



ASKAP and its Scientific Results

D. McConnell^{*(1)}, A. P. Chippendale⁽¹⁾, A. W. Hotan⁽²⁾, E. Lenc⁽¹⁾, A. O'Brien⁽¹⁾, E. M. Sadler⁽²⁾

(1) CSIRO Astronomy & Space Science, PO Box 76, Epping, NSW 1710, Australia, <http://www.atnf.csiro.au>

(2) CSIRO Astronomy & Space Science, PO Box 1130, Bentley, WA 6102, Australia

The Australian SKA Pathfinder, ASKAP, is a 36-antenna array constructed at the radio-quiet Murchison Radio Observatory in Western Australia. It uses phased array feeds (PAFs), allowing the formation of 36 beams to provide an instantaneous field of view of 30 square degrees. Its instantaneous bandwidth is 288MHz, tuneable over the 700 - 1800 MHz range. The array has baselines up to 6.4 km so that the angular resolution of the completed instrument will be about 10 arcseconds. Also, the antenna distribution has a central concentration making the instrument very sensitive to extended radio sources. Each antenna has a third axis allowing compensation for the normal field rotation suffered by most similar instruments; this feature enhances the achievable image dynamic range. These features will be described and a characterisation of ASKAP's performance will be presented. We will outline the experience with beam measurement, beam-weight determination, calibration and radiometric performance, along with with a summary of scientific results.