

The JMMC in 2017

G .Duvert

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(From the JMMC general assembly november 2015, Nice)



Prepare Observations

SearchCal

Instrumental Configuration: Magnitude Band: V, Wavelength (nm): 0.55, Max Baseline (m): 102.45, RA 2000 (hh:mm:ss): 03:47:07.065, Dec 2000 (+/-dd:mm:ss): +24:06:18.644, Scenario: Bright / Faint

Found Calibrators: 1. 0.00 23630 0.47 29.08 +24:06:16.5 0.0010 -0.0020 0.947 0.665 0.781 2.87, 2. 0.486 23508 0.95 49.41 +24:22:53.9 0.0010 -0.0020 0.948 0.665 0.781 3. 0.495 23508 0.95 49.41 +24:22:53.9 0.0010 -0.0020 0.948 0.665 0.781 4. 0.593 23392 0.44 52.54 +24:06:48.0 0.71 0.015 0.947 0.665 0.781 3.706

Aspro

Configuration: VLT U1 UT1 UT4, Period: VLTI Period RR, Instrument: AMBER, Constraints: Altitude (deg): 20.0, Date: 2011-10-13, Min. Elevation (deg): 20.0, Status: Warning

UV coverage plot showing the VLT Period RR - AMBER - A1 G1 I3 Day: 2011-10-15 - Source: HFP1234

Reduce data

amdlib
pndrs

View Data

VLT - GRAVITY 1.990 μm - 2.450 μm - A0-C1-I2-K0 Day: 2016-10-05T05:30:45 - Source: MYSTERYYY

Olexplorer

plot data

1 granules, 1... Granules Files

Spatial (deg)

SPATL (deg)

Info: 1760 / 1760 pts., Data: X19.560, Y19.500, Data Err: X19.560, Y19.500, Color by effective wavelength, Skip flagged data, expr editor

516 M Provided by JMAMC

Fit Models

LITPro

File Edit Interop Help

Load options... Delete selection Attach/Detach frame

Target panel: MYSTERY

Model list

Parameters

Filter setup: Normalize total flux, Select data to fit: VSamp, VSphi, VS2, T2amp, T3phi

Plot model panel

Plot image: y_min=-30, y_max=30, x_min=0, x_max=100, pixelscale=0.1

Plot UV Map: Plot UV Map, Plot Residuals, Overplot model with cut angle: 0.0

Cuts in the source panel

Plot Ch2: y_min=-10, y_max=10, x_min=0, x_max=100, pixelscale=100

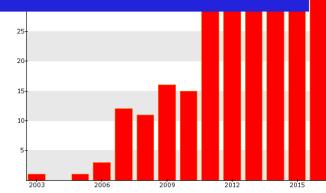
Plot Log (y) Residuals: with fit: y_min=-20, y_max=20, x_min=0, x_max=100, pixelscale=100

New!

+ Training

+ User Support

+ OLBIN forum And Publications



JSDC
JMDC

CDS Catalogs

New!

OiDB

L0 to L3 DataBases

Results for:

```
SELECT_ALL * FROM ojdb AS t WHERE (contains(POINT('ICRS', t.s_ra, t.s_dec), CIRCLE('ICRS', -219.98085, -60.83))
```

19 observations from 19 ojdb files (10 private)

Page 1/1

Results for:

```
SELECT_ALL * FROM ojdb AS t WHERE (contains(POINT('ICRS', t.s_ra, t.s_dec), CIRCLE('ICRS', -219.98085, -60.83))
```

(Edit query)

target_name access_url t_min instrument_name wlen_min wlen_max

- Alpha_Cen_B PION.2016-05-28T01.56.00.739_oiidaCalibrated.fits 2016-05-28T01.55.12 PIONER 1.51909030 1.51909030
- Alpha_Cen_A PION.2016-05-28T02.15.37.104_oiidaCalibrated.fits 2016-05-28T02.15.21 PIONER 1.51909030 1.51909030

OlImaging

Reconstruct Images

File Edit Interop Help

Data selection

WAVE_MIN (nm): 1.99, WAVE_MAX (nm): 2.45, USE_VIS2: checked, USE_T3: checked, INSTRUMENT: MYSTERY, MANITER: T2AMP, RLG_ALPH: 200, RLG_BETA: 200, RLG_GAMMA: 200, FLUXNORM: 1, Specific parmas: NOFLUX, POV: 20, Antennas panel: Save Image, Save 0.0 ms, Ready to spwres process, Results panel: Loading file: /home/pitres/dst.ms

