

Retour Atelier "Outil"

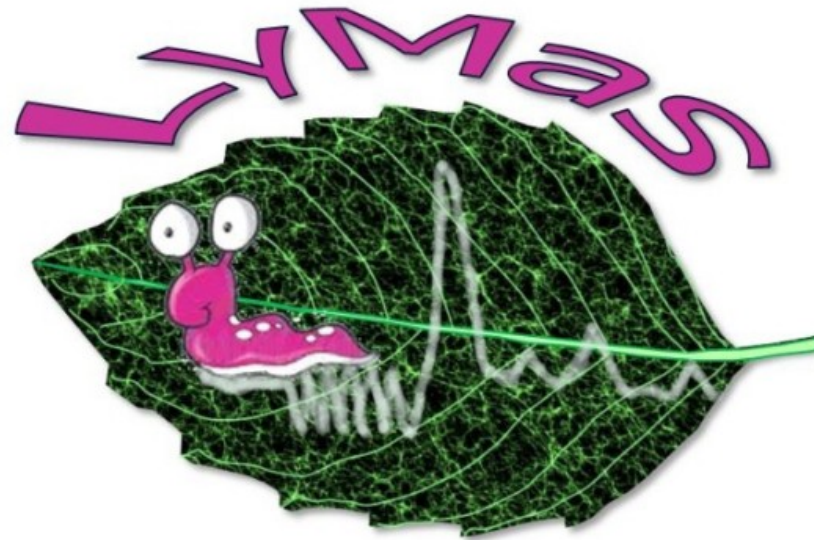
Action Dark Energy

Octobre 2020

Guilhem Lavaux, Stéphane Plaszczyński,
Yann Rasera

Présentation outil

Predicting Large-Scale Lyman- α Forest Statistics
with

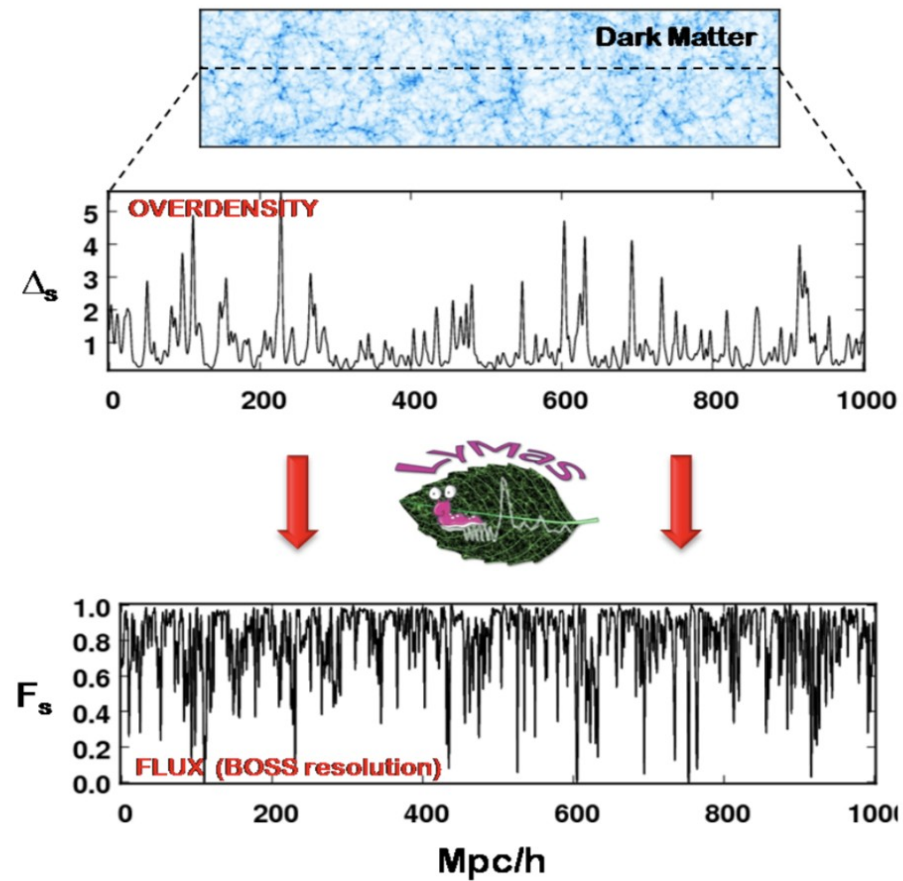
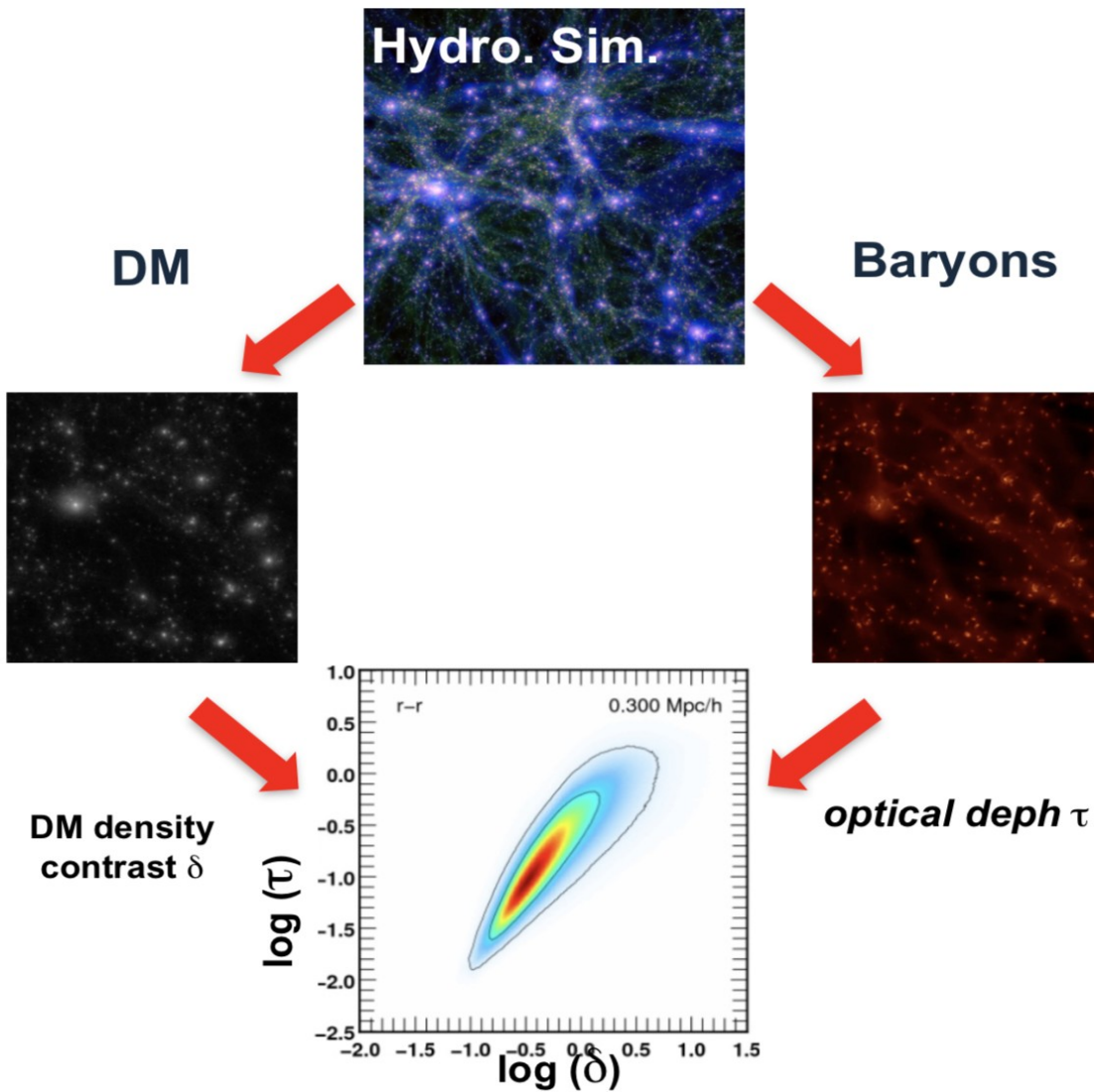


