Fangting Yuan 袁方婷

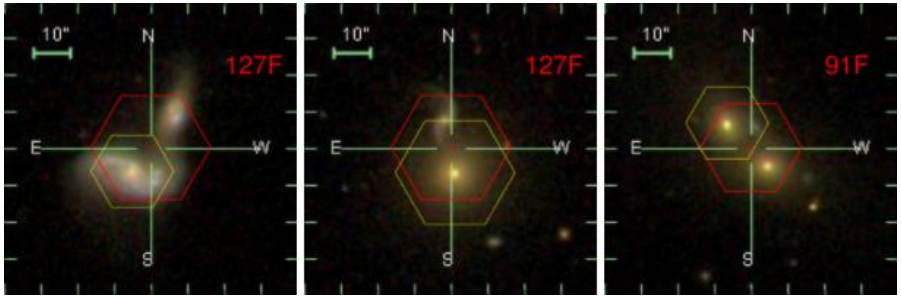
Shanghai Astronomical Observatory

Shanghai E121, N31 (+6h)

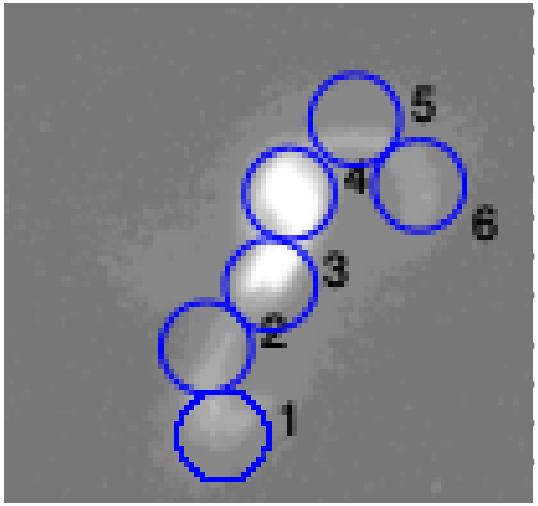
http://www.shao.ac.cn

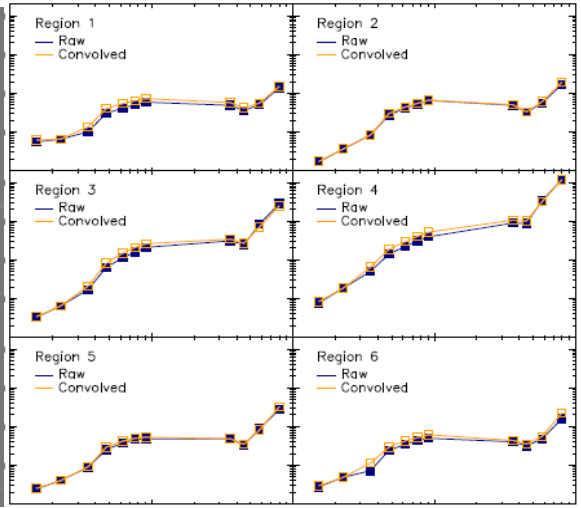
Recent Works

- Galaxy Close Pairs in MaNGA

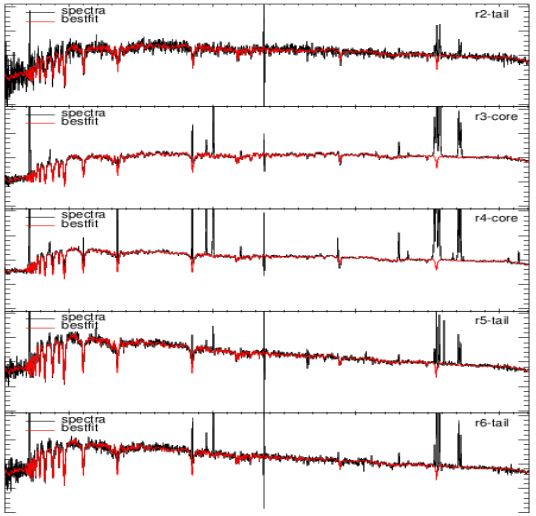


➢A large IFU sample of close pairs





UV-to-IR SED



MaNGA spectra

➢Star formation and dust extinction in galaxy pairs

- SEDs of high-z galaxies

Year Plan

LAM
LABORATOIRE D'ASTROPHYSIQUE DE MARSEILLE

GECO

- Astronomy

Data analysis of a possible high-z source NEP-L	**Dust properties of high-z galaxies**	**Method to combine information from SEDs and spectra**

- Travelling


... ...

- Learn French

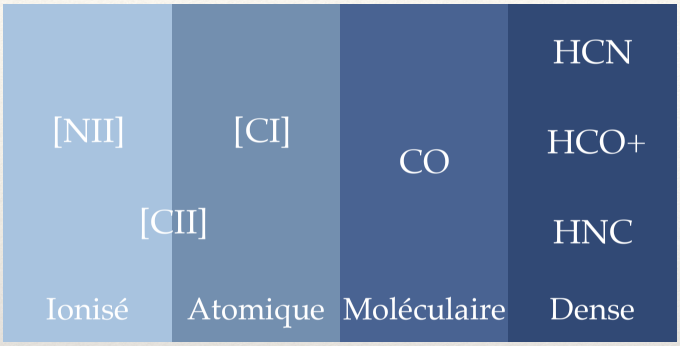
Merci!