Data visualization

Image: OIIMAP Parameters: Ra: -0.01 deg, Dec: 0.01 deg, FOV: 0.377 mas, Color scale: LINEAR

UV Table: spwres-dest.ms

JMMC Yesterday

<http://www.jmmc.fr>

JMMC

Scientific Council
Pdt: T. Paumard

Director
Gilles Duvert

Directors
Council
Pdt: DSAA INSU

Training
A. Meilland
(OCA)

Coordination Center (OSUG)
Technical Direction: G. Mella (OSUG)

Engineers : G. Mella (OSUG), L. Bourgès (OSUG), R. Jacquot (OSUG)

Preparation of
Observations
Gilles Duvert
(IPAG/OSUG)

Research & Development Groups

Instrument's DRS
J-B Le Bouquin
(IPAG/OSUG)

Model-fitting
*Isabelle Tallon-
Bosc*
(CRAL/OSUL)

Software Development
&
Web services

Image Reconstruction
E. Thiébaut
(CRAL/OSUL)

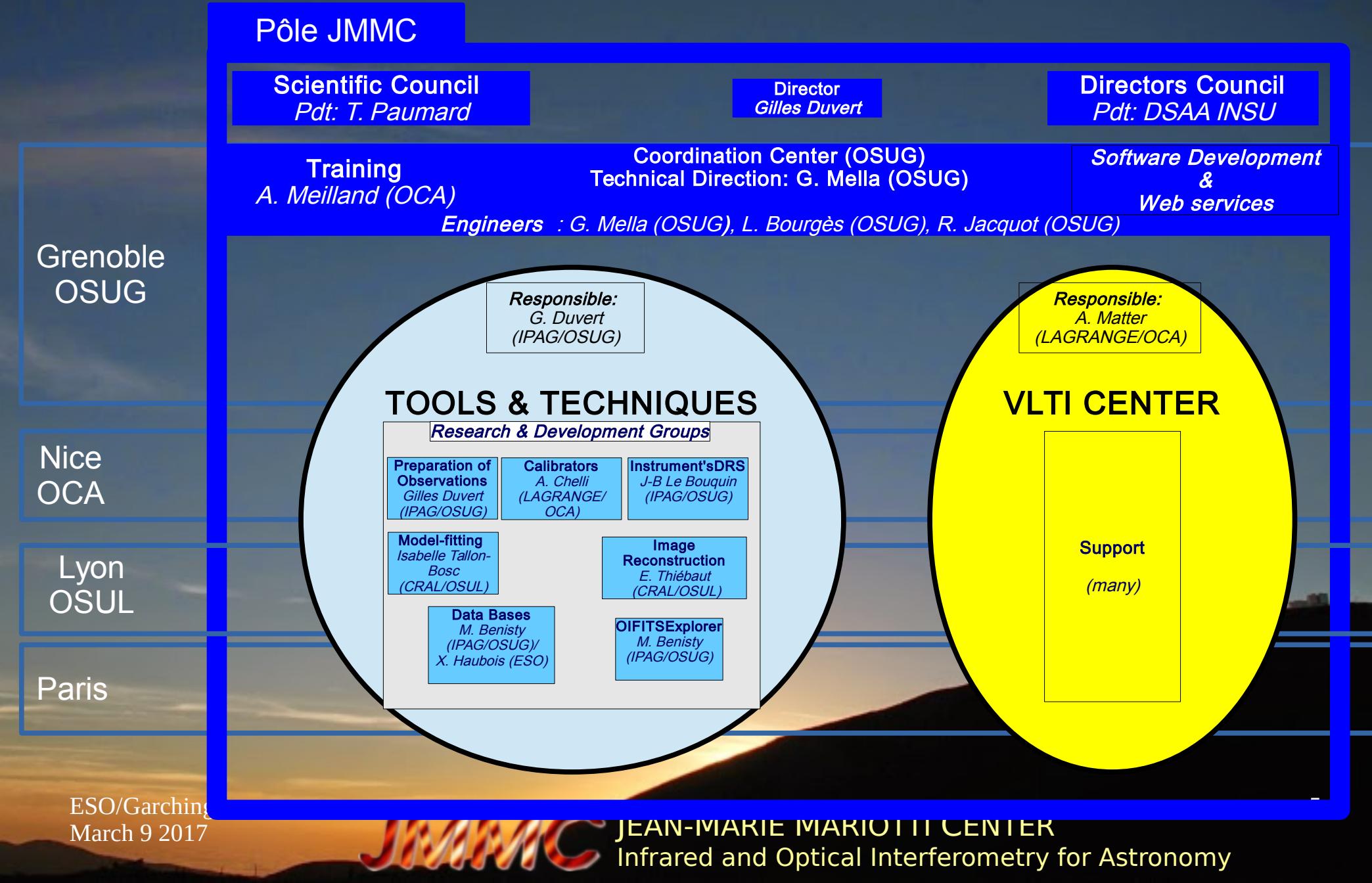
Data Bases
M. Benisty (IPAG/OSUG)/
X. Haubois (ESO)

