The observatory ALMA

instituto de astrofísica e ciências do espaço

PACDs 2016
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www.iastro.pt

Hugo Messias
PACE Lead Scientist
hmessias@oal.ul.pt

Atacama Large Millimetre Array (ALMA)

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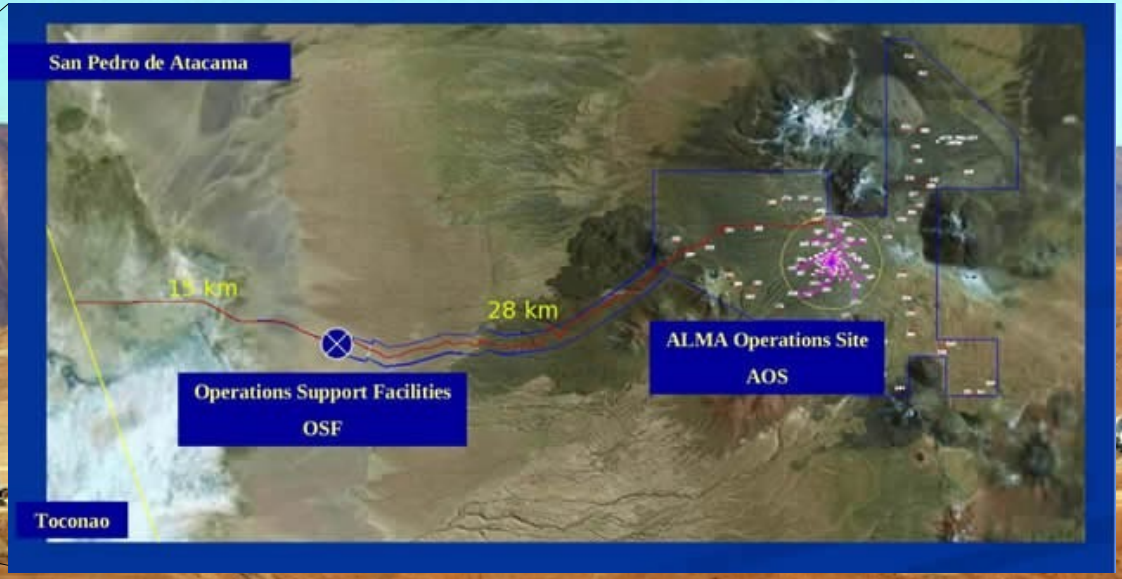
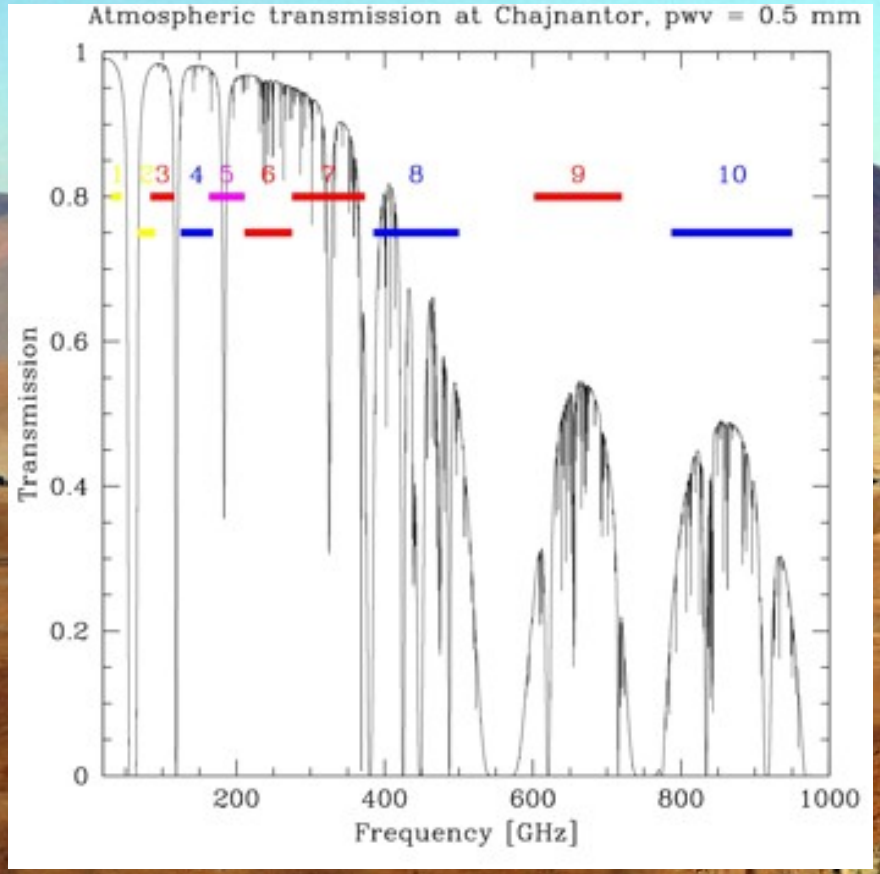


