ATNF Operations

ATUC May 2018

John Reynolds

ATNF Operations update

ASKAP status & SSP Review

ATNF – broader picture

The ATNF

Radiophysics Laboratory

ARRC Kensington Pawsey HPC Centre

ATCA Update

- Continues to produce high-impact science as flexible, versatile S-H instrument

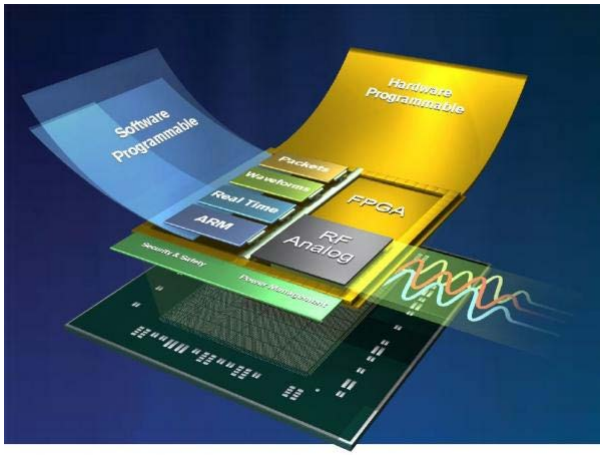
- Modest reduction of technical staff; cryogenics and receiver support from Marsfield

- Limited success with Sale-of-Telescope time to date, but efforts continue

- CABB replacement in initial phase
  GPU solution with RF on chip
  But as yet unfunded

17 Oct 2017

Gravitational waves world-first discovery Down Under



ATCA: Staff changes at Narrabri

Farewell and thanks to:
Marg & Jock McFee &
Bruce Tough("Tuffy")

Welcome
Kun Lee!

Other staff farewells

Marilyn Drake,
Kensington

Jono Crocker,
Parkes

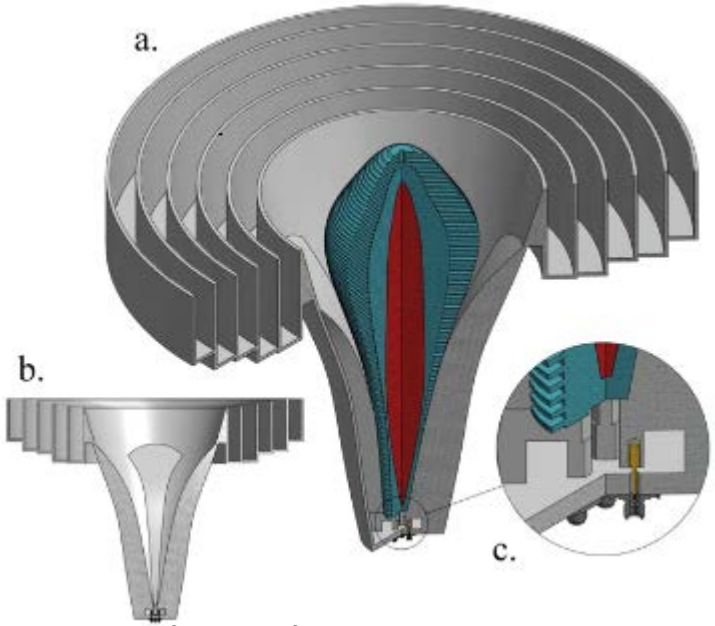
Xinyu Wu
RSA for 2 years

Parkes Update

- Continued role at forefront of pulsar and FRB research and as technology test-bed

- Staffing lean but stable
  - Ageing workforce

- Sale-of-Telescope Time
  - 25% of time to BL 2016-2021
  - 16% of time to NAOC 2017-2020



