



Director's update

Lewis Ball
ATUC 24 Nov 2015

•CSIRO Astronomy and Space Science
www.csiro.au

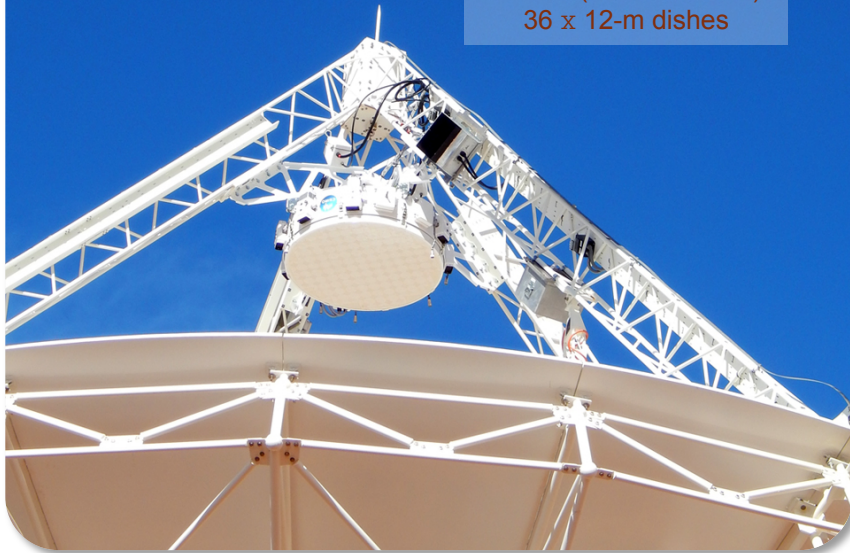


Highlights

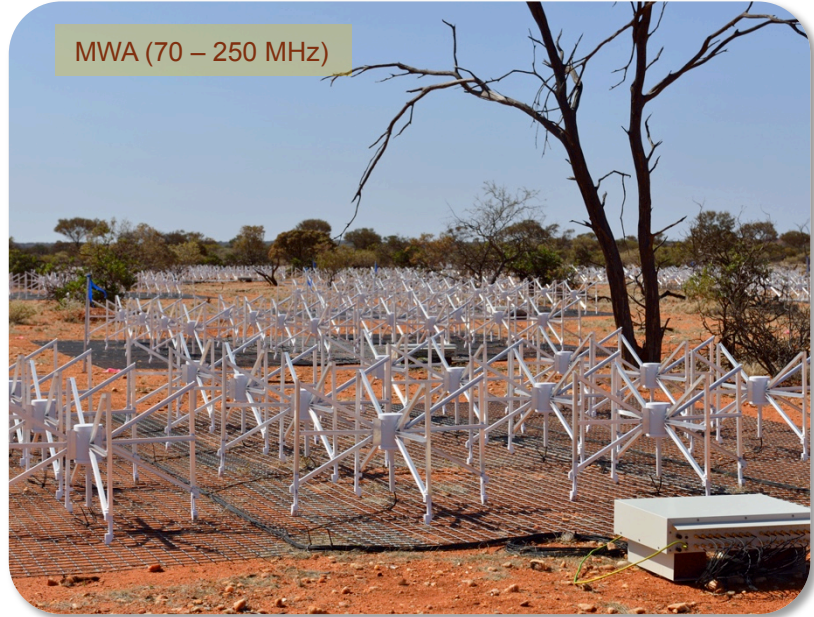
- Continued progress on ASKAP
 - CSIRO Chairman's medal for PAFs on ASKAP
 - MkII PAF array being commissioned (six installed)
 - CASDA release 3TB of data!
- Australia Telescope Steering Committee met in July
 - ASKAP & SKA priorities (including ongoing funding requirements)
 - Operations issues
 - ATCA Legacy projects
 - Breakthrough Listen
 - Governance & consolidation
- George Heald, OCE Science Leader + team in Perth



ASKAP (0.7 – 1.8 GHz)
36 x 12-m dishes



MWA (70 – 250 MHz)