Planalto Chajnantor
5000m
PWV ~ 1mm

Atacama Large Millimetre Array (ALMA)



Spectral coverage

3—0.3mm (84—950GHz)
0.014—0.001km/s
R~22k—250k

7—0.3mm (40—950GHz)
0.03—0.001km/s
R~11k—250k

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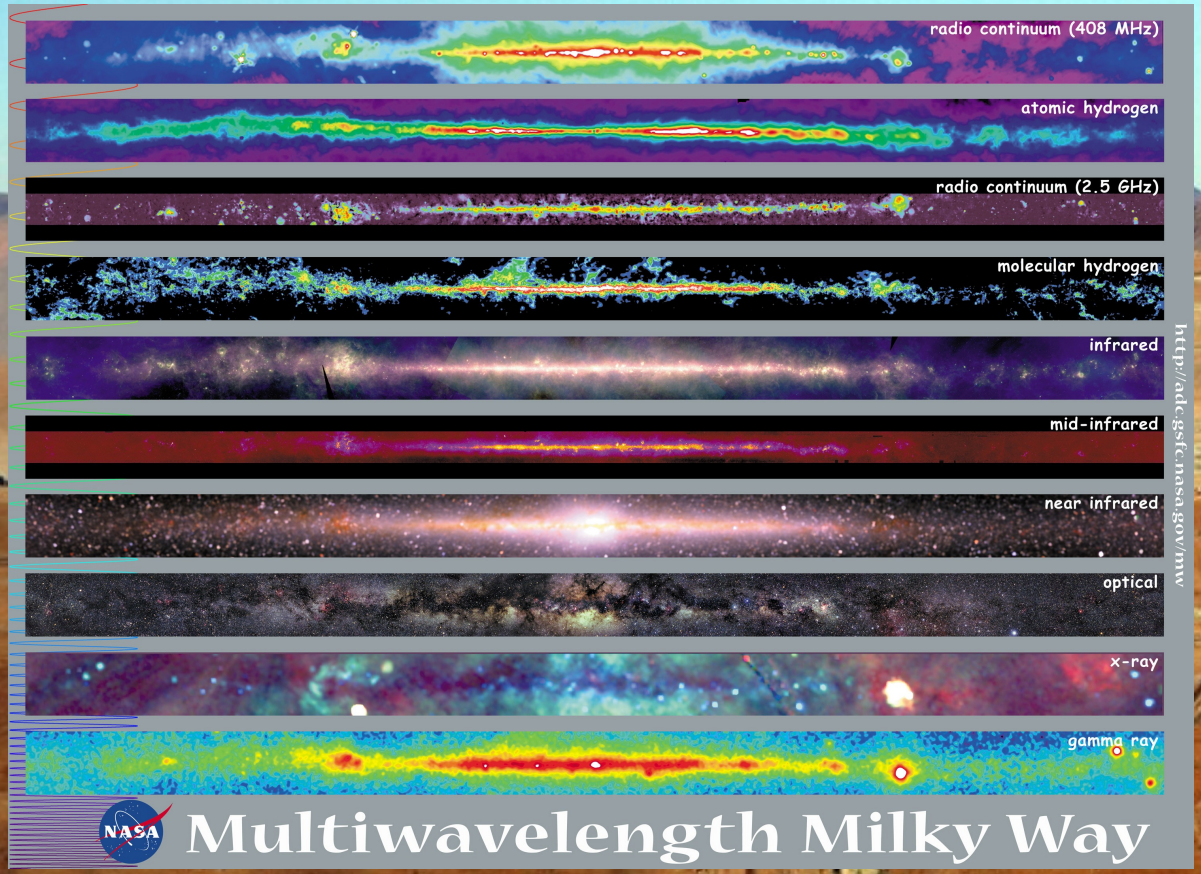