UWB-low receiver installed 15/5 – test observations in progress

LIEF grant submitted for cooled PAF

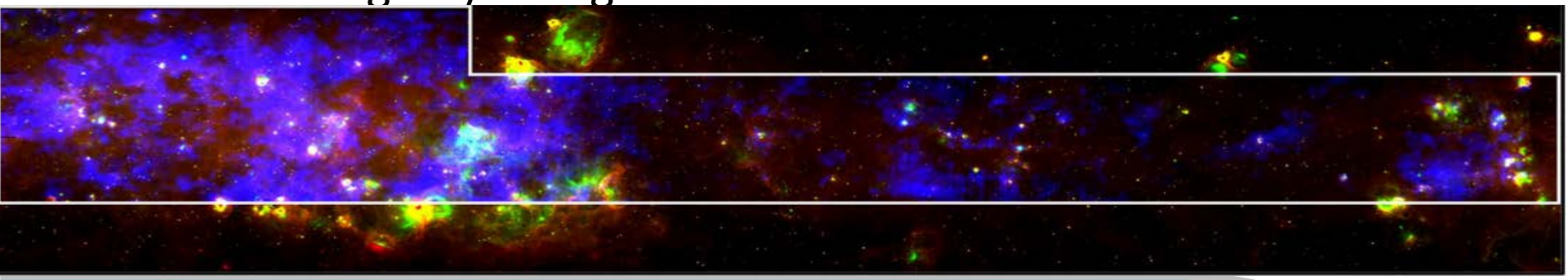
Mopra Update

- Operated by 3rd party on cost-recovery basis

- Contract for 2018 winter season in place with U. Adel.
  Team Mopra aiming to finish CO survey this year

- KVN funding application for $US2.5M to incorporate Mopra as regular element at 13/7/3mm

- WFIRST off again / on again!



Established instruments – significant risks

ATCA

- Vulnerable to equipment failure (CABB)
- Staff numbers at critical level

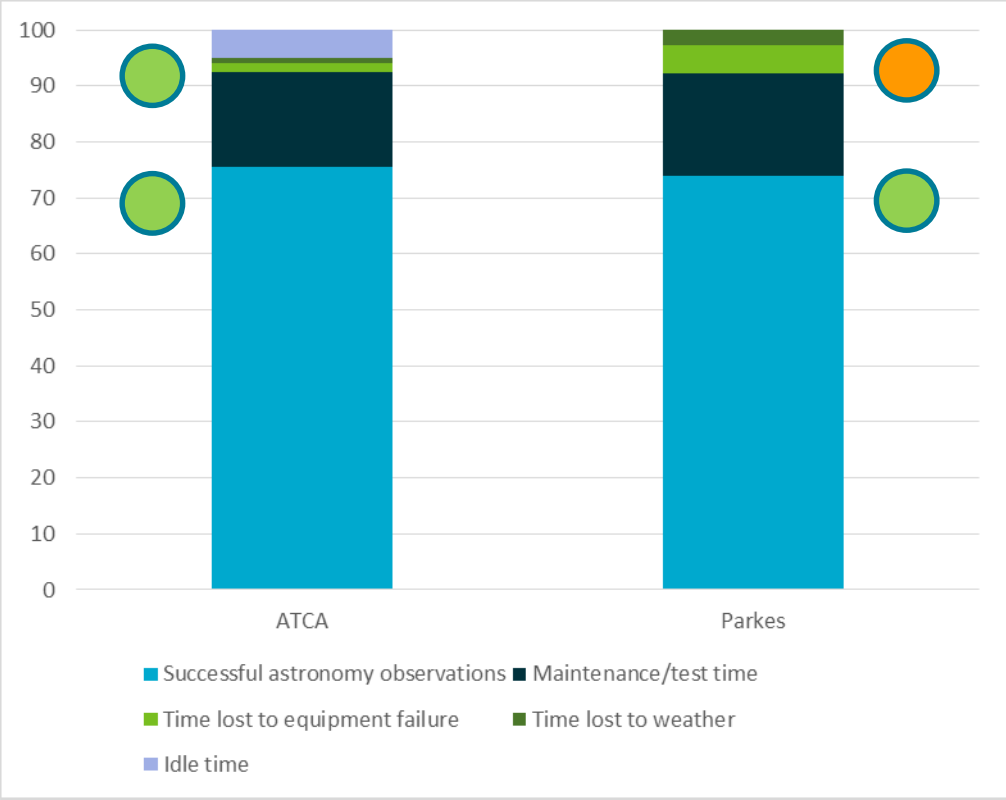
Parkes

- Pulsar/FRB challengers
- Ageing and lean workforce
- Preventative vs reactive maintenance

LBA

- Tight budgets
- Ageing DAS backend
- No funded ASKAP capability
- Uncertainty of Mopra future

