



The Murchison Widefield Array (MWA): Science goals, capabilities, and status

J.C. Kasper and the The MWA Team

Harvard-Smithsonian Center for Astrophysics, Cambridge, United States (jkasper@cfa.harvard.edu)

The Murchison Widefield Array (MWA) is an 8,000-antenna, 80-300 MHz, imaging radio array under construction in Western Australia featuring a large field of view, high sensitivity, and accurate polarization and intensity calibration. Key science projects of the MWA are structure in the early universe through the detection of the Epoch of Reionization and remote imaging of magnetic and density structure in the solar corona and inner heliosphere. To meet these science goals, MWA has a very large field of view - up to 50 degrees across at 80 MHz – that makes it well suited for blind searches for astrophysical radio transients. This presentation will provide an overview of the MWA, initial results from a 512-antenna prototype version of the array that began taking observations in 2008, and a description of future plans including transient searches.