Lyman- α Mass Association Scheme (2014, ApJ, 784, 11)

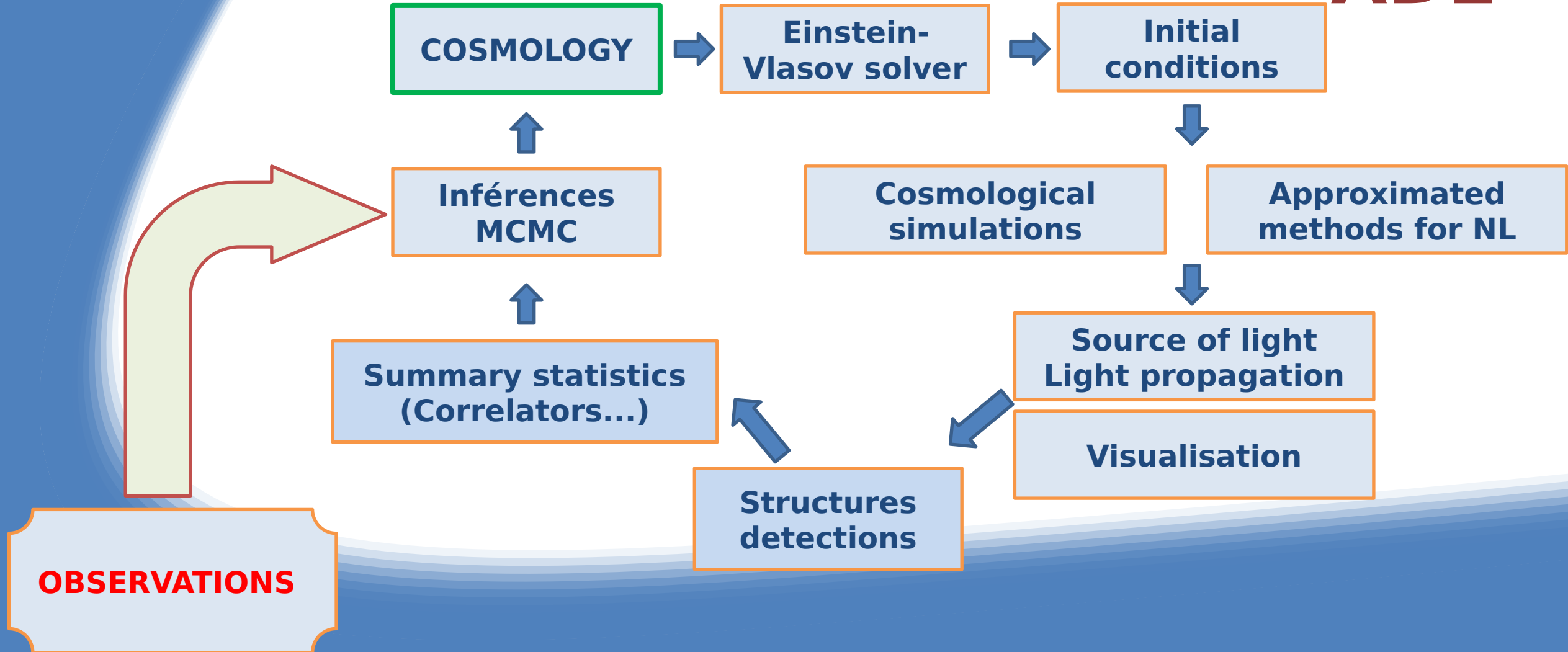
Sébastien Peirani (OCA - Lagrange)

