

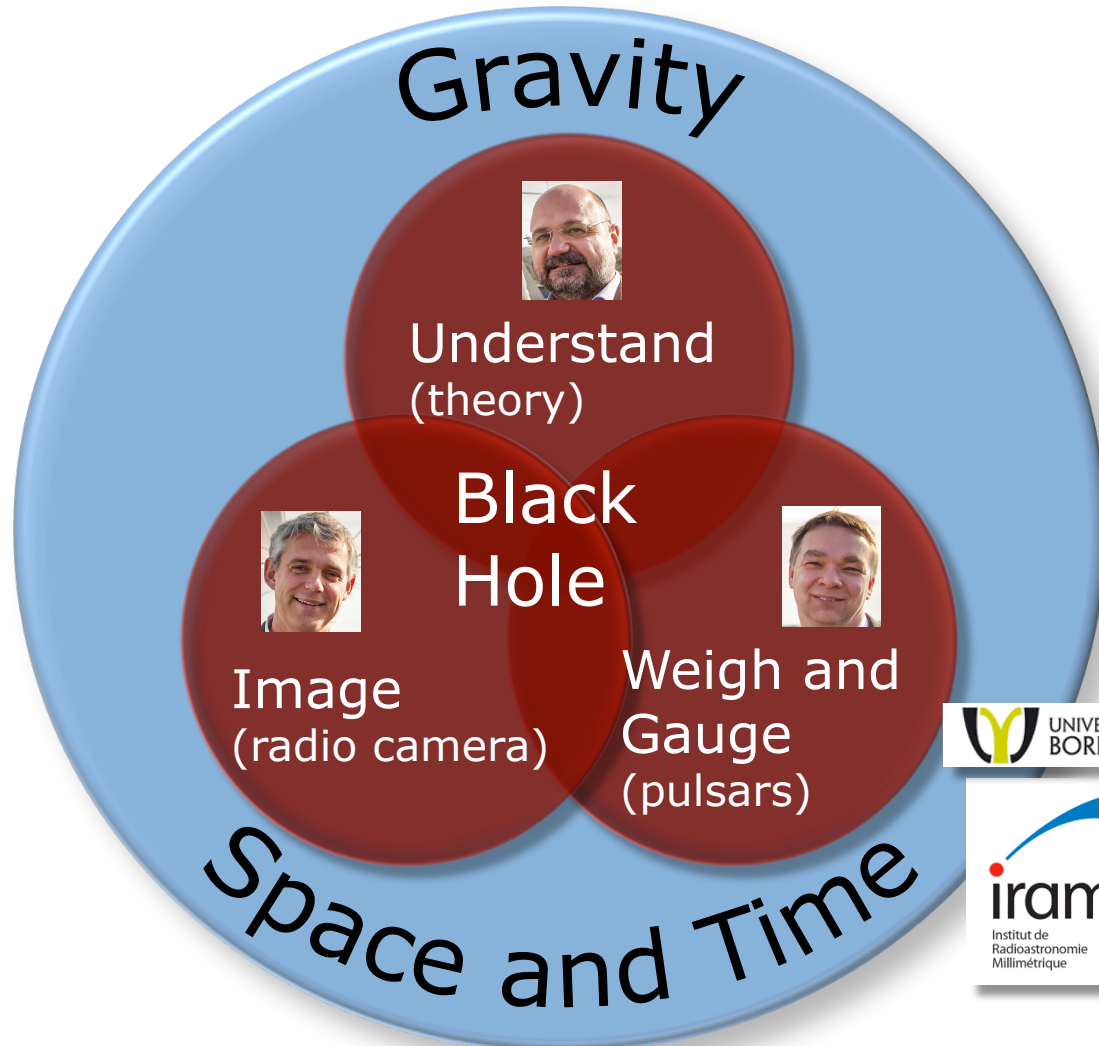
BlackHoleCam

JIVE involvement

Ilse van Bemmel

BlackHoleCam Project

European Research Council (ERC) "Synergy Grant" 14 M€ for 6 years





WP contents

- Recording/correlator software (WP1.1d)
(Lead: Szomoru)
- Post-correlation pipeline (WP 1.3a)
- Simulations (WP 1.3b)
(Lead: van Bemmelen)

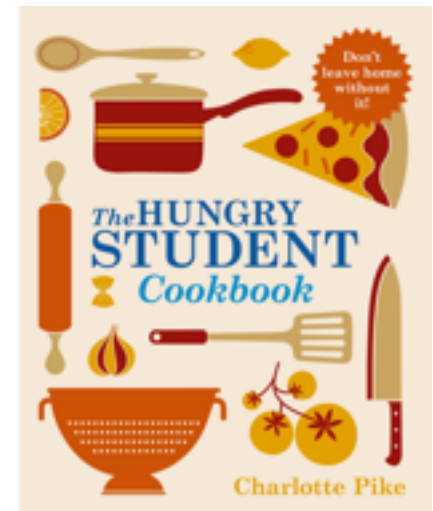
Recording software

“Near real-time software correlator and e-VLBI interface for testing mm-VLBI observations”