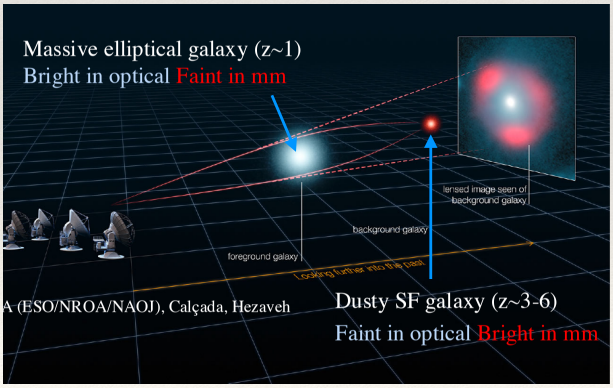
GECO day, 14 Sept 2017

Star formation and ISM in high-z dusty star-forming galaxies

Matthieu Béthermin
Laboratoire d'astrophysique
de Marseille

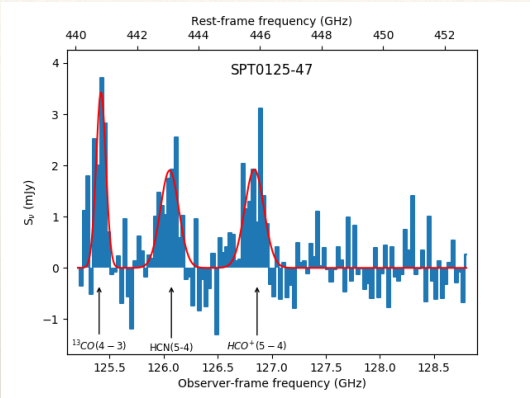
Ongoing project: dense gas at z>2.5

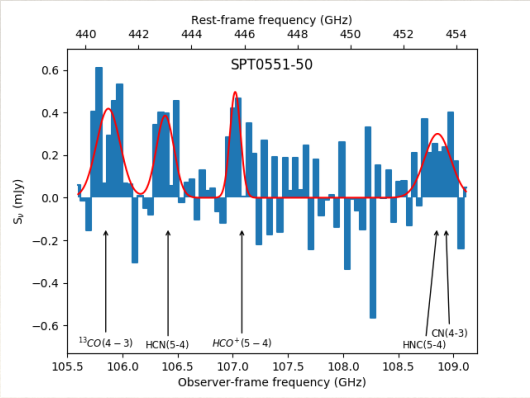




ALMA

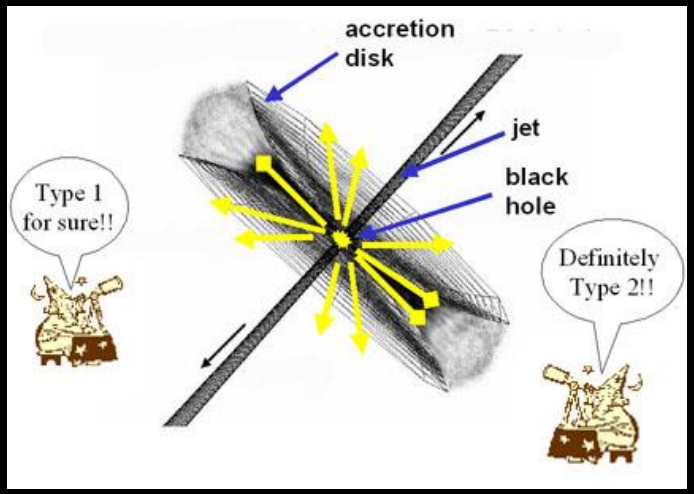
Natural telescope (gravitational lensing)





Other projects

- SPT sample related:
  - [CI] with APEX (130h) + ALMA cycle 3-4 redshift search data
  - ALMA high-resolution imaging of [CI] (accepted for next cycle)
- ALPINE (PI: OLF): ALMA large programme to observed [CII] and dust continuum in 4<z<6 galaxies from VUDS (accepted for next cycle)
- N2CLS (PI: Lagache): GT deep surveys with the new IRAM/30m camera NIKA2
- CONCERTO (PI: Lagache): Intensity mapping of [CI] at the end of the deionization (submitted to ERC)
- Euclid:
  - TdS: preparation of the ground segment (OU-LE3 and OU-SIM)
  - science: cross-correlations between Euclid and CIB data (link SFR-LSS)



Delphine Porquet

X-ray observations of Active Galactic Nuclei and X-ray plasma diagnostics

STRONGGRAVITY
EU FP7-SPACE research project 312789 2013 - 2017

Short CV

2006-2014 : Chargée de Recherche au CNRS (Strasbourg)
2010: Habilitation à diriger des recherches
2014-2017: DR2
2017- : LAM

<u>European funding</u>:

- FP7 « Strong Gravity » (2013-2017). http://stronggravity.eu/
Responsible of the French node.

<u>ATHENA</u>

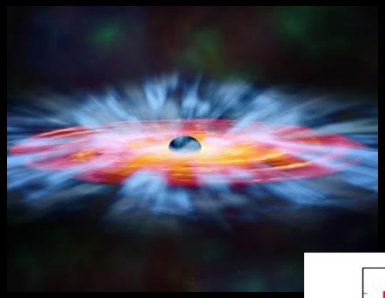
2014-2016: Member of the scientific team of the micro-calorimeter X-IFU

<u>Member of national scientific comites</u>:

- 2008-2011: GdR PCHE et ASOV
- 2013-2017: PNCG
- 2014+ : CNES
- 2015+ : CSAA

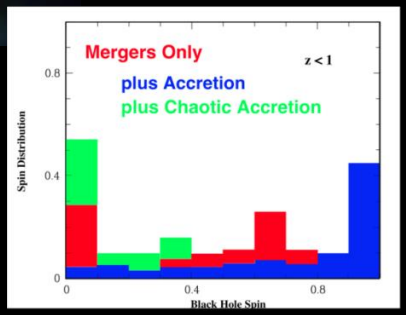
Research topics

1) X-ray study of the very inner part of the AGN:
e.g., accretion disc/corona processes



* Accretion disk winds (seen only in X-rays)
→ AGN feedback candidate
→ SMBH/ host galaxy co-evolution ?