OCE Science Leader Teams

Dr Bärbel Koribalski (since 2012) – ASKAP large sky surveys

Postdocs: *Serra, Wang, Lee-Waddell, Madrid, Shao* + one PhD top-up

Dr George Heald (from 2016) – MWA galaxy magnetism, SKA-low

Two postdocs: advertised; all Perth-based

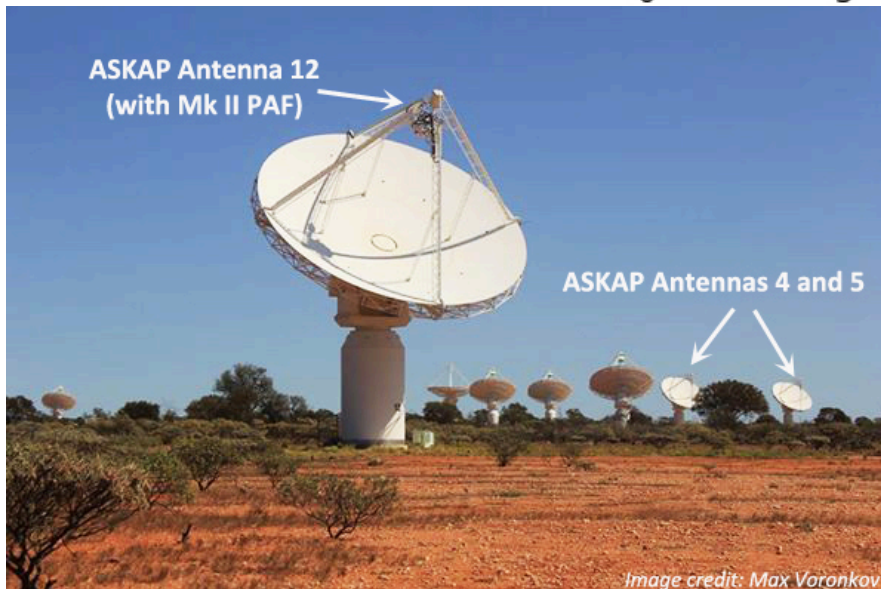
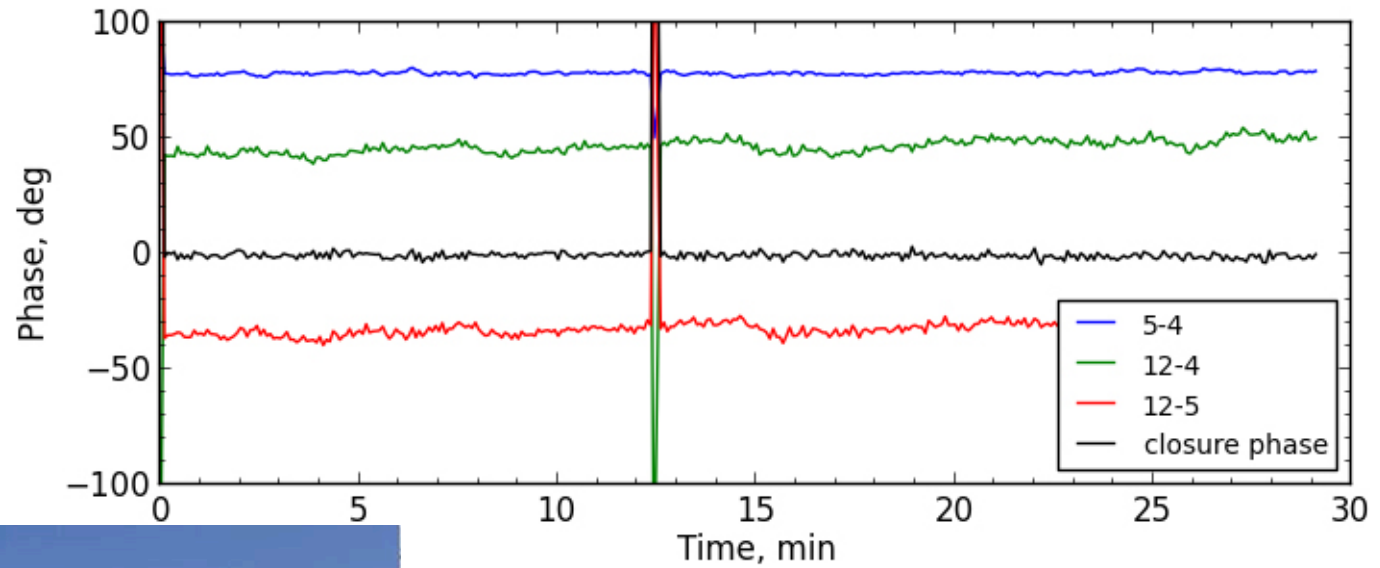
OCE Postdoctoral Fellows