KPIs: Telescope usage



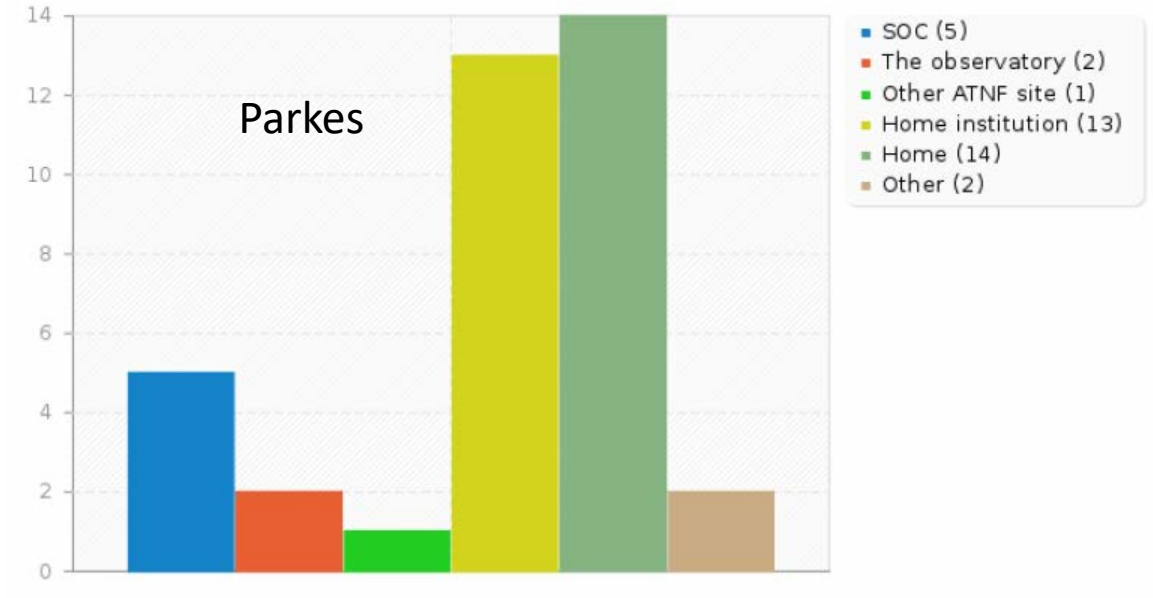
< 5% downtime to faults

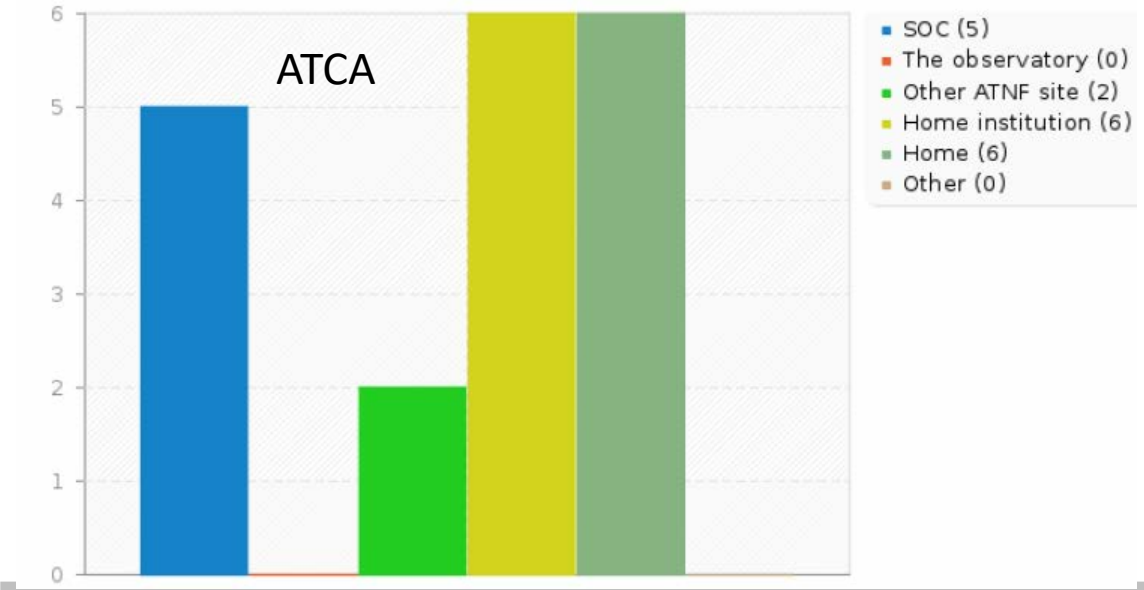