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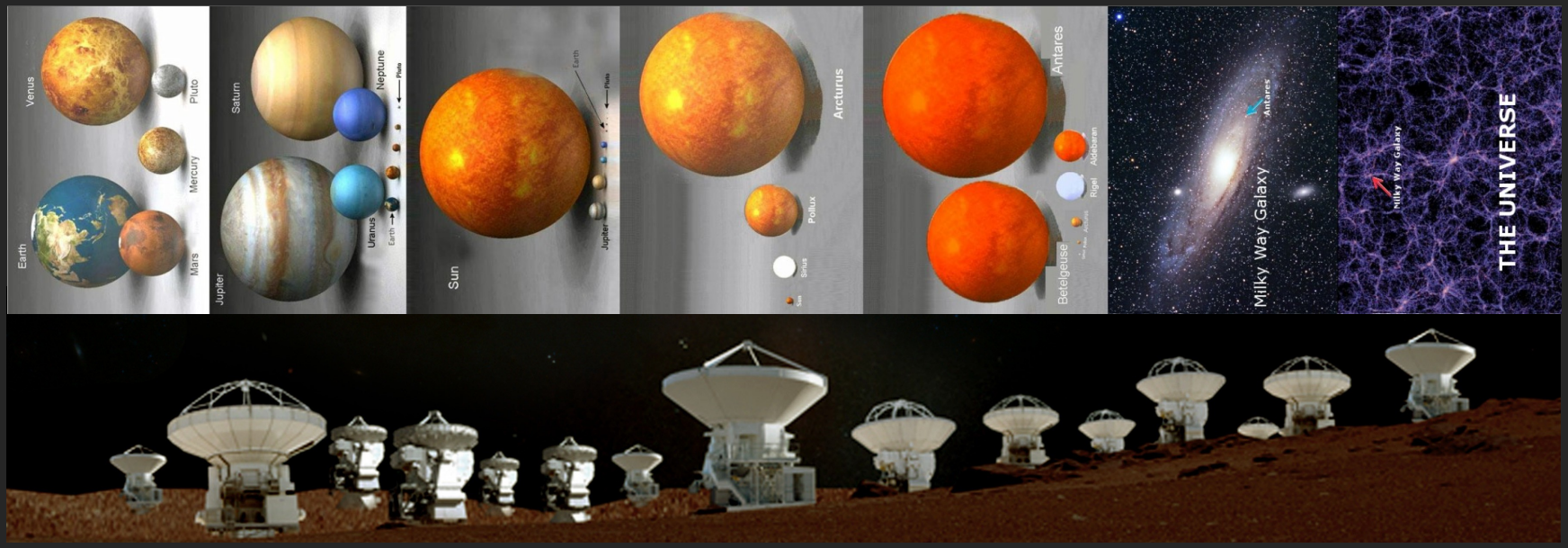
ALMA

Science

Cosmology and the high redshift universe
Galaxies and galactic nuclei
ISM, star formation and astrochemistry
Circumstellar discs, exoplanets and the solar system
Stellar evolution and the Sun