Maturing mm-VLBI

- Make CASA VLBI proof
 - Fringe finder
 - Data format and meta data
 - Polarization calibration

- General user facility
 - Archive
 - Cookbook
 - Pipeline software



Software comparison

- AIPS, HOPS, Difmap, CASA, LOFAR software, PIMA, Miriad
 - Reliability
 - Flexibility
 - Future prospects
 - User access
 - Pipeline readiness
- CASA scores 4.5 out of 5 (AIPS 3.9, LOFAR 3.2)

Ongoing work

- CASA fringing development → Des's talk
- Processing VLBI in CASA → Mark's talk
- Benchmarking AIPS → me

- LOFAR, ALMA, young VLBI-ers

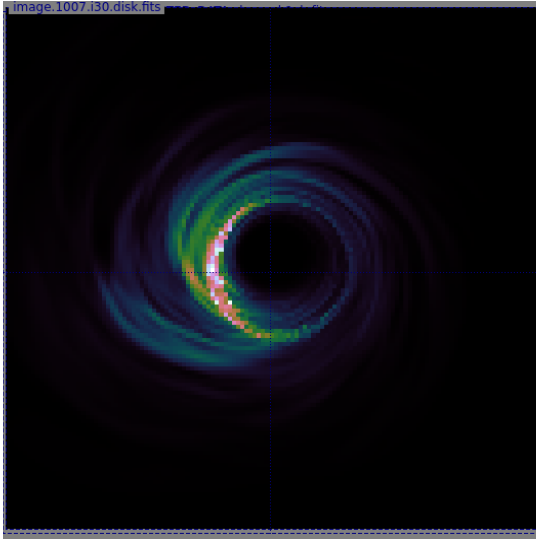
General user facility

- Workshops
- Easy access

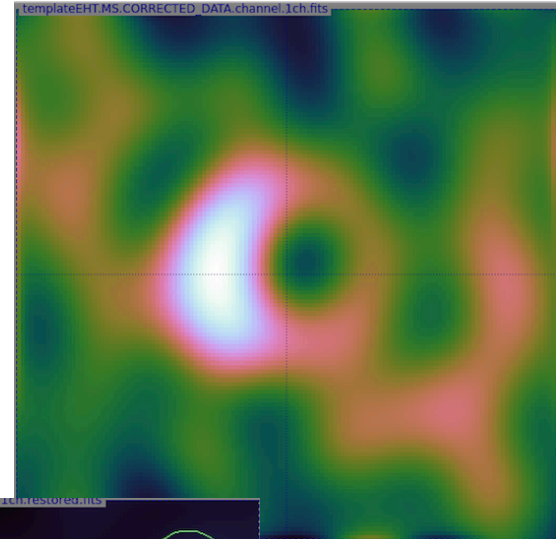
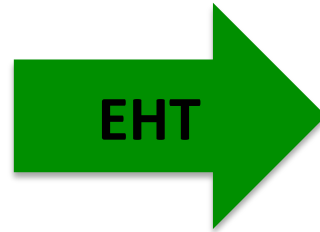
Simulations

- Test null-hypothesis, new software
- Test sensitivity, atmosphere, image quality,...
- Package of choice: MeqTrees
 - Existing module for ionospheric phase errors
 - Existing EHT simulations
 - Easy interface (stay tuned!)

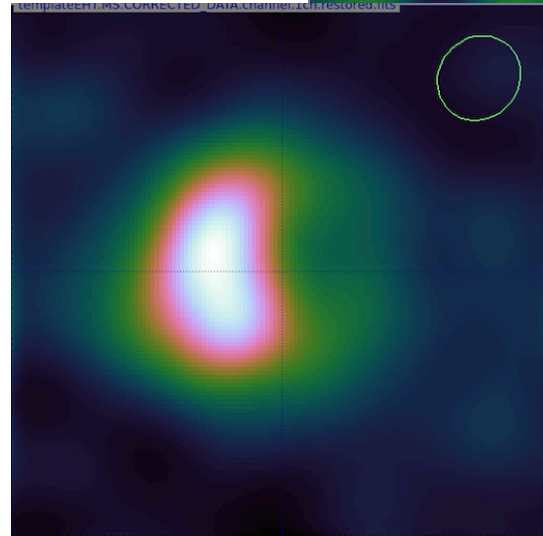
Simulations



Moscibrodzka et al.



Courtesy:
Roger Deane



Simulations

- Bayesian approach → Roger's talk
- Interface RODRIGUES → Tariq's tutorial
- ISM scattering: Michael's talk & discussion
- Troposphere: Pim Schellart
- Polarization: Iván's talk and demo

Issues to address

- Data format (to UVFITS, MS, ...)
- Meta data acquisition and inclusion
- Fringe fit: bandwidth, speed, SNR...
- Polarization calibration
- Data editing/flagging
- Sky model fitting
- Processing speed