

The JMMC in 2017

G .Duvert

ESO/Garching
March 9 2017

JMMC JEAN-MARIE MARIOTTI CENTER
Infrared and Optical Interferometry for Astronomy

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(From the JMMC general assembly november 2015, Nice)

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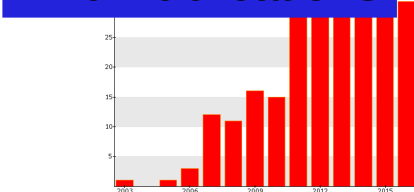
VLTI



+ Training

+ User Support

+ OLBIN forum
And Publications



Prepare
Observations

SearchCal

Reduce
data
amclib
pndrs

View
Data

Olexplorer

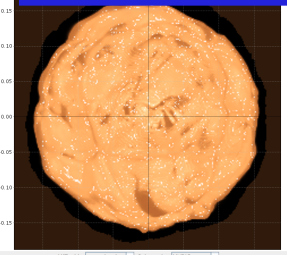
Fit
Models

LITPro

New!

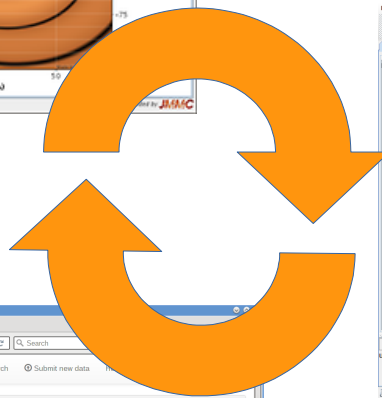
Reconstruct
Images

OImaging



CDS Catalogs

New!



OiDB
L0 to L3
DataBases

JSDC
JMDC

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)

Research & Development Groups

Preparation of Observations
Gilles Duvert (IPAG/OSUG)

Calibrators
A. Chelli (LAGRANGE/OCA)

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

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

Software Development & Web services

Image Reconstruction
E. Thiébaud (CRAL/OSUL)

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

OIFITSExplorer
M. Benisty (IPAG/OSUG)

Network activities groups in



JMMC new structure

Pôle JMMC

Scientific Council
Pdt: T. Paumard

Director
Gilles Duvert

Directors Council
Pdt: DSAA INSU

Training
A. Meilland (OCA)

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Technical Direction: G. Mella (OSUG)

Software Development & Web services

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

Grenoble
OSUG

Nice
OCA

Lyon
OSUL

Paris

Responsible:
G. Duvert
(IPAG/OSUG)

TOOLS & TECHNIQUES

Research & Development Groups

Preparation of Observations
Gilles Duvert
(IPAG/OSUG)

Calibrators
A. Chelli
(LAGRANGE/OCA)

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J-B Le Bouquin
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M. Benisty
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X. Haubois (ESO)

OIFITSExplorer
M. Benisty
(IPAG/OSUG)

Responsible:
A. Matter
(LAGRANGE/OCA)

VLTI CENTER

Support
(many)

In the next future: the french VLT CENTER

In summary: light version of ARCnodes

- 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)

VLT CENTER(s), Continued

To be followed:

- French VLT 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 VLT Expertise Centres accepted as a result of last proposal by EII. **A funding of 19 person/month has been secured.** It should help raising VLT 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...

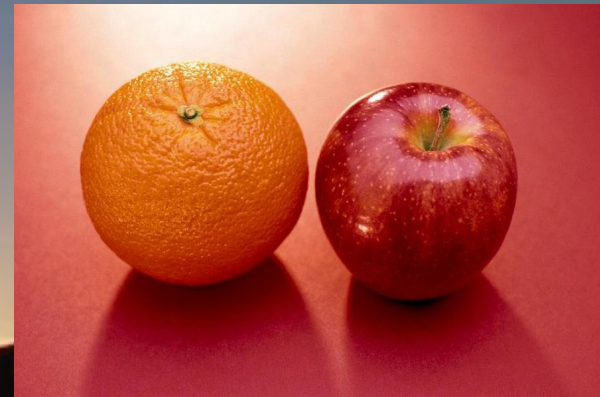
RAMBLING ABOUT

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.

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

- Exact figures on first 2 years of science use.
- Values estimated from the percentages given in the text.

RATIO SCIENCE / TIME

ALMA \$1.3B

VLT/VI \$? 0.2 B?