* Black hole spin distribution:
→ Signature of how the SMBH have grown
(e.g., galaxy mergers, chaotic versus coherent accretion).



Adapté de Berti & Volonteri (2008)

---

2) X-ray plasma diagnostics (density, temperature, …) usable for
- photo-ionized plasma (AGN, X-ray binaries)
- collisional plasma (e.g., stellar coronae)

Chandra, XMM-Newton, Hitomi2, ATHENA

Katarzyna Ewa Małek

Aix*Marseille université

cnrs LAM LABORATOIRE D'ASTROPHYSIQUE DE MARSEILLE

GECO

Kasia Małek

office: 0283

zodiac sign: Sagittarius

Aix*Marseille université

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GECO

My expertise covers:

- spectral energy distribution (SED) fitting,
- machine learning algorithms for astrophysical data,
- spectroscopic redshift measurements,
- analysis of IR detected galaxies,
- and optical counterparts for gamma ray burst.

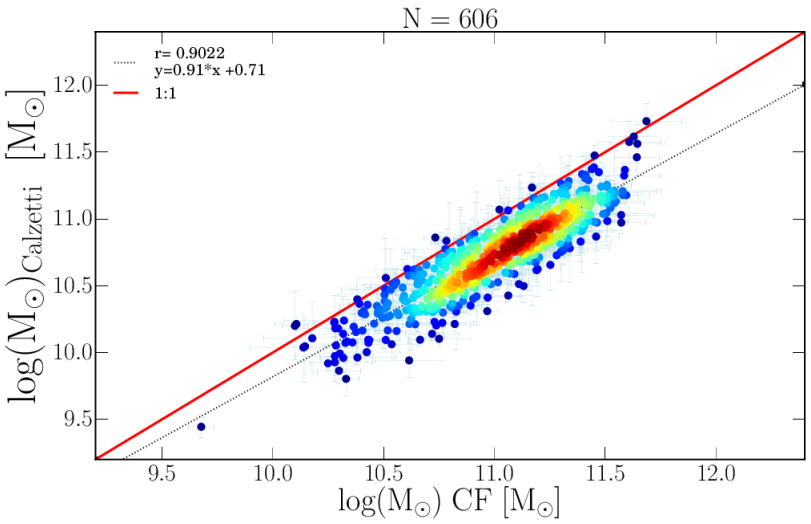
I am a team member of:

- The European FP7 Herschel Extragalactic Legacy Project (HELP)
- Large ESO Programme VIMOS Public Extragalactic Redshift Survey (VIPERS),
- AKARI (far-infrared sky survey)
- SPICA (far-infrared sky survey)
- Pi of the Sky (optical counterparts of Gamma Ray Burst).

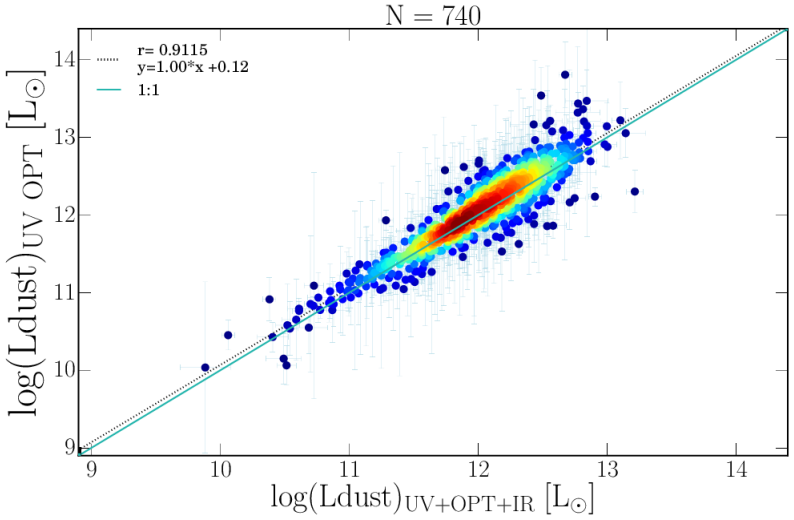
What am I doing here?

Herschel Extragalactic Legacy Project (HELP, PI. S. Olivier) under the supervion of V. Buat and D. Burgarella

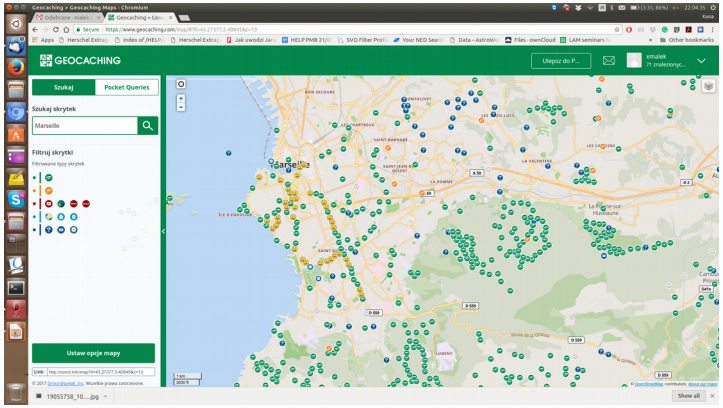
- galaxy evolution,
- SED fitting for milions of IR detected galaxies,



- SED fitting method and analysis of obtained physical properties
- prediction for the dust luminosity for the future surveys



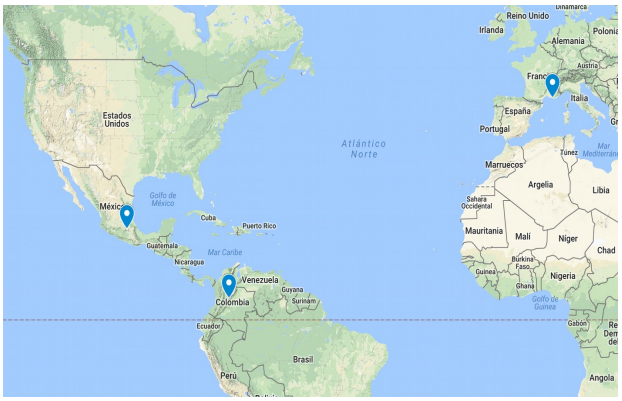
What am I doing here in the meantime?