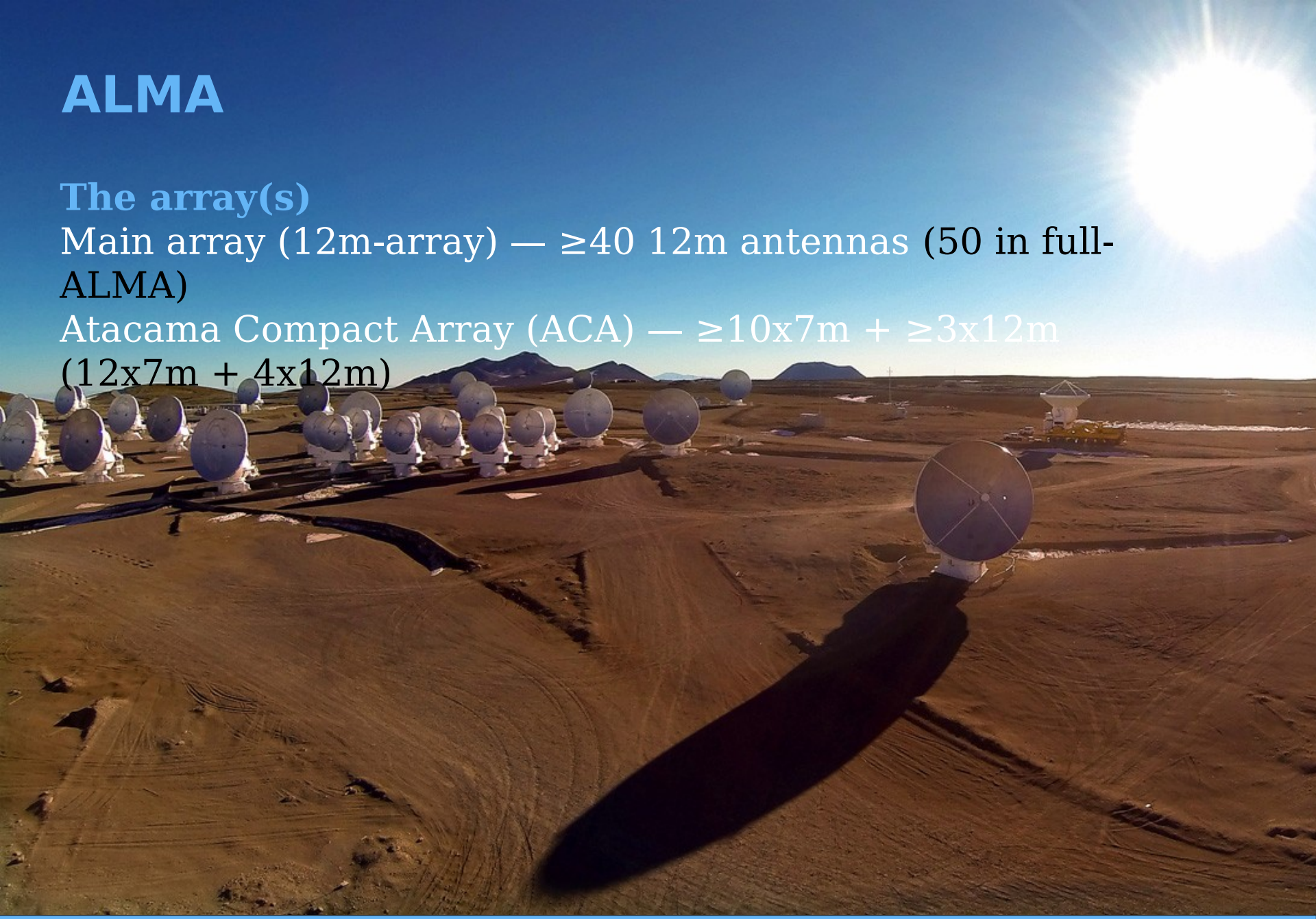


ALMA

The array(s)

Main array (12m-array) — ≥40 12m antennas (50 in full-ALMA)

Atacama Compact Array (ACA) — ≥10x7m + ≥3x12m (12x7m + 4x12m)