Astrophysics: *Bell, Dai, Denes, Johnson, Kerr, Kimball, Marvil*

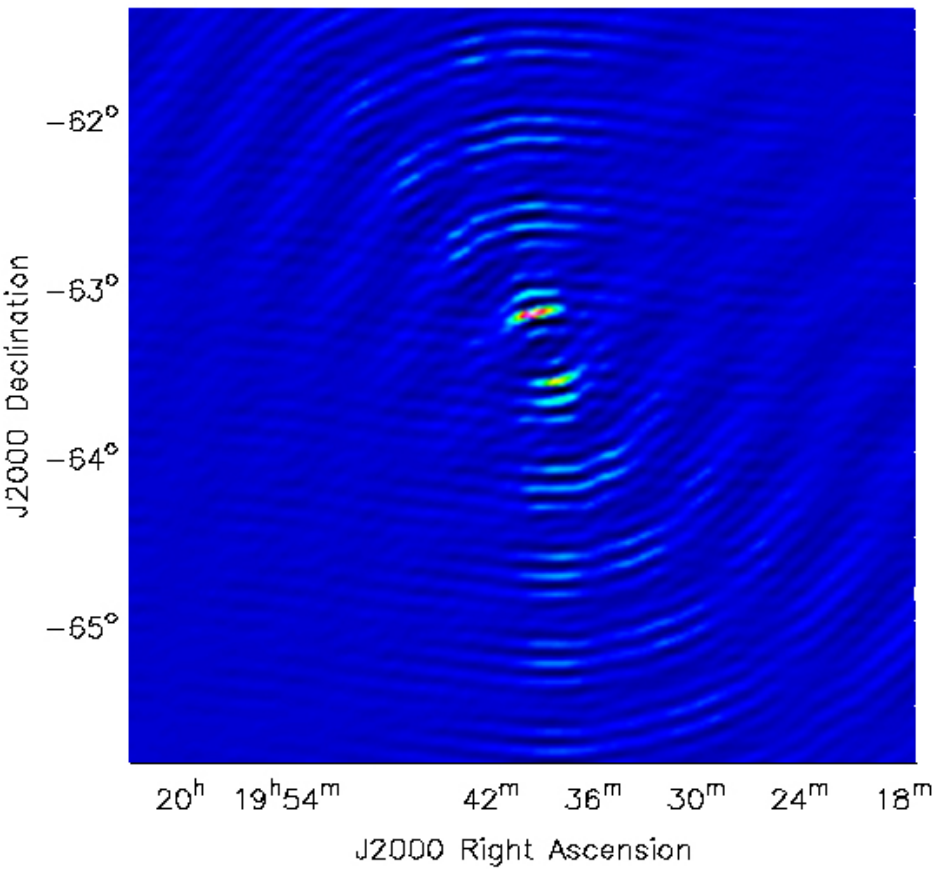
Engineering/Computing: *Hellbourg, 2016 ASKAP-PDF*



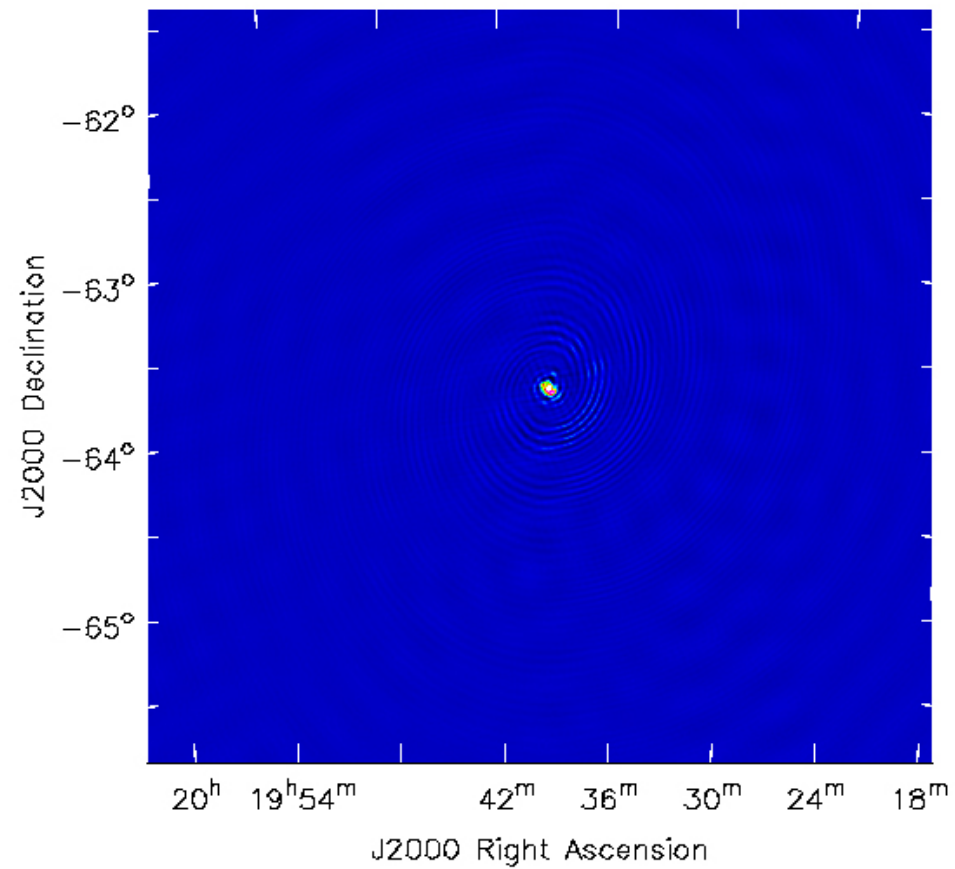
Mk II progress



First image!