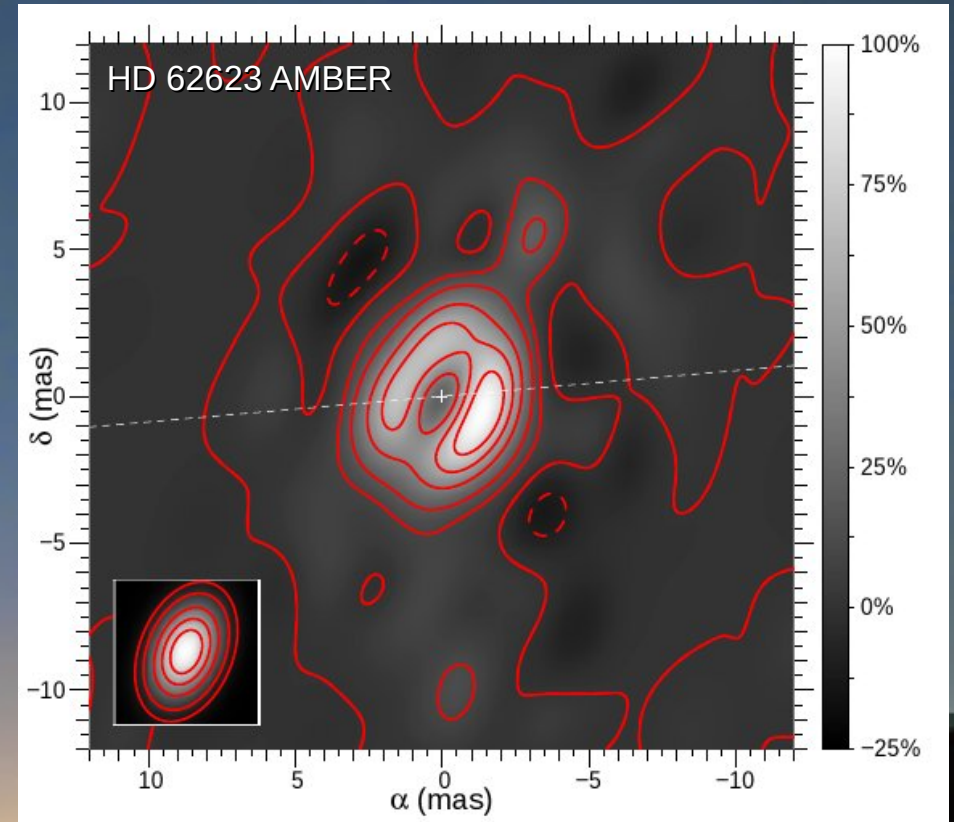
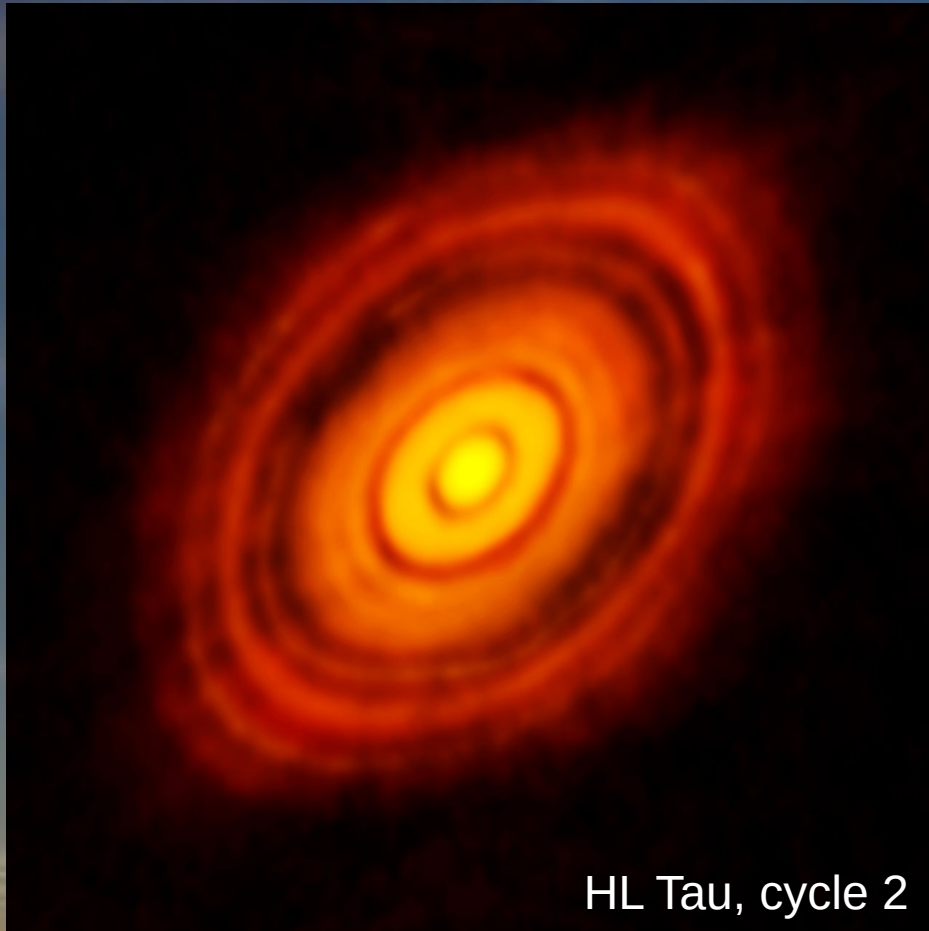
- Cycles 1 & 2.
Operations possibly not yet at top level.
- 24/24 operation (“days”)
- 2626 hours of observation (archived, science)
- For 344 projects.
- 113 publications.
- Ratio H/P: 23

- 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

VLT/



NO PHOTO?