> 70% availability

User Feedback

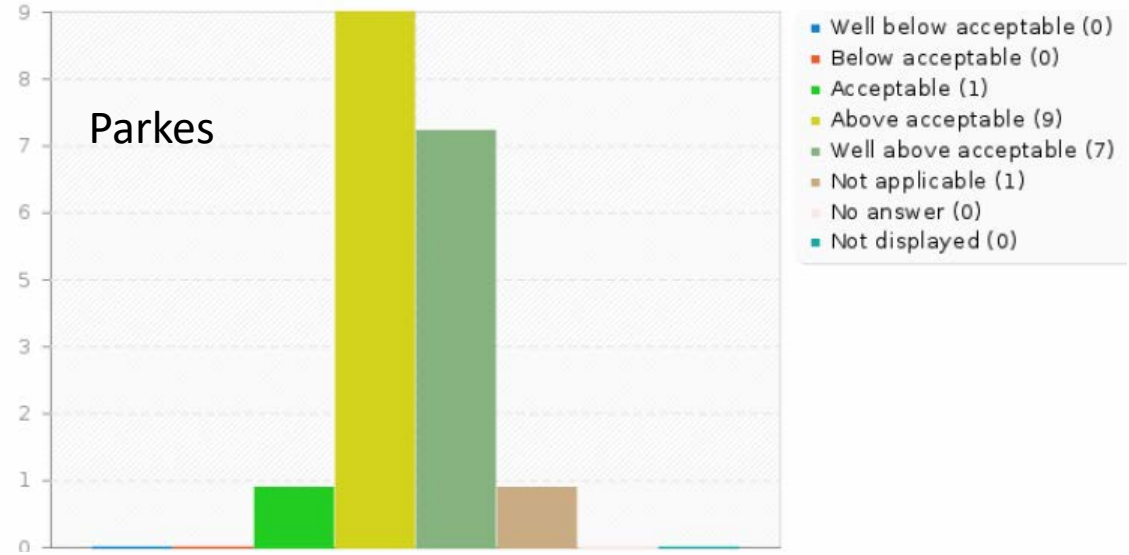
31 responses
(prodding required)