OIFITSExplorer
M. Benisty
(IPAG/OSUG)

Network activities groups in



JMMC new structure



In the next future: the french VLTI CENTER

In summary: light version of ARChnodes

- Feb 2017: letter of intent sent to INSU.
- Light structure: 1-2 person/site (Nice, Paris, Lyon, Grenoble) + coord. at OCA (A. Matter). Rooms available. Travels not compensated.
- “Face-to-face” help in:
 - Proposal preparation;
 - GRAVITY & MATISSE pipeline data reduction;
 - Model fitting & Image reconstruction (JMMC tools)

VLTI CENTER(s), Continued

To be followed:

- French VLTI Center → How to return expertise on instrumental data (instrument health, observing methods & strategies, suggestions for DRS improvements...) to ESO?.
- Set-up of the network of VLTI Expertise Centres accepted as a result of last proposal by EII. **A funding of 19 person/month has been secured.** It should help raising VLTI Centres at Porto/Portugal, Exeter/UK, [JMMC/France,] Liège/Belgium, Heidelberg/Germany.

MISCELLANEOUS NEWS 2016

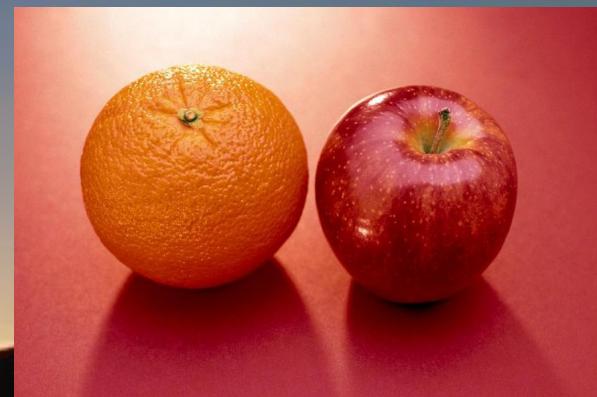
- New version of OIFITS format available (Duvert, Young and Hummel 2017, A&A, 597,A8)
 - But use ArXiv version (maintained)
- **OifitsExplorer**: many improvements.
- **OiDB**: official repository A&A L3, CHARA data.
- New stellar diameter catalog (JSDC) for ~450000 stars.
- OPTICON-funded task:
 - A specification for interchange btw. Image reconstruction programs
 - A “universal” GUI for image reconstruction: Oimaging.