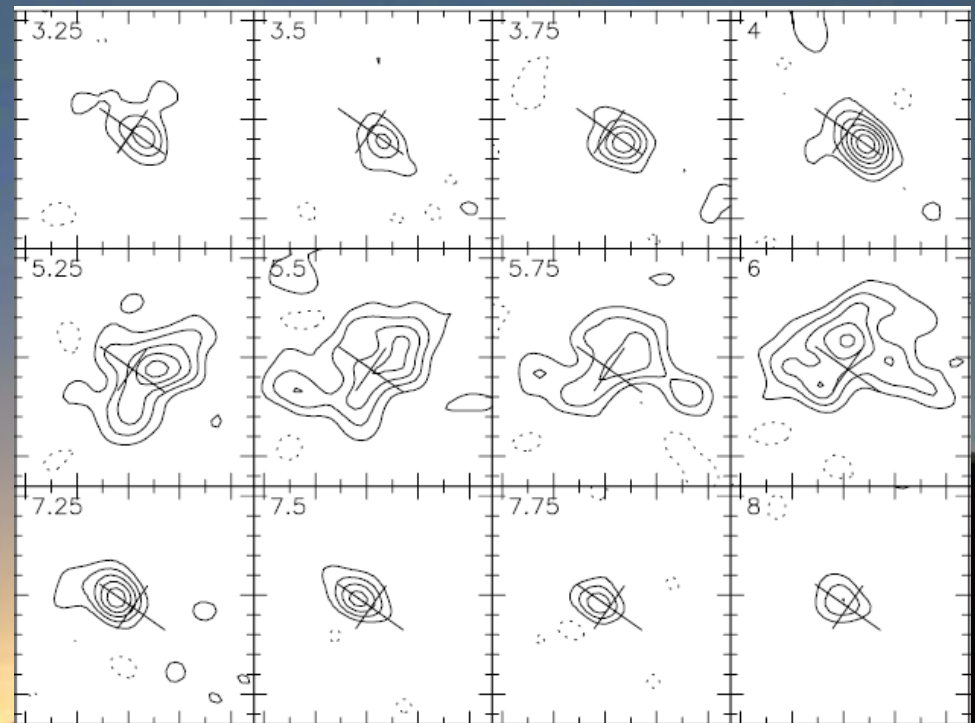
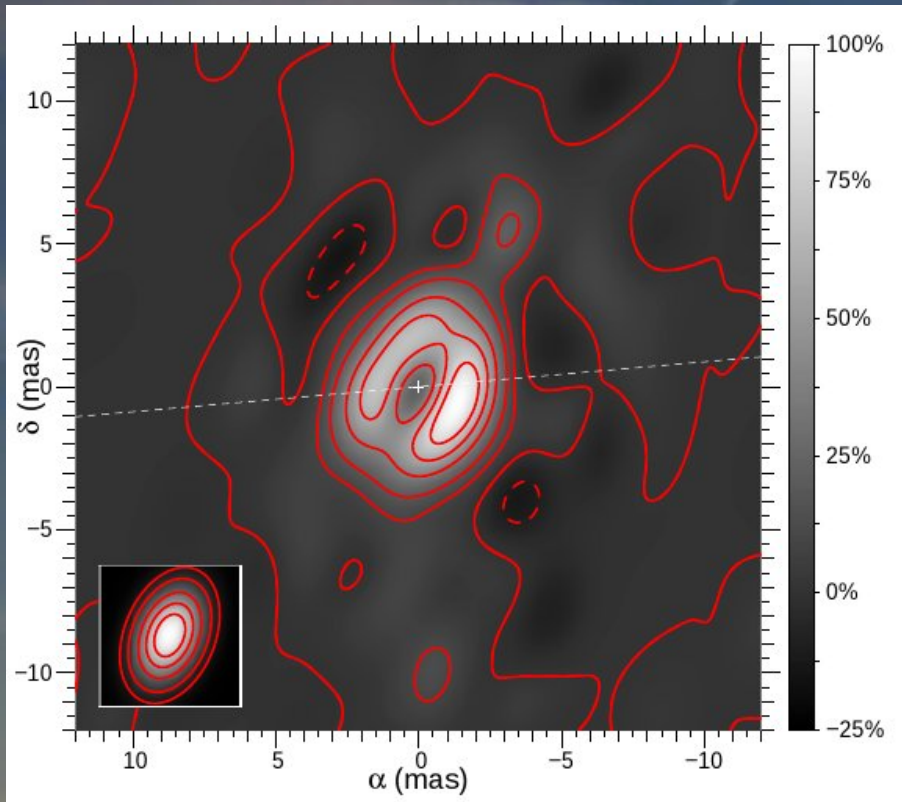
PLEASE COMPARE WITH SAME NUMBER OF TELESCOPES!

GM Aur

CO J=2-1 line

Dutrey & al, 1998, 100 citations

4 Antennas Plateau de Bure



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

50 citations

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