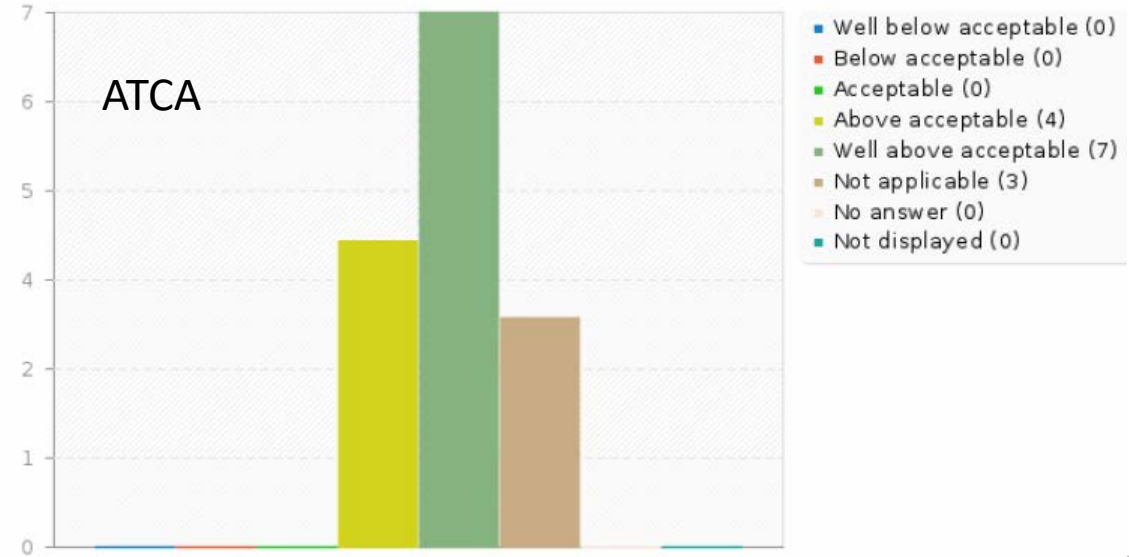
Breakdown by
observer location





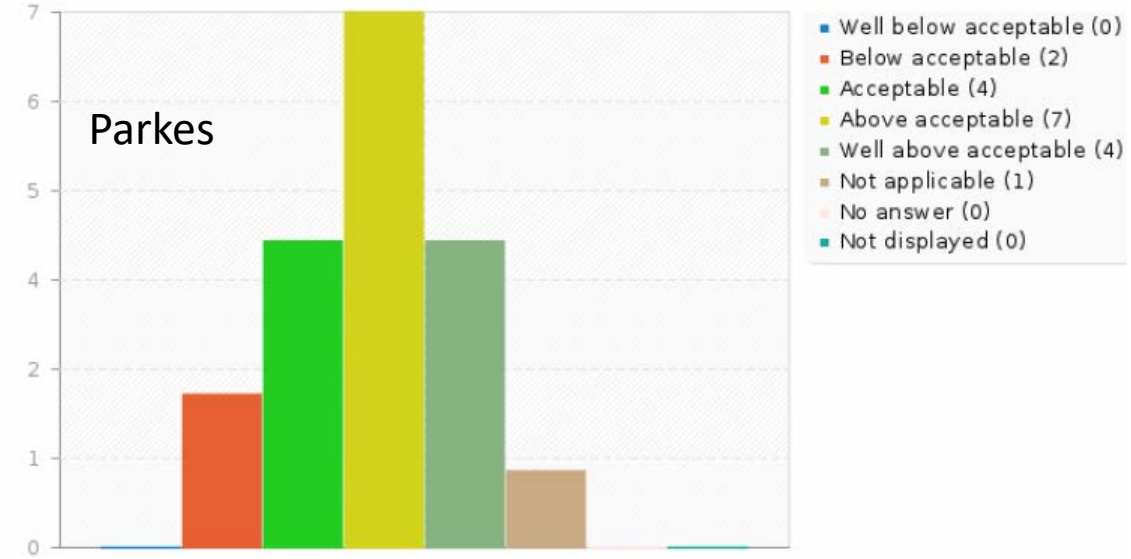
User feedback

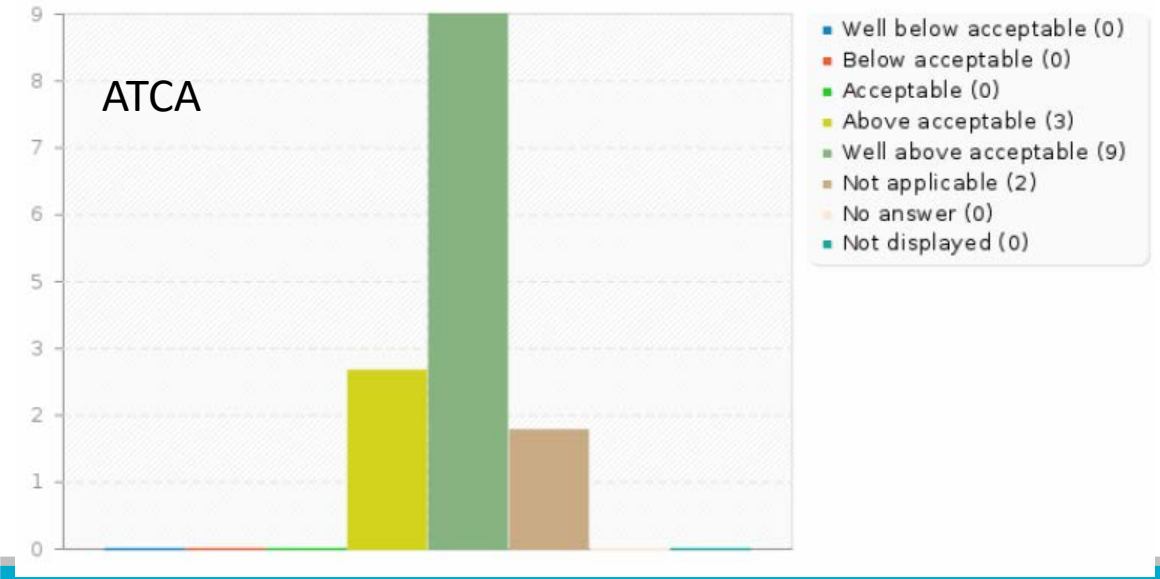




Support during observation (includes ATCA Duty Astronomer, ATNF staff)]