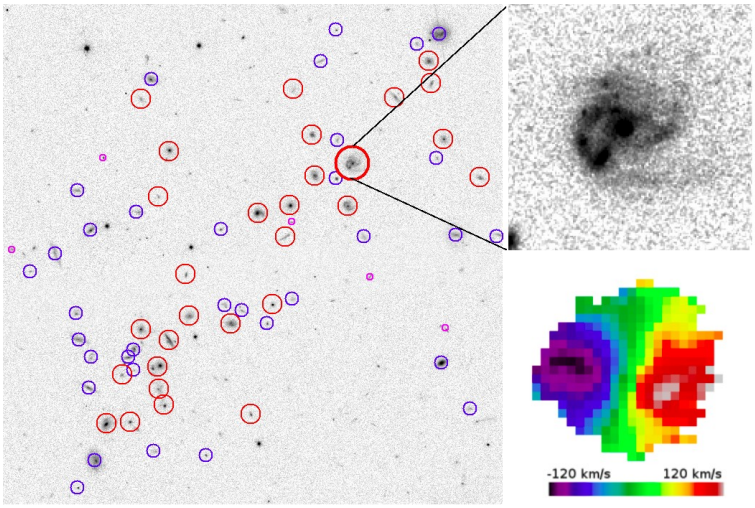
Galaxy evolution in groups observed by the Integral Field Spectrograph MUSE, a dynamical approach

V. Abril-Melgarejo. ***Supervisors:*** B. Epinat, P. Amram. **LAM** ***Colaborators:*** T. Contini. **IRAP**

1st year PhD Student at LAM
M.Sc. Astrophysics. Institute of Astronomy of the National Autonomus University of Mexico.
B.Sc in Physics. Universidad de los Andes Colombia.



The Project ...



Group at Z=0.722

Provide a new insight on the role of environment in galaxy mass assembly.

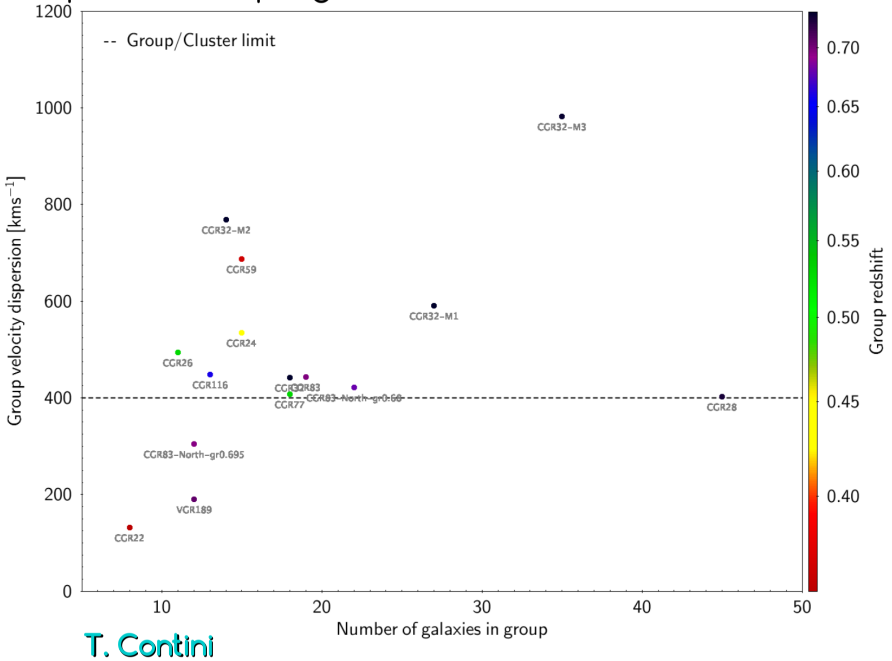
Analysis of MUSE datacubes from 10 groups selected from COSMOS to determine the spatially-resolved properties of star-forming galaxies in dense groups in 0.3<z<0.7

Galaxy evolution in groups observed by the Integral Field Spectrograph MUSE, a dynamical approach

V. Abril-Melgarejo. *Supervisors:* B. Epinat, P. Amram. LAM *Colaborators:* T. Contini. IRAP

About MUSE (Multi Unit Spectroscopic Explorer) :

- Integral Field Spectrograph
- FoV: 1 x 1 arcmin^2 . Sampling 0.2''
- Wavelength range: 4750-9300 Å
- Spectral sampling: 1.25Å