BETA (November 2013)



ADE (August 2015)

Astronomy governance

- Options paper released June 2015
 - Identified and analysed 12 different models
 - Drivers for consolidation but significant community concerns about risks and weaknesses
 - Most critical requirement is long term stability of funding
- Working group reconvened with revised membership
 - First meeting on 11 Nov
 - Purpose is to deliver implementation plans on two options
 - Consolidated governing body in CSIRO, such as a subsidiary entity (company) to CSIRO
 - Consolidated governing body as a corporate Commonwealth entity under the Public Governance, Performance and Accountability Act 2013
- By April 2016

Astronomy governance WG membership

- Ann Bray – Chair DIIS
- Lewis Ball – CASS/ATNF Director, CSIRO
- Warrick Couch – AAO Director, DIIS
- Alan Duffy – U Swinburne
- Carole Jackson – Curtin U
- Virginia Kilborn – ASA President
- David Luchetti – Project Director, Australian SKA Office, DIIS
- Mark McAuley – CEO AAL
- Elaine Sadler – CAASTRO Director, Sydney U

- David Williams – ED: Digital, National Facil. & Collections, CSIRO

ATSC recommendations: I

Australia (and CSIRO) lead the world in wide field radio astronomy. Ensure that maximum benefit is derived in scientific leadership and impact, technology development and intellectual property.

Australia/CSIRO should continue to lead ASKAP operations and science

Further develop the instrument, its technology, and survey science including through international partnerships. Making a fraction of ASKAP science time available as part of the SKA may be one such partnership mechanism.

Endorsed by the CSIRO Board on 24 August

Continuing to explore opportunities to upgrade ASKAP within SKA

ATSC recommendations: II

The arrangement with the Breakthrough Prize Foundation for SETI science with the Parkes telescope is an excellent outcome for the ATNF and the astronomy community which will help ensure that Parkes can continue to deliver excellent science in a wide range of high impact astronomy areas.



Breakthrough Listen

- We provide:
 - 25% of Parkes observing time for SETI
 - Support equivalent to other observing projects
- BPF provides
 - New GPU-based backend (UC-Berkeley)
 - 25% of total operating costs
- Science program
 - 1 million closest stars
 - Galactic plane survey
 - Rest of the galaxy
- Lead science roles
 - Dan Wertheimer, Andrew Siemion, Matthew Bailes, Ron Ekers
- Workshop late Feb / early March 2016



ATSC recommendations: III

The current suite of radio astronomy facilities (Parkes, ATCA, ASKAP) needs to be sustained for the next 5-10 years in order to deliver on the priorities of the 2016-25 Decadal Plan ... A continuation of at least the current CSIRO funding and of external revenue, such as that currently provided through NCRIS (at the level of ~\$4M p.a.), is essential if this is to be achieved.

ATSC recommendations: IV

The ATSC commends CASS's initiative to prompt community consideration of the key science priorities for the ATCA in the ASKAP/ALMA era and encourage large scale and or legacy science programs

- *The ATSC recommends that:*
- *CASS continue the development of the ATCA science priorities in consultation with the science community;*
- *The Director consider issuing a call for proposals for large scale projects, encouraging identification of key science programs – Legacy Projects – that should be done prior to the foreseeable end of ATCA science on the timescale of a decade;*
- *Large scale projects should be assessed separately from standard ATCA proposals;*
- *Consideration should be given to the possibilities for CASS staff support of such projects and to operational enhancements that can facilitate large scale projects while ensuring cost effective operation of the ATCA.*
- *Such projects must have an open-access data policy with no proprietary period*

ATSC recommendations

The Committee supports a consolidated model for the future of Australian astronomy as Australia engages in global scale astronomy facilities.

The ATSC is confident that in the event that Australia's national astronomy research infrastructure is to be consolidated, an appropriate governance and delivery structure could be implemented under CSIRO to deliver a broader range of astronomy infrastructure for the community.



SKA priorities

- Lead SKA1-Low Correlator & Beamformer
 - Long term collaboration with ASTRON on DSP
- Increase engagement in SKA-Low science, imaging and calibration
- Plan for SKA operations and Australian entity/operations role
- Lead PAF development under SKA Observatory Development Program
 - Contributions by CASS, Astron, NRC



ASKAP 2016: The future of radio astronomy surveys

Survey Science Conference | 6 – 10 June 2016 | Sydney, Australia



OCE Cutting-Edge Conferences

- 2016 International ASKAP Science meeting
- followed by a Phased-Array Feed (PAF) Calibration workshop

NEW - OCE Science Leader colloquium series @ CASS - NEW