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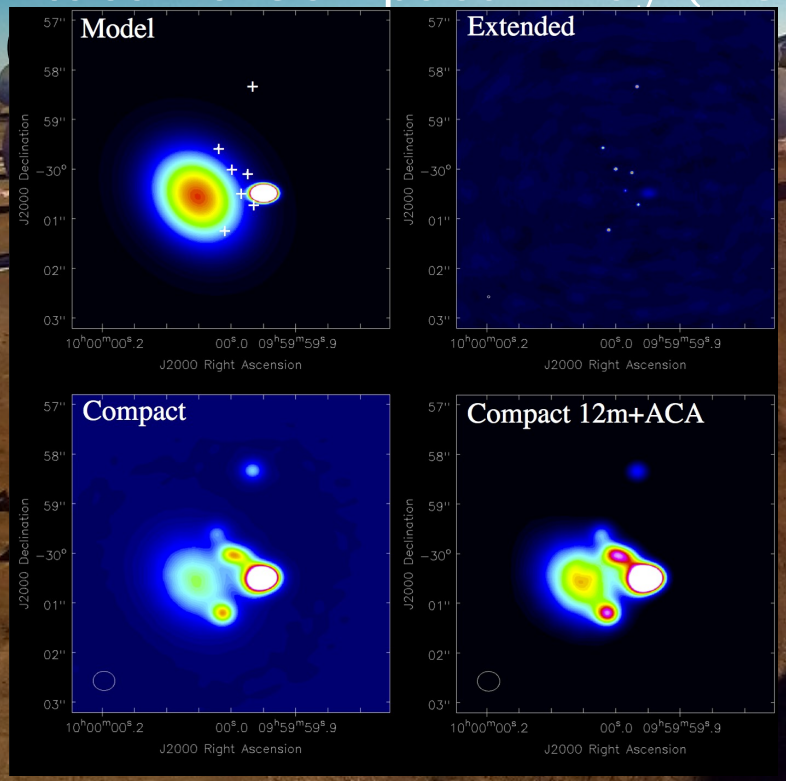
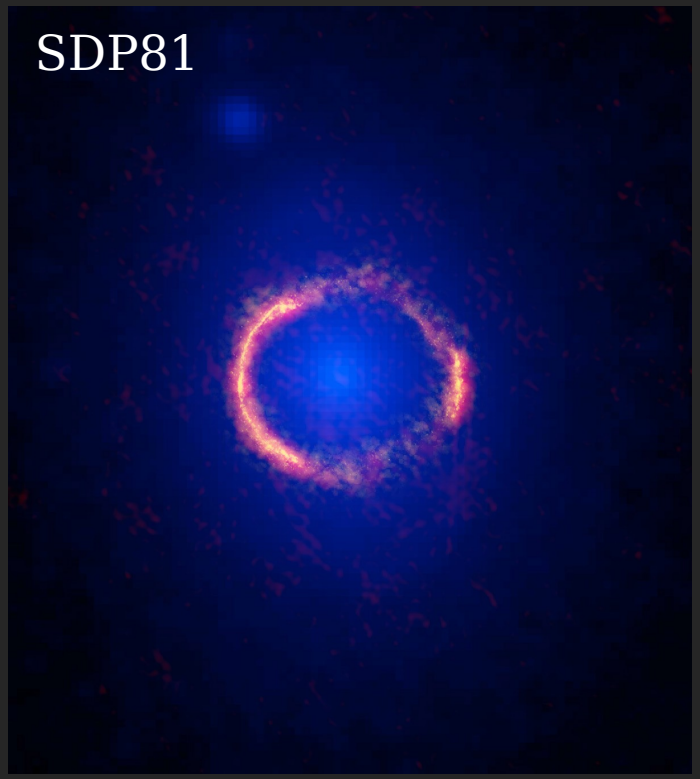


ALMA

The array(s)

Main array (12m-array) — <10km apart (<16km)



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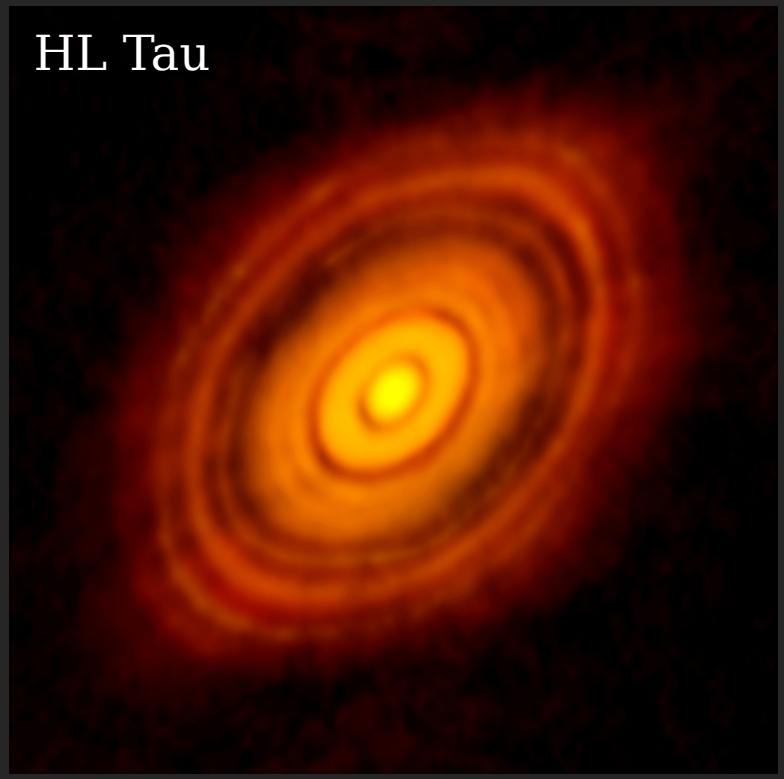