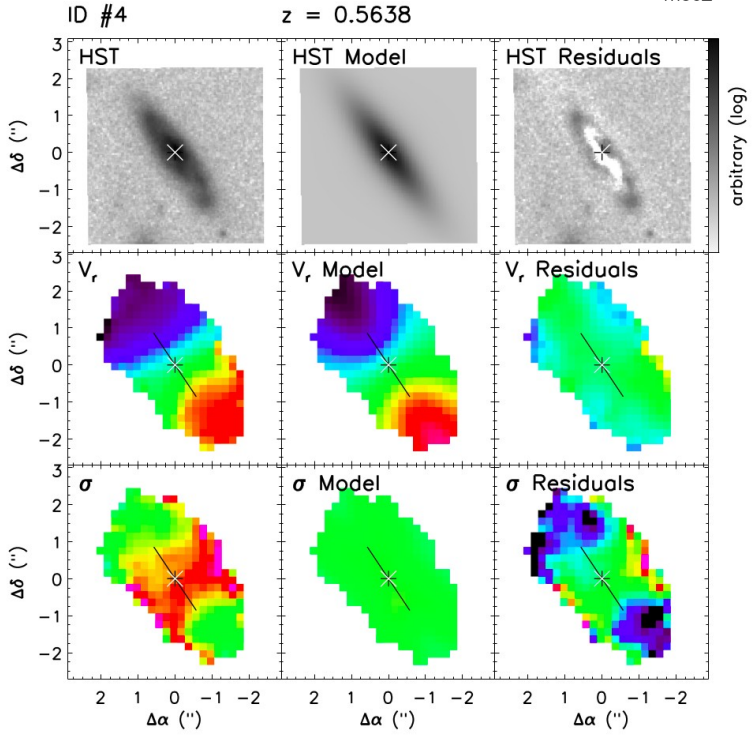
T. Contini

MUSE Consortium Project: Effect of the environment over the past 8 Gyrs.

Data from MUSE GTO:

- 3 groups observed with medium-deep data (>5h) z~0.7
- 11 snapshot observations (<2.5 h)

Morpho-kinematic analysis of the galaxy ID_{MUSE} #4 CGr28 at z=0.56 (T. Contini et al. 2016)



Initial Strategy:

- Morphological analysis on HST-ACS images with GALFIT.
- Kinematic analysis of ionized gas [OII] and Hβ

GALFIT Modeling (disk+bulge)

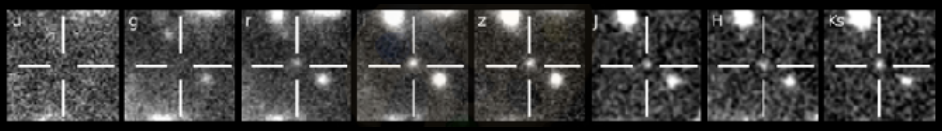
MUSE observed velocity field from [OII] λ3729

MUSE observed Velocity dispersion map from [OII] λ3729

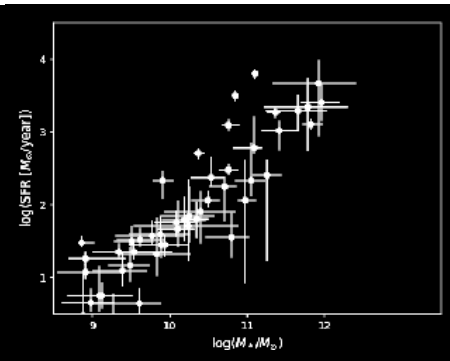
Future implications:

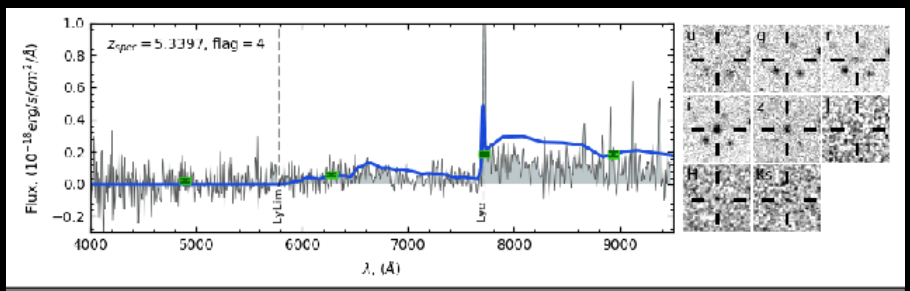
- Comparison with physical properties of galaxies in low density environments (MUSE and/or ancillary data)
- New data will be obtained with MUSE-AOF at VLT → Provide a test for assuring the best targets for long exposures.
- Study on the properties of stellar populations and SFHs

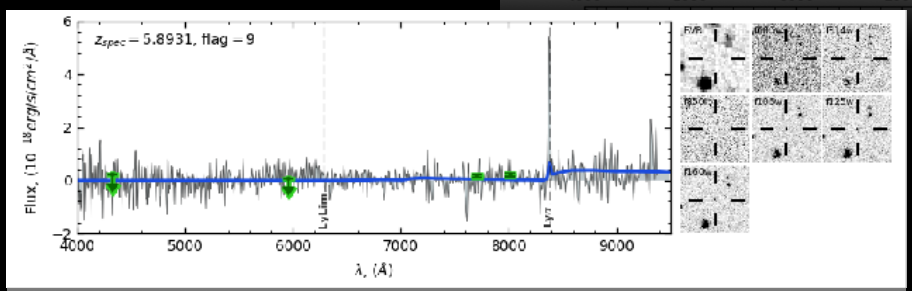
The properties of the first galaxies reionizing the Universe



