



Murriyang & Parkes Observatory Update

ATUC March 2023

Jane Kaczmarek | 2023-March-28

Australia's National Science Agency





I acknowledge the Wiradjuri people as the Traditional Owners of the land on which Parkes Observatory resides and pay my respects to their Elders past & present. I recognise their connection to Country and their role in caring for and maintaining Country over thousands of years. May their strength and wisdom be with us today.



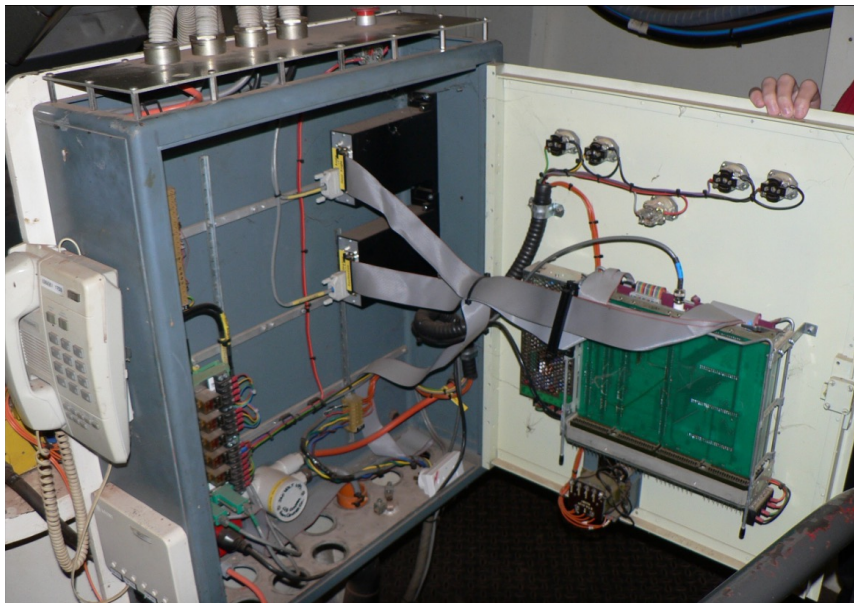
Updates

- Successful on-dish CryoPAF engineering test
 - Focus cabin is ready for permanent installation
- New observer model being rolled out
 - Concurrent upgrade to Portal
 - Training is now “bookable” on specific dates
- SpaceX tracking in January
- New Senior Systems Scientist (me!)





Maintenance



- PDP11 swapped out with new Galil controller
- Replaced old SWEO contactor that was causing drive failures
- Azimuth roller bearing found to be near end-of-life
- Dropped packets in SB 9 & 10 due to malfunctioning cable
- 20-year Maintenance starting late 2023
 - It's a **big** job which must be done
 - Two one-month shutdowns

Semester Scheduling Constraints

- CryoPAF & Spacecraft Tracking have fluid timelines
 - Schedule is being released in parts
 - 1 April – 15 June; 16 June – 30 September
 - 2 weeks of ST anticipated
 - 2 weeks needed for CryoPAF install/commissioning
- Azimuth roller bearing needs replacing
 - ~2 week maintenance, though timing is still unclear





Ultra Wide-bandwidth High (UWH)

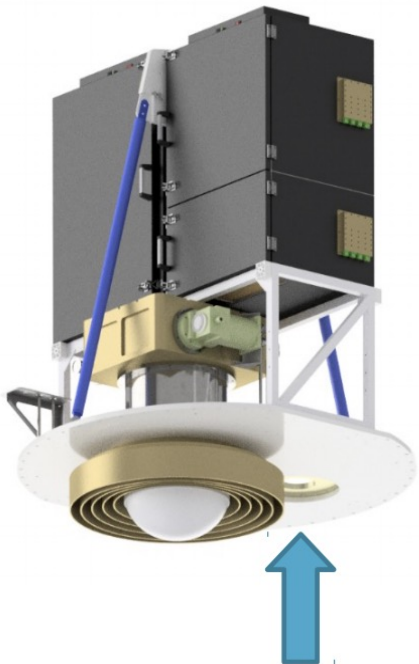
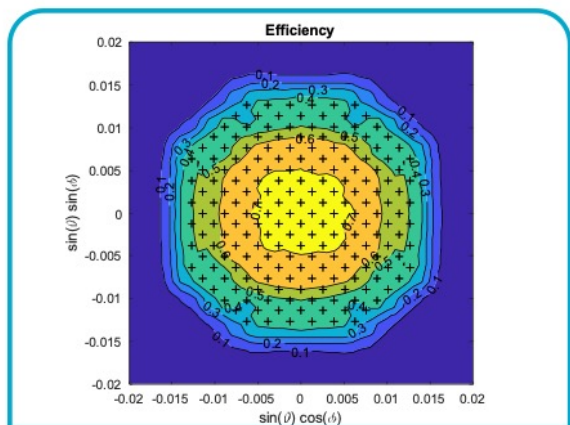


Image Credit: N Carter

- Declined to put in LIEF bid in the most recent round
 - Weak support from universities who were already in the middle of internal selection rounds
- With extra time we can:
 - Further develop critical VLBI angle
 - Build up proposal team before next universities decision deadline



CryoPAF Beamforming



Efficiency



- Intention to explore algorithms beyond standard max S/N
- Need community input on parameters and astronomy drivers
- Next calendar year at the earliest



Data Storage Challenges

- Proposals must estimate their data volumes
 - PIs must provide an endpoint for volumes > 10TB/semester
 - PIs agree to their data storage plan by ticking a checkbox
- Rates are considered when scheduling and monitored to prevent backlogs
- However...
 - Consistently more data are taken than can be archived
 - CryoPAF will increase pressure on available data storage

Semester	No. of projects	Expected volume (TB)	Actual volume (TB)	Archived volume (TB)
2023APRS	47	924*	N/A	N/A
2022OCTS	39	360	~300	~200
2022APRS	49	390	~600	~255
2021OCTS	39	620	~350	~225

* Includes 400TB from a NAPA



Thank you

Astronomy and Space Science

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