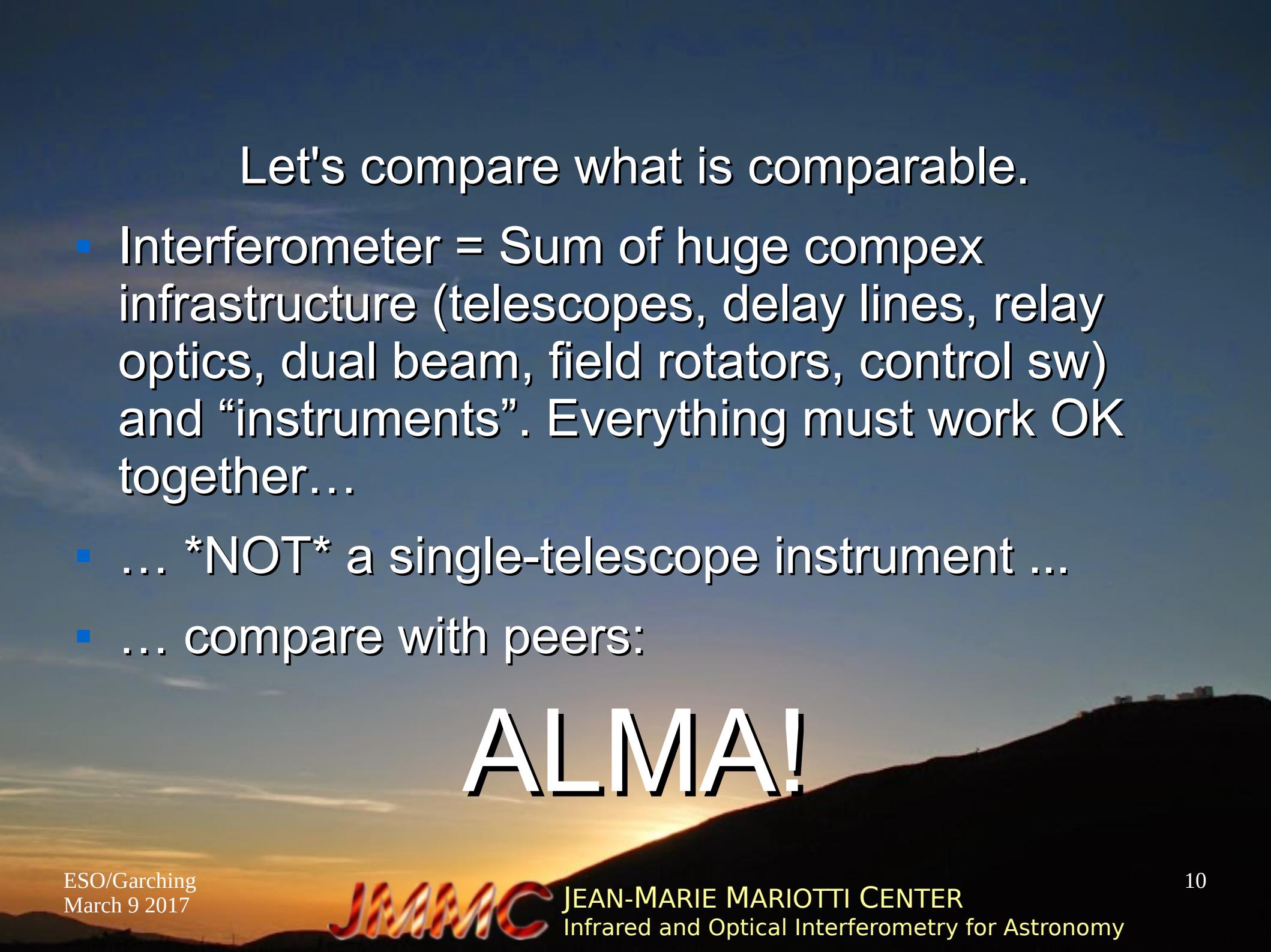
AND NOW Something Completely different...

RAMBLING ABOUT
VLTI'S
EFFICIENCY

or

Comparing





Let's compare what is comparable.

- Interferometer = Sum of huge complex infrastructure (telescopes, delay lines, relay optics, dual beam, field rotators, control sw) and “instruments”. Everything must work OK together...
- ... *NOT* a single-telescope instrument ...
- ... compare with peers:

ALMA!

Recent opportunity:

Comparing two reports about global effectiveness of two
Interferometric arrays: ALMA and VLTI

Source: ALMA Cycle 1 & 2
Summary Report available at
<https://almascience.eso.org>
edited in 4Q 2016.

- Exact figures on first 2 years
of science use.

Source: “VLTI status update:
a decade of operations and
beyond”, Mérand et al, 2014,
SPIE, Volume 9146

- Values estimated from the
percentages given in the text.