Yana Khusanova
Supervised by Olivier Le Fèvre



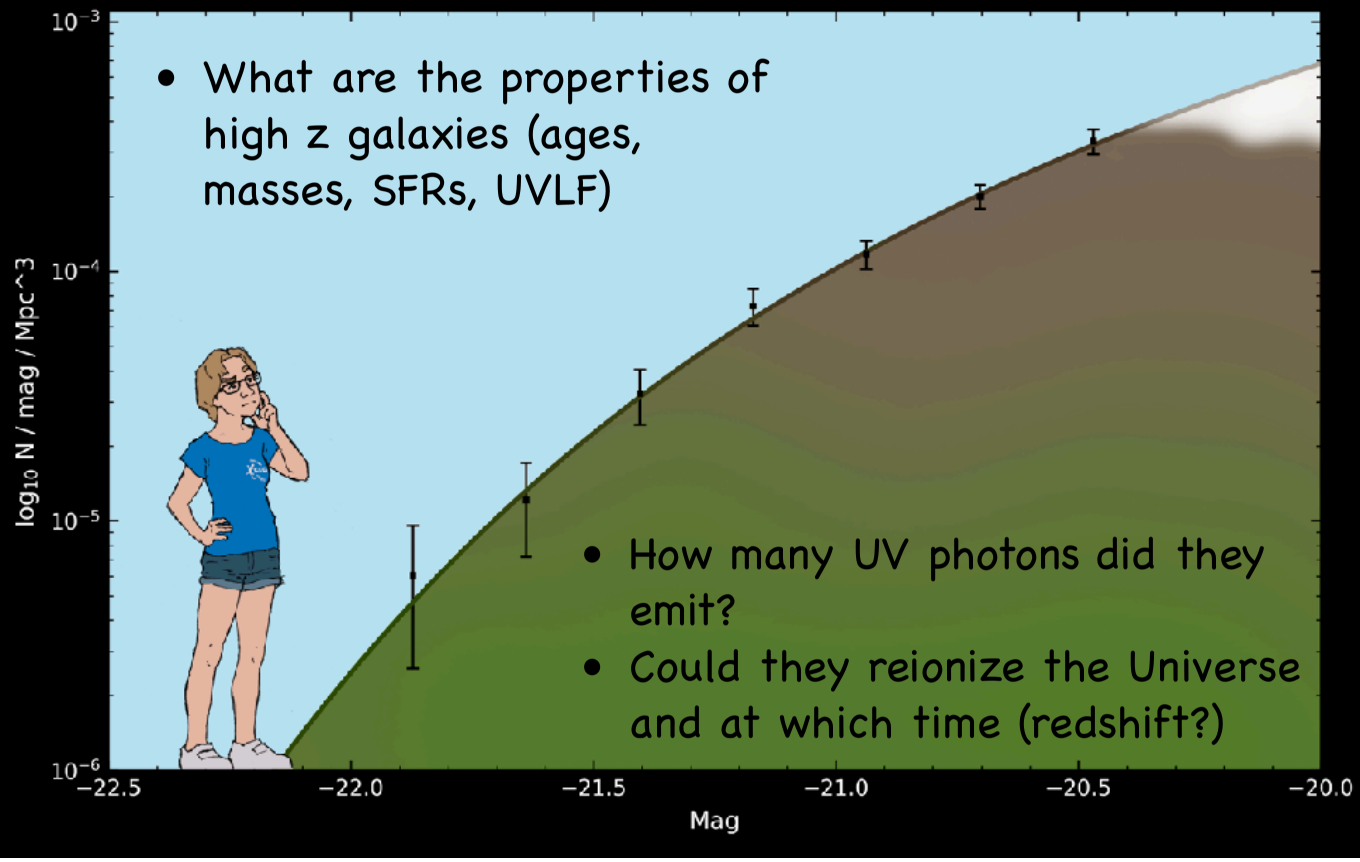




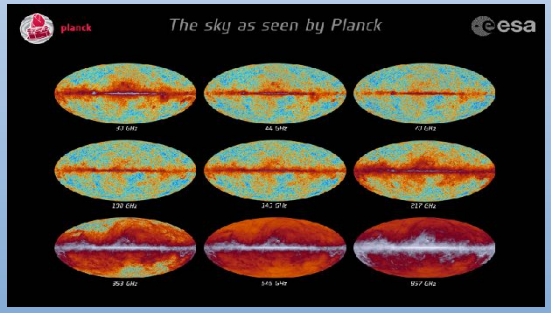
Exploiting Vimos UltraDeep Survey

- The estimated end of reionisation is at z~6.0
- VUDS depth goes up to z~6.8
- Plethora of multi-wavelength data to study properties of high z galaxies at the end of reionization

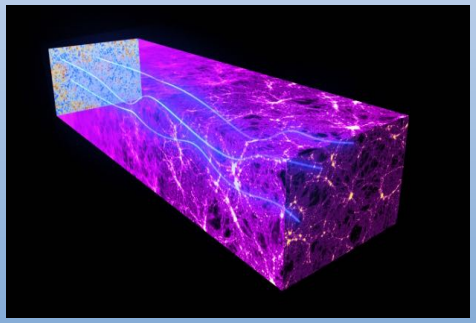
CLIMBING THE PHD MOUNTAIN

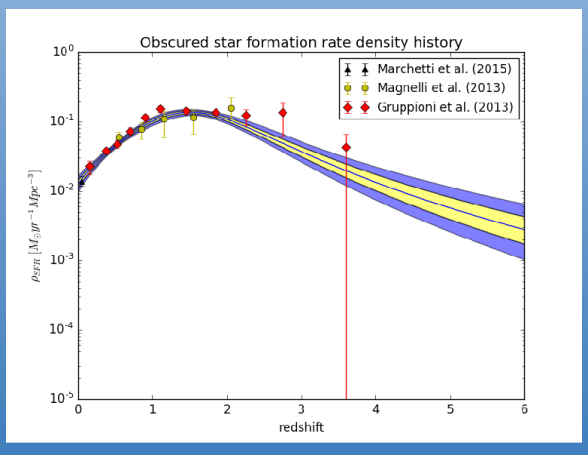


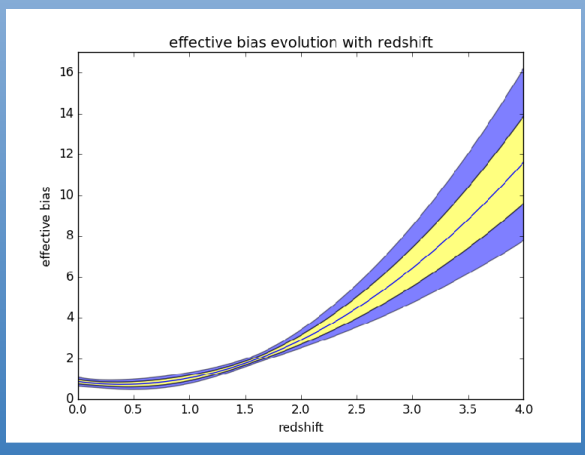

Maniyar Abhishek Sanjay
Supervisors: Guilaine Lagache
& Matthieu Bethermin
LAM
LABORATOIRE D'ASTROPHYSIQUE
DE MARSEILLE