User feedback





User Guide

ASKAP status & SSP Review

ASKAP 36

ASKAP Update

Early Science currently taking back seat to commissioning
Currently 16-antenna imaging array plus 8~10 hunting FRBs.
Electronics for remaining antennas to be delivered later this Year as we aim for 36-antenna operation in early 2019

Opportunity for extended Early Science with ASKAP-18
From mid-2018

Pawsey relationship critical for full ASKAP operation
$70M over 4 years for upgrade for new computer & storage

ASKAP project structure clarified

SSP PI regular meetings re-established

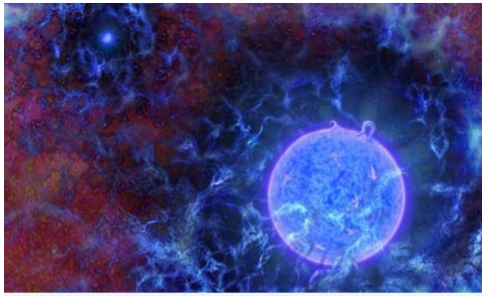
Revised timeline for SSP review

CASS runs the MRO, not just ASKAP!

ASKAP helps us see more of our intergalatic neighbour >

23 May 2017

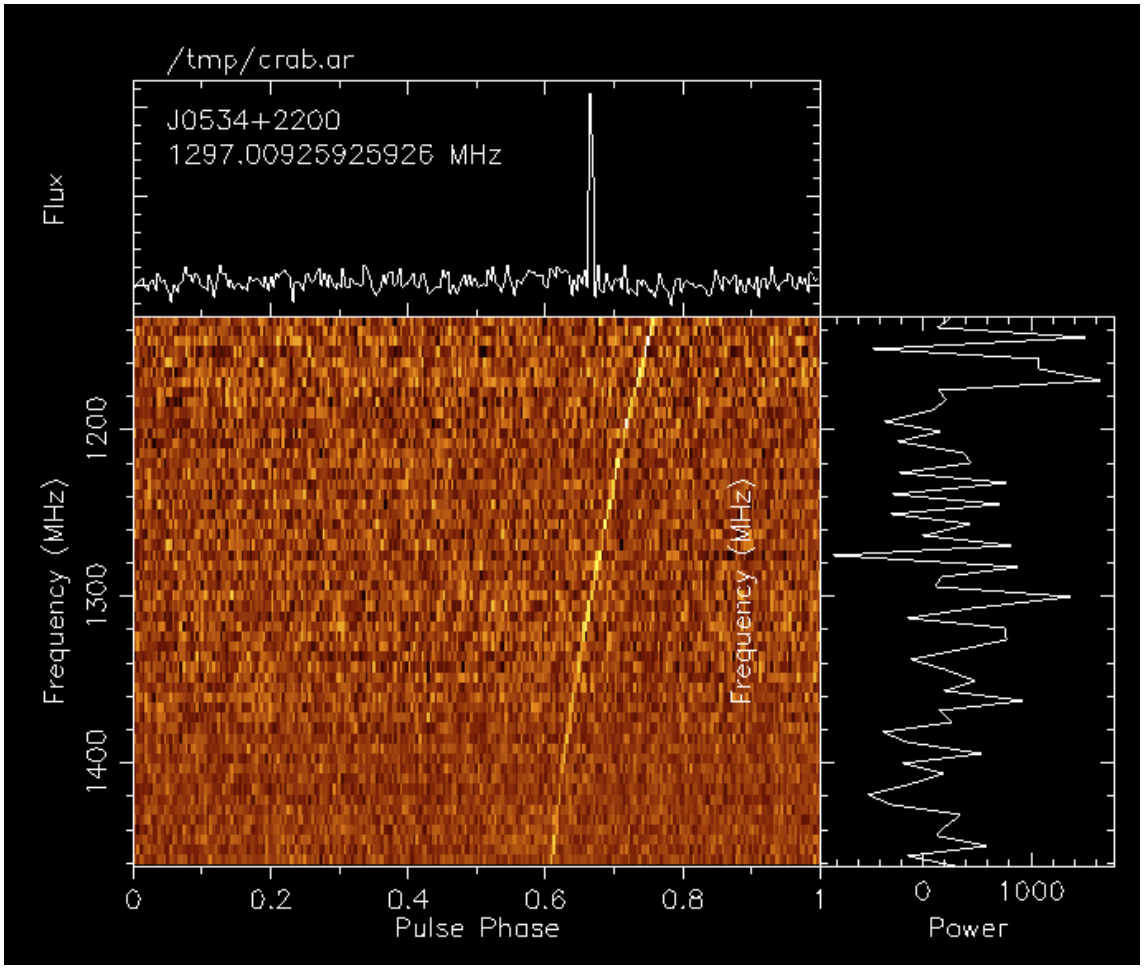
ASKAP telescope to rule radio-burst hunt