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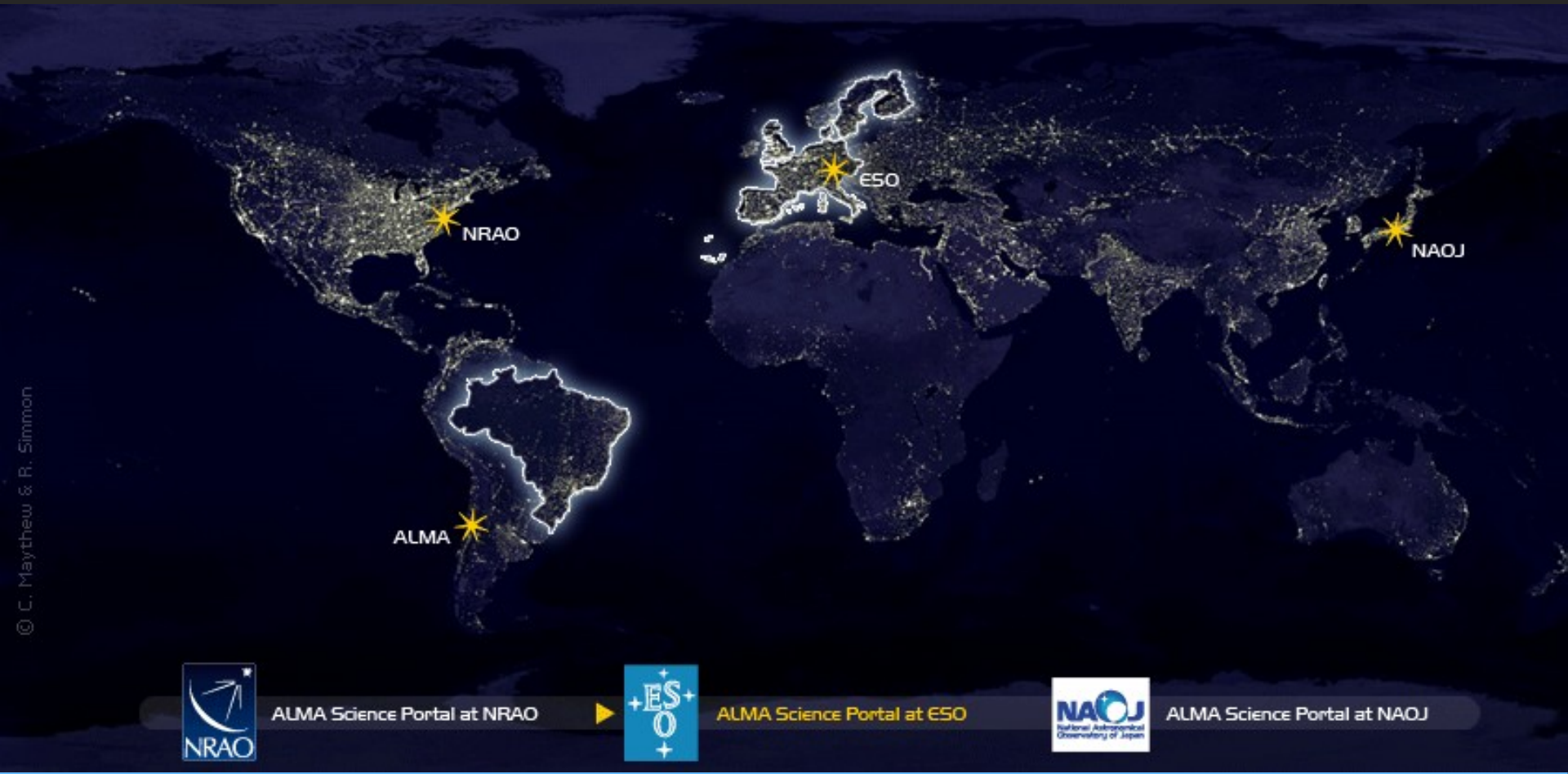
The consortium