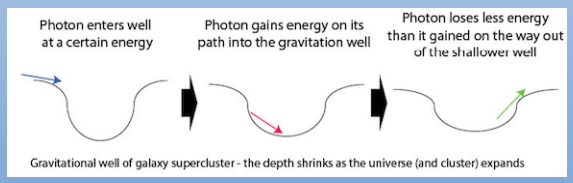
CIB - CMB lensing cross correlation as a tool

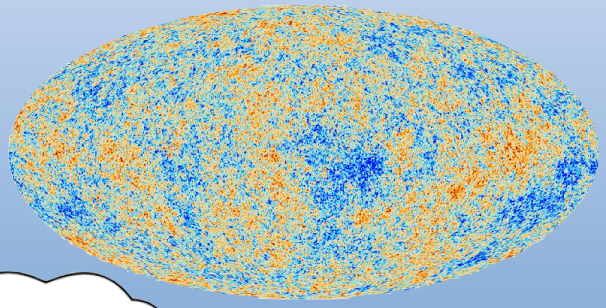


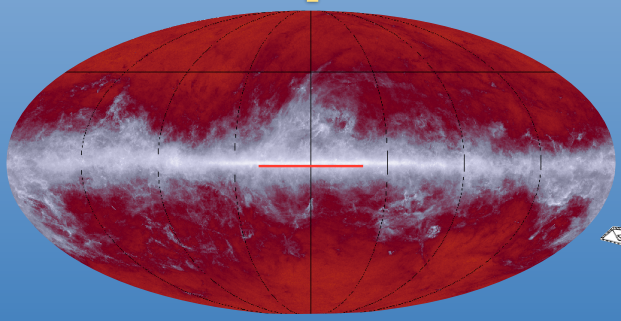




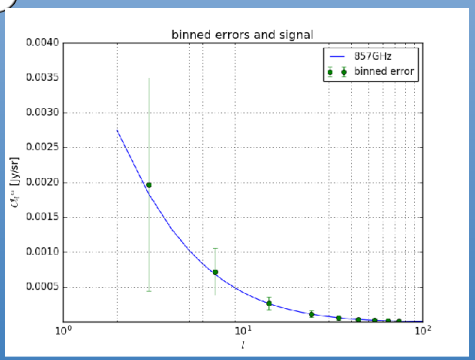
CMB - CIB cross correlation through ISW effect

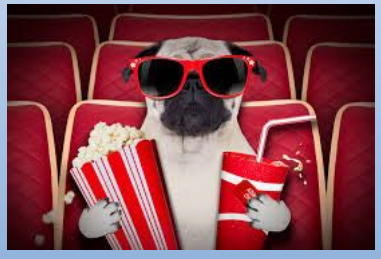




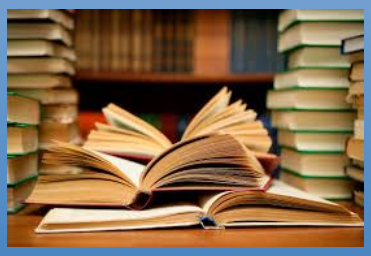


Dark energy...
Cosmological parameters...
????





Free Time!!!



Aix*Marseille université

LAM
LABORATOIRE D'ASTROPHYSIQUE DE MARSEILLE

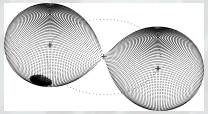
Sean Morrison

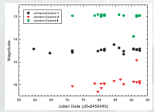
Ph.D. Student (January, 2017 – ...)
Supervisor: Mat Pieri

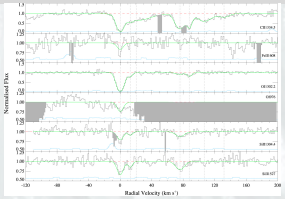
- Bachelor of Science (Applied Physics) - Appalachian State University, Boone, North Carolina, USA
- Master of Science (Physics) - University of South Carolina, Columbia, South Carolina, USA

Appalachian STATE UNIVERSITY

UNIVERSITY OF SOUTH CAROLINA





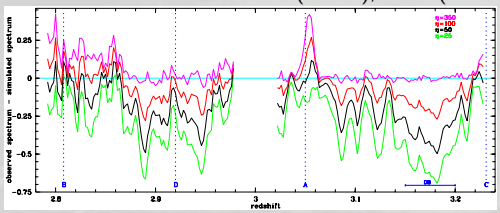


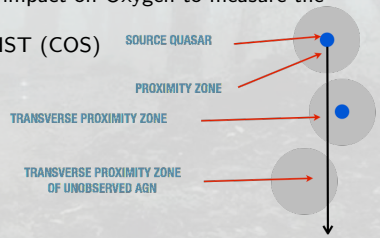
Previous Work

- Modeling of Eclipsing Binaries with Star Spots
- Photometric Study of Young Solar Analogs
- Molecular & Element Abundances in DLAs and Other Quasar Absorbers
- Instruments: Kepler Space Telescope, PROMPT Array, Herschel (SPIRE & HIFI), Keck (ESI & HIRES), Magellan (MIKE), VLT (UVES)

