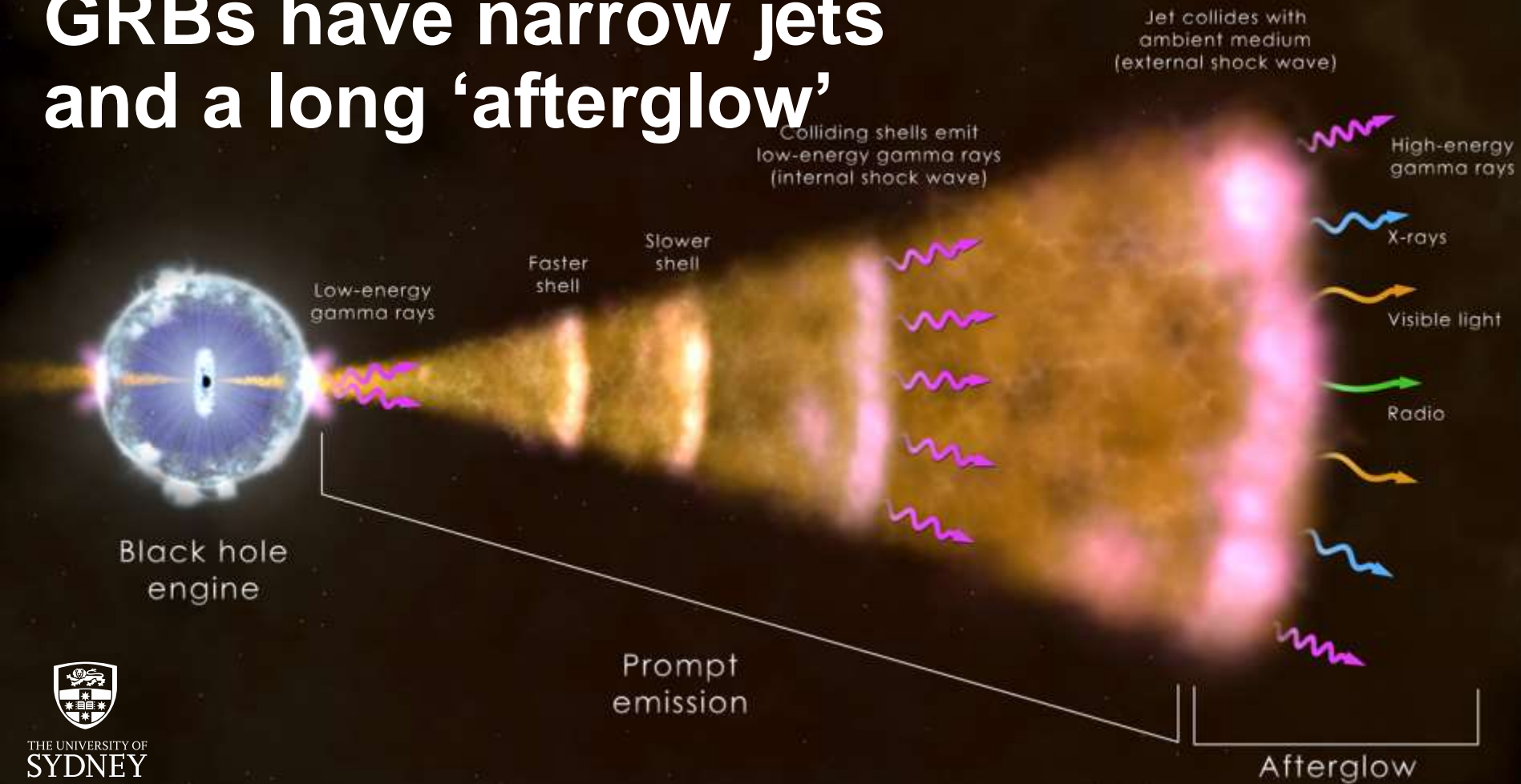




# Most gamma-ray bursts are *invisible*



# GRBs have narrow jets and a long 'afterglow'





**We might be able to detect emission  
from Gravitational Wave events**



# (Radio) light reveals the hidden Universe

Want to learn about modern astronomy techniques?  
<http://www.coursera.org/learn/data-driven-astronomy>