D. Weinberg, S. Colombi, J. Blaizot, Y. Dubois, J. Devriendt, C. Pichon

LyMAS: Ly α Mass Association Scheme



Panorama des codes abordés dans "outil" depuis le début de ADE



Presentations

- **Pert. lin. CLASS** (*JLesgourgues*)
- **Simus rapides** (*PBaratta*)
- **Grosses sims**
 - MUSIC IC (*OHahn*), Ramses (*RTeyssier*), Magrathea raytracing (*YR*), LyMas assignment (*SPeirani*)
- **Détections, correlations, analyses etc.**
 - sourceExtractor++ (*EBertin*)
 - AngPow, LagSHT, CNN robustness (*JECampagne*)
 - Spark (*SP*)
- **Inferences**
 - JAM (*Sllic*), CosmoSiS (*AFerte*)
 - BORG (*GL*)

TOOLS Main Page | ACTION NATIONALE DARK ENERGY - Mozilla Firefox

Fichier Édition Affichage Historique Marque-pages Outils Aide

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https://action-dark-energy.obspm.fr/index.php?n=TOOLS.TOOLS

DESC CAMEL DC2 Spark cluster LAL outils GECO papiers meetings cine GitLab Thad ADE priv

HomePage

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TOOLS MAIN PAGE

A template for your Tool page

Wiki Sandbox

Working Group

Members

Collaboration tools

Useful links

Common workspace

Meetings

Homogeneous expansion

Linear perturbations

Simulations

Methods

Resources

Data

Non-linear evolution

Perturbation theory

Halo model

Emulator

Methods for analysis

Data processing

Interpretation of the results

Machine learning

ACTION NATIONALE DARK ENERGY

Changes · (Group) · Search Go

View Edit History Print

TOOLS / TOOLS Main Page

Welcome to the wiki page of the TOOLS group.

People

[Working Group](#) (Members, collaboration tools, useful links, common workspace)

Meetings

Science

[Homogeneous expansion](#) (FLRW and beyond)

[Linear perturbations](#) (Einstein-Boltzmann solvers)

[Simulations](#) (cosmological simulations)

[Non-linear evolution](#) (approximate methods such as perturbation theory, halo model)

[Methods for analysis](#) (methods for data processing such as objects finder, correlator, MCMC, machine learning)

[Visualization](#)

[Validation data](#)

Others

[Computing Centers](#)

[Backup template](#)

[Edit](#) | [History](#) | [Recent Changes \(all\)](#) | [Search](#)

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Wiki

- Several codes inside: but not enough!!!
- **Fill-in the wiki with your favorite code takes <1min for the eternity ;-)**
- In case of pb contact us

Brainstorming

- **Methods**

- consider Machine Learning techniques
 - building summaries (IMNN)
 - build fast simulations (see e.g. CAMELS)

- scale 2PCF:
 - improving the scaling of 2PCF estimator
 - application to large high-res sims (with different DE flavors).

- code chains:
 - automated script from cosmology to post-processing (already exist in some groups but not modular)
 - way to normalize the IO for our codes ?
 - gitlab dark energy?

Brainstorming

- **Physics projects**
 - WL&RSD: 3x2pt, Dark Energy & Galaxy assignment schemes (*What is the role of various assignment schemes on the determination the equation of state of DE?*)
 - "CAMELS++": explore hydro parameters & Dark Energy with updated physics (*how to break the degeneracy between hydro & dark energy?*)
 - Strong lensing of galaxy clusters: cluster sims with hydro & DE (*why recent results suggest more SL events in observation than in simulations?*)