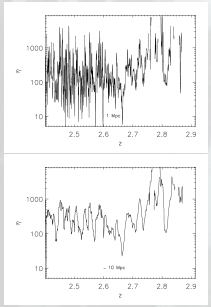
Current Work

- Exploration of large scale inhomogeneities of the extragalactic UV background to understand galaxy/quasar formation
  - Smoothing the ratio of He/H and testing its impact on Oxygen to measure the dominant physical scale of these effects
  - Instruments: VLT (UVES), Keck (HIRES), HST (COS)



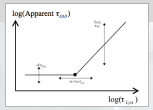


η probe of the post-He-reionization epoch



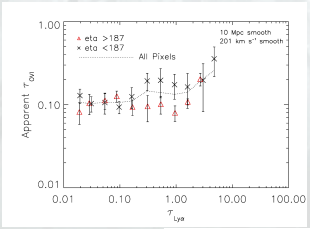
$$\eta = \frac{N_{\mathrm{He\,II}}}{N_{\mathrm{H\,I}}} \approx \frac{4\tau_{\mathrm{He\,II}}}{\tau_{\mathrm{H\,I}}}$$

- He II probes UVB & IGM density
- H I absorption probes IGM density Density independent
- Large η: soft radiation
- Small η: hard radiation

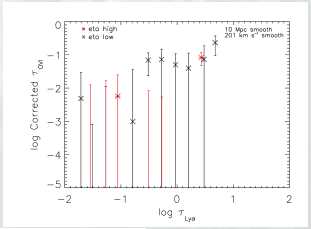


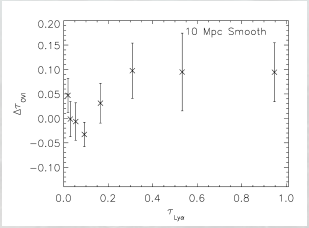
Inhomogeneities in the UV Background

Apparent Pixel Optical Depth



Locally Calibrated Pixel Optical Depth





$\Delta\tau$ as an Observable

Nicolas Grosso's Curriculum Vitae

POSITIONS

- 2017- : Laboratoire d 'Astrophysique de Marseille.
- 2007-2017 : Observatoire Astronomique de Strasbourg.
- 2004-2007 : Laboratoire d'Astrophysique de Grenoble (Chargé de recherche)
- 2003-2004 : CNRS Postdoc in Laboratoire d'Astrophysique de Grenoble.
- 2000-2002 : Marie-Curie Fellow in Max-Planck-Institut für extraterrestrische Physik, Garching, Germany.
- 1996-1999 : PhD thesis in CEA-Saclay Service d'Astrophysique.

DIPLOMA

- 2011 : Habilitation à Diriger des Recherches (Université de Strasbourg)
- 1999 : PhD (Université Paris Diderot, Paris 7)
- 1996 : DEA (Université Paris 7, Observatoire de Meudon)
- 1994 : Engineer of Ecole Centrale de Lyon (3rd year in Centrale Paris)

MEMBER OF SCIENTIFIC COMITTEES

- 2016- : Scientific Council of the Programme National de Physique Stellaire.
- 2004, 2007, 2008, 2011, 2013-2014 (chair) : XMM-Newton Observing Time Allocation Committee, panel ``*Stars, White Dwarfs, Solar System & Exoplanets*".

MANAGEMENT

- 2008-2009 : leader of the High-Energy team.
- 2008-2011 : elected member of the administration council of Strasbourg Observatory.

PhD ADVISORING

- 2013-2016 : Enmanuelle MOSSOUX (IdEx grant) : "*Multiwavelength study of the activity of the supermassive black hole Sagittarius A* at the centre of the Galaxy*" (PhD thesis defence on September 29, 2016).

Nicolas Grosso's Curriculum Vitae

CURRENT RESEARCH TOPICS

- X-ray activity of Young Stellar Objects from protostars to T Tauri stars (from active coronae, magnetospheric accretion, or shock in jets).
- Episodic accretion in young stars.

RESEARCH FACILITIES

- X-ray telescopes : XMM-Newton, Chandra, Swift,...
- Optical and infrared telescopes : VLT, HST, NASA's IRTF,..

SCIENCE CASES FOR FUTURE X-RAY MISSIONS

- 2015-2017 : contribution to the X-ray Imaging Polarimetry Explorer (XIPE; one of the 3 ESA M4 candidate) assessment study, chair of the sub Working Group 1.7 "*Active Star*".
- 2014- : member of the Athena Science Working Group 3.2 ``*Star Formation and Evolution*".

Athena Observatory Science Goal in the proposal submitted to ESA (Nandra et al. 2014)

OSG2.1 – MAGNETOSPHERIC ACCRETION ONTO PHOTOSPHERE AND CORONA OF YOUNG LOW-MASS STARS: Probe the dynamics of the accretion process in young low-mass stars and investigate its contribution to the heating of the stellar photosphere (veiling) and corona.

OBSERVATIONAL AIM: Obtain time-series of high-resolution spectra to probe line-intensity variability from the accretion shock and post-shock plasmas, and the stellar corona.

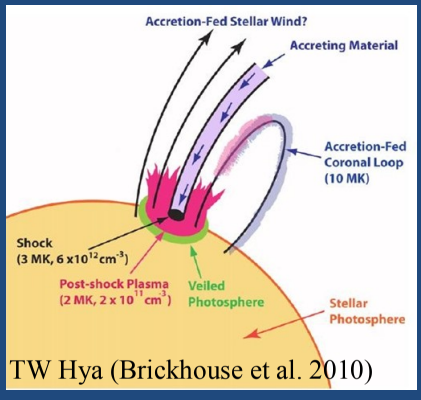
KEY PARAMETERS: X-IFU spectral resolution, X-IFU low-energy threshold

⇒ **R-SCIOBJ-323.**

