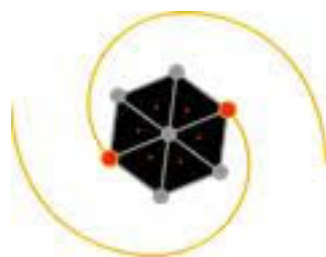


Euclid - France atelier/ workshop gravitational lensing: WL projects

22/10/2018, IAP



WL-related leads

- WLSWG: Martin Kilbinger (deputy)
 - WP mass mapping: Sandrine Pires, Nicolas Martinet
 - WP galaxy-galaxy lensing: Eric Jullo, Raphael Gavazzi
 - WP estimators: Anna Magilli
 - (WP shapes: Arnau Pujol -> Barcelona)
- IST-forecasts: Valeria Pettorino
- IST-likelihood: Valeria Pettorino
- OU-LE3: Jean-Luc Starck
 - Validation: Bertrand Morin
- OU-VIS: Henry McCracken
- OU-SHE
 - Validation: Martin Kilbinger
- CMB X SWG
 - CMB Lensing x correlation: Karim

WL projects

- Shape measurement
 - Arnau Pujol Jérôme Bobin, Florent Sureau, Martin Kilbinger: shear calibration & machine learning
 - Table ronde Roscoff: Axel Guinot, Olivier Kauffmann, Loic Pollier, Raphael Peralta, ..., Martin Kilbinger: shear calibration
- Redshift estimation
 - Axel Guinot, Martin Kilbinger, Jérôme Bobin, redshift estimation, clustering-z & machine learning
- Higher-order statistics
 - Sandrine Pires, Nicolas Martinet, HOWLs
 - Austin Peel, mass mapping, peak counts & machine learning
 - Table ronde Fréjus: Célin Gouin, Théodore Nicolas, Morgan Schmitz, Martin Kilbinger: Peak counts and shear calibration
 - Nicolas Martinet, peak counts
 - Matteo Rizzato, Karim Benabed, Francis Bernardeau: information content of the bispectrum
- Estimators
 - Bertrand Morin, Martin Kilbinger: COSEBIs implementation in LE3
- PSF
 - Morgan Schmitz, Jean-Luc Starck: Data-driven PSF modelling
 - Sam Farrens: Deconvolution
- Image analysis
 - Sam Farrens: Blending detection
- Numerical simulations
 - Céline Gouin, N-body, ray-tracing, baryonic physics
- Modelling
 - Sandrine Codis, intrinsic alignment
 - Francis Bernardeau, Sandrine Codis, non-linear scales
- Probe combination
 - Isaac Tutusaus, Alain Blanchard, Santiago Casas, Martin Kilbinger, Safir Yahia-Chérif, WL+GC+cross-correlations
- Euclid-adjacent projects
 - Axel Guinot, Martin Kilbinger, Sam Farrens, Morgan Schmitz, CFIS WL analysis, WL pipeline development
 - Eric Jullo, ..., DECaLS WL analysis
 - Nicolas Martinet, ..., KiDS WL analysis

Joint projects?

- Sam deblending & Nicolas faint-object shear calibration.
- Nicolas HOWLs & Austin CNN/peak counts.
- Matteo bispectrum covariance & Santiago optimal transport interpolation
- Shear bias & galaxy morphology, deep learning & hydro-simulations (Céline, Yohan).
New horizon simulations, dust.

What are we missing?

- Flagship simulations? Sandrine, Sandrine, Austin, Eric. Aurélien has started that, work can be continued.
- Link between VIS and SHE. Henry, Catherine, Patrick.
- OU-SHE code development. Potentially people are there, Nicolas, Raphael, Emmanuel, CosmoStat people. Discussion: SExtractor, weight functions, intrinsic alignment, baryons, PSF estimation.
- CMB lensing? Karim, link to CMB-X SWG (Nabila). Shear bias estimation, IA. SPT covers Euclid Deep Field South.
- ?

What are the next milestones?

- IST:likelihood & IST:non-linear
- Science Challenges (SC) including SHE, LE3.
- WL covariance task force.
- PSF characterization.

Upcoming Euclid WL relevant meetings

- UCL, 15+16 Nov: Selection effects
- Nice, 26-28 Nov: Euclid-France
- Milan, 3-6 Dec: WL (+ GC) SWG annual meeting
- Nice, 28 Feb - 1 Mar: OU-LE3

Ideas

- Wiki page/slack channel/mailling list/...
 - Collaborations, projects, publications.
 - Software, tutorials, help forum
 - Job offers (stages, PhD)
 - Announcement of meetings, schools, workshops
 - Link and discuss arXiv papers
 - Place to bounce ideas around
- Joint proposal (ANR, PNCG, CNES, CNES-Euclid, region, ...)?
- Plan student exchanges?