RATIO SCIENCE / TIME

ALMA \$1.3B

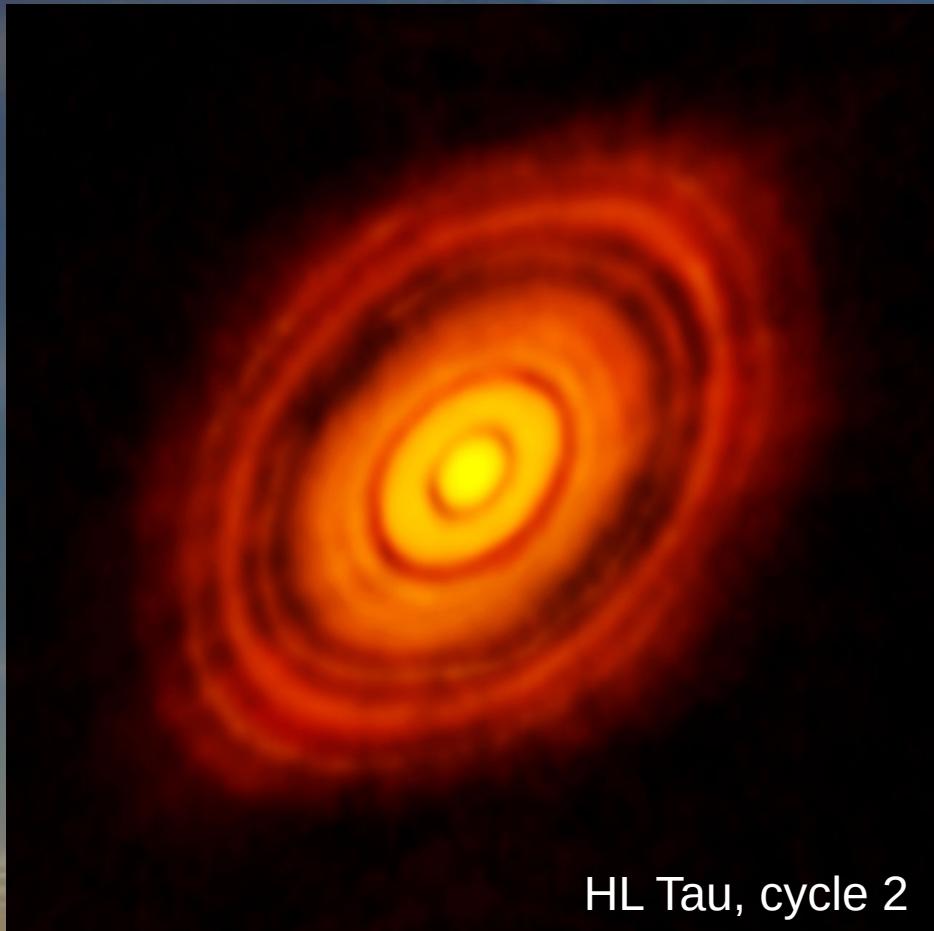
- Cycles 1 & 2.
Operations possibly
not yet at top level.
- 24/24 operation
("days")
- 2626 hours of
observation
(archived, science)
- For 344 projects.
- 113 publications.
- Ratio H/P: 23

VLTI \$? 0.2 B?

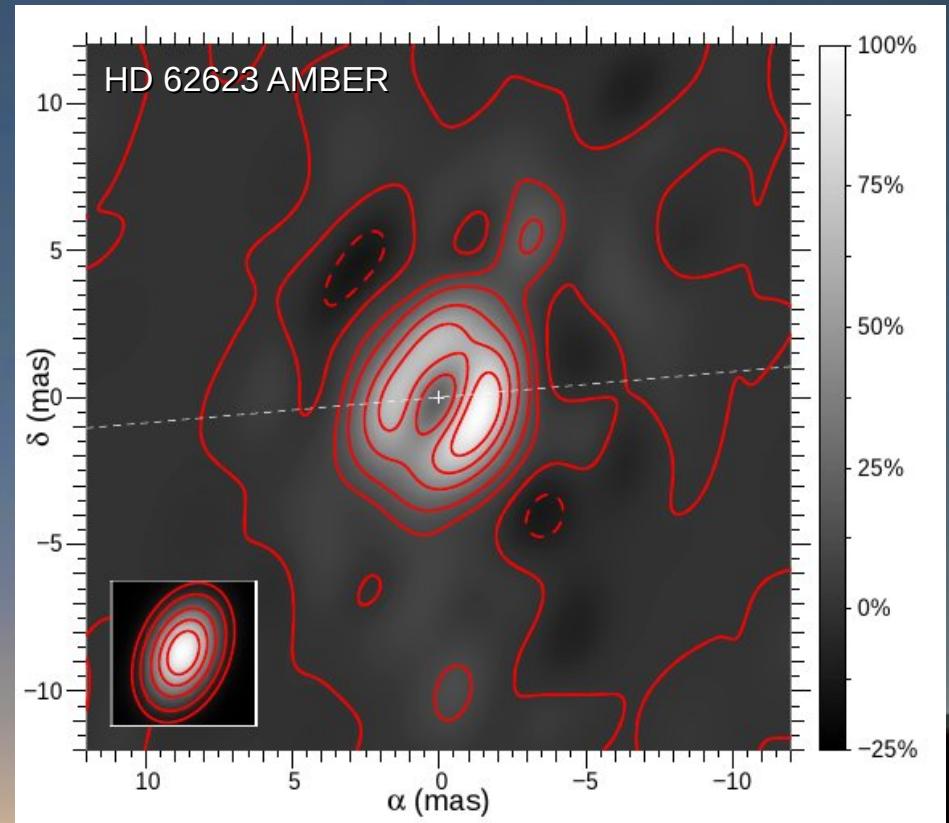
- 11 years (2003-2014) of not-always-mature operations... and before the gigantic effort presented yesterday.
- 12/24 operation ("nights"), non-Twilight Night usage: ~40% of total year hours
- Allocated time: ~50% (?)
- Losses (weather+tech): ~30% of above
- ~13500 hours of observation (archived, science).
- 250 publications at 2014.
- RatioH/P: 54
- (66/4 telescopes compensation) divide by 16...
- (Baseline number compensation) ...or by 357
- (per photon detected) ...