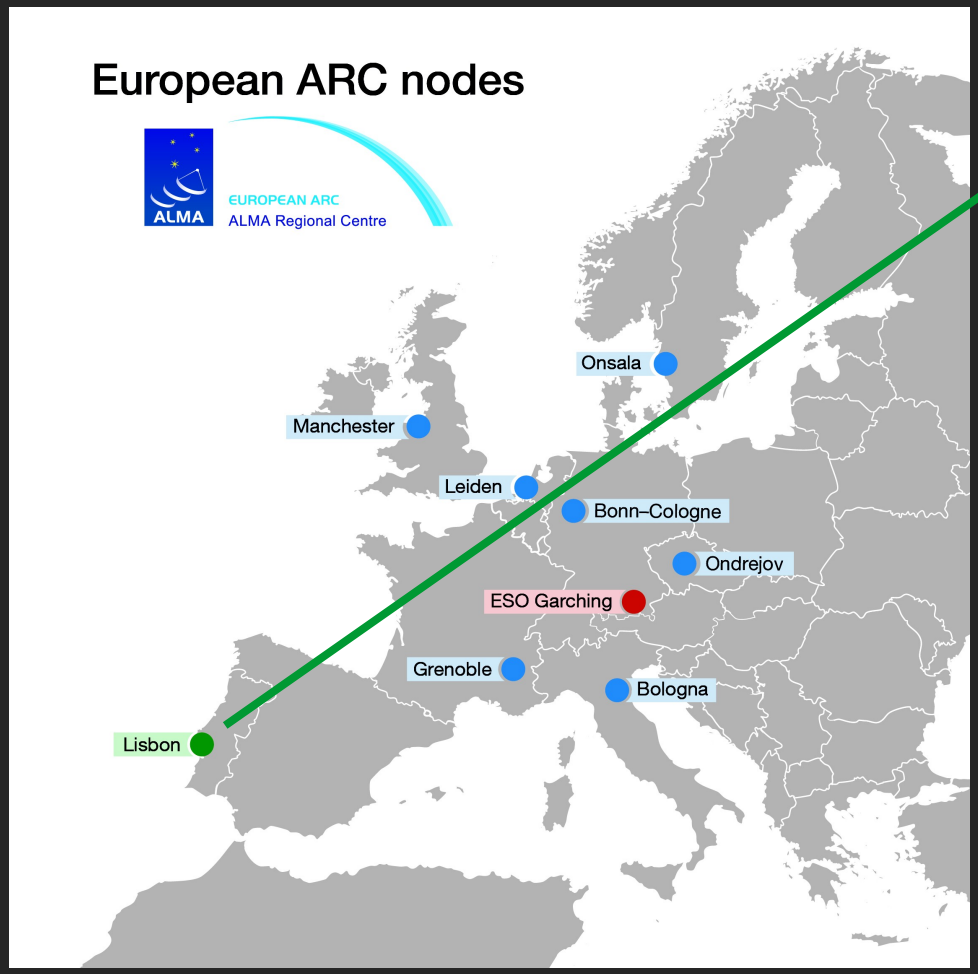
ALMA

The European ALMA Regional Centre

— distribution of Call for Proposals
— user support for proposal preparation
— TAC procedures and technical feasibility
— assistance with phase II scheduling/execution observations
— data products support
— archive operations
— ALMA helpdesk
— community development and outreach

ALMA

The European ALMA support network



Portuguese ALMA Centre of Expertise

PACE

Hatziminaoglou et al. (2015, Msngr, 162

ALMA

The European ALMA support network

— user support for proposal preparation
— assistance with phase II scheduling/execution observations*
— data products support
— archive operations
— ALMA helpdesk*
— community development and outreach

PACE

The above, except *, and:
— develop unique expertise (e.g., planetary atmospheres, data mining)
— increase ALMA community usage (e.g., PACDs, talks, ...)
— EU ARC activities (e.g., meetings)