01 Mar 2018

Signs of earliest stars seen from Australia

ASKAP – custom made for FRBs



Detection of giant pulse from Crab Nebula

Using 5 dishes, detected in ~0.5s

Important step towards key goal of “localisation” for FRBs

Credit: Keith Bannister

Towards survey commencement

Highly productive SSP PIs meeting on 26 March

Two main outcomes;

- Commence 36-antenna survey science in 2019 with pilot surveys
- Defer SSP review until 2019

Proposed timetable

Jun 2018 Early Science WG meeting to discuss Early Science with ASKAP-18

Jul 2018 Early Science observing with ASKAP-18 commences

Oct 2018 Community workshop to plan for SSP pilot surveys

Nov 2018 Plans for pilot surveys published by CASS

Feb 2019 ASKAP SSP pilot surveys commence, pre-allocated times

Next PIs meeting – 18 June

SSP Review Timeline - proposed

- **May 2019** **Issue call for revised SSP plans,** in conjunction with ASKAP community briefing
- May 2019 Publish revised ASKAP specifications and capability document
- **Aug 2019** **Closing date for submission of revised SSP plans**
- **Sep 2019** **SSPAP meets, face-to-face**
- Oct 2019 SSPAP submits final report, SSTs informed of outcomes
- Nov 2019 Draft SST time allocation for 2020 circulated

Major schedule risks

- System complexity

  E.g. firmware problems in 2017
- Pawsey
  - Commissioning disk space
    - 3~5PB needed over commissioning period
  - *Galaxy* upgrade path
    - Revised requirements doc in preparation
    - “Shared use” interactions will be addressed
    - Under active investigation – *identifying dedicated resources inside Pawsey*

- Resourcing
  - Tight, but ASKAP continues to have priority on ATNF resources

Pawsey update

- Most significant project risks now Pawsey-related
- SRA now signed, moving towards partnership model
- Quarterly meetings with (acting) Director up and running, weekly tech meetings ongoing
- Disk space 3-5PB required in 3-6 months for order 2 years
- Procurement of replacement *Galaxy* **with overlap period**
  ASKAP requirements in preparation as high priority

ASKAP Publications Policy for ES/commissioning

Approval for new policy requested:

- Short statement of contribution from prospective co-authors on ES/commissioning papers
- Definition of “Key Publication” tightened
- Clarify the responsibilities for maintaining and accessing the ASKAP “Builders’ List”
- Establishing an authorship disputes panel (done)

ACES restructure has significantly reduced size of team

Feedback also welcome on publicity/promotion guidelines

ATNF – the broader picture

2017 BU Review recommendations

12. **ATNF Facilities:** The other ATNF facilities, ATCA, Parkes and LBA, are not only producing excellent science, but are highly relevant for ASKAP and transient follow-up.

The Panel emphasizes that this capability should be retained and endorses the stated CASS goal to keep these facilities operating for the next 10 years.

ATNF Operations funding

FY17/18 income for ATNF Operations:

- $9.5M direct appropriation
- $5.3M external revenue, incl.;
  - $1.7M from sale of telescope time
  - $1.1M from AAL + $1.3M over 4 years
  - $0.9M reimbursement for MRO costs

External revenue critical in maintaining existing observatories, and giving stability to “bumpy” technologies income

We acknowledge the Wajarri Yamatji people as the traditional owners of the Murchison Radio-astronomy Observatory site

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