About the IMAGES (1)

ALMA

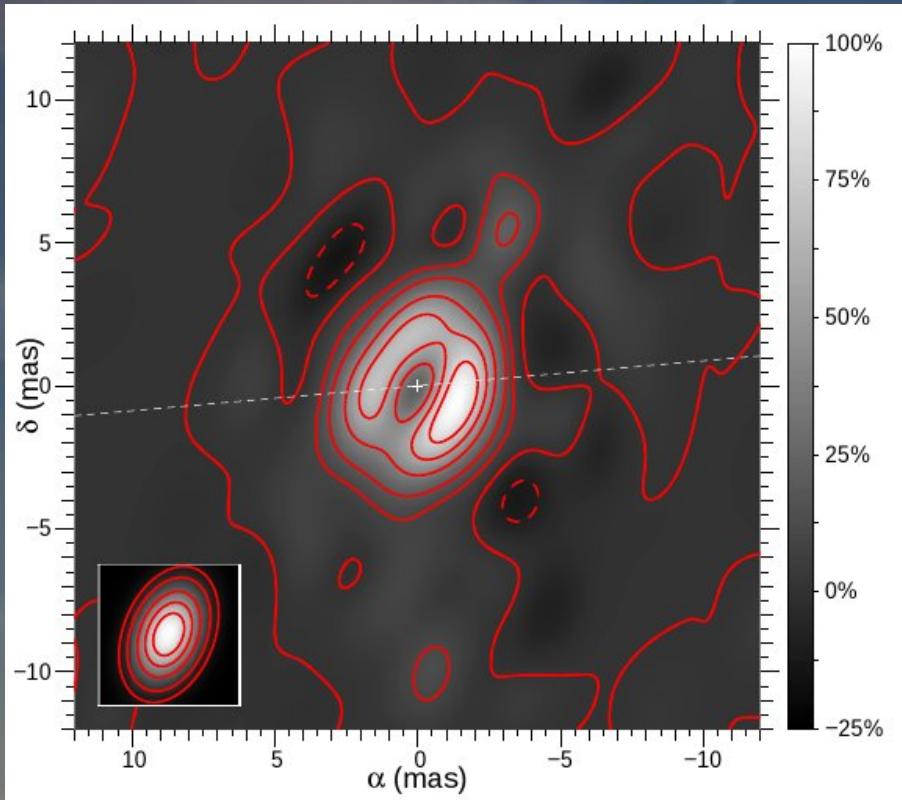


VLTI



NO PHOTO?

ALMA - 16 IMAGES (2)
PLEASE COMPARE WITH SAME
NUMBER OF TELESCOPES!



HD 62623, Bry line, Millour et al 2011,
AMBER (3T) + SelfCal
50 citations

ESO/Garching
March 9 2017

JMMC

JEAN-MARIE MARIOTTI CENTER
Infrared and Optical Interferometry for Astronomy

GM Aur
CO J=2-1 line
Dutrey & al, 1998, 100 citations
4 Antennas Plateau de Bure