ALMA

PACE — team

Coordination — José Afonso

Lead Scientist — Hugo Messias

Astronomers — Ciro Pappalardo, Silvio Lorenzoni, Israel Matute, Pedro Machado, Sonia Antón, Luca Bizzocchi

Technical Support — Carlos Santos

Administrative Support — Sandra Homem

Public outreach — João Retrê

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PACE NEWS

- ALMA Cycle 4 pre-announcement
- ALMA Fellowships
- Resolving Planet Formation in the Era of ALMA and Extreme AO
- Water in the Universe – from clouds to oceans
- ALMA Cycle-3 outcome

PACE MAILING LIST

Do you wish to receive ALMA-related news or notices of events organised by the EU ARC or PACE?

Name

E-Mail

PACE

Since May 2014, the Institute for Astrophysics and Space Science (Lisbon node, IA) is officially part of the European Atacama Large Millimetre Array (ALMA) support structure as a Centre of Expertise (CoE). This status was granted by ESO after the recognition of IA team's capability to support the community with the use of ALMA, in addition to the already existent EU ALMA Regional Centre (ARC) nodes.

The Portuguese ALMA CoE (PACE) is now composed by a team of researchers, technical, administrative, and outreach personnel. IA members are currently involved in seven approved ALMA proposals. The tasks of the PACE are partly the same as those of an EU ARC node, including, for instance, proposal preparation support.

http://pace.oal.ul.pt

About
Science
Proposing
Observing
Data
Documents & Tools
Knowledgebase/FAQ

User Services at ARCs

- Helpdesk
- ALMA Calendars
- EU ARC
- NA ARC
- EA ARC

ALMA Cycle 4 Pre-announcement

Dec 14, 2015

The Joint ALMA Observatory (JAO) will start the next cycle of observing (Cycle 4) in October 2016. A Call for Proposals with detailed information on Cycle 4 will be issued in March 2016, with a deadline for proposal submission in April 2016. This pre-announcement highlights aspects of the Cycle 4 proposal call that are needed to plan proposals.

General information

ALMA Cycle 4 will start in October 2016 and span 12 months. It is anticipated that 3000 hours of 12-m Array science observations will be available for successful observations of approved projects. Observing time will also be available on the Morita Array (a.k.a. the Atacama Compact Array, or the ACA); the number of hours available on the ACA will be announced in the Call for Proposals. The remaining time on ALMA will be reserved for engineering, computing and scientific testing to extend and optimize ALMA capabilities.

The key dates for Cycle 4 are given below.

22 March 2016	Release of the ALMA Cycle 4 Call for Proposals and observing tool, and opening of archive for proposal submission
21 April 2016	Proposal deadline
August 2016	Result of the proposal review process sent to Proposers
October 2016	Start of ALMA Cycle 4 observations
September 2017	End of Cycle 4 observations

http://almascience.eso.org/

ALMA

Cycle 4 — anticipated capabilities

— Number of antennas: ≥40 12m-array; 10 7m-array; 3 12m
— Bands: 3, 4, 6, 7, 8, 9, 10 (3.1, 2.1, 1.3, 0.87, 0.74, 0.44, 0.35mm, respectively)
— 12m-array configurations:
  Nine with maximum distances of 155m to 12.6km
  Maximum 2.7km for Bands 8, 9, 10
  Maximum 5.3km for Band 7
  Maximum 12.6km for Bands 3, 4, 6

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Cycle 4 — anticipated capabilities

— All bands: spectral line and continuum single field observations with 12m and 7m arrays
— Bands 3 to 9: mosaics with 12m and 7m arrays
— Bands 3 to 8: single dish spectral line observations
— Bands 3, 6, 7: single pointing, on axis, full (linear) polarization for continuum and full spectral resolution observations with 12m array

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Cycle 4 — non-standard modes

— Bands 8, 9, 10
— Band 7 with maximum baselines >2.7km
— Polarization
— Spectral scans
— <1GHz aggregate bandwidth over all spectral windows
— Solar
— VLBI
— User-specified calibrations

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Cycle 4 — new opportunities

— ACA stand-alone mode
— Large programmes (>50h)
— VLBI (Bands 3 and 6)
— Solar observations (Bands 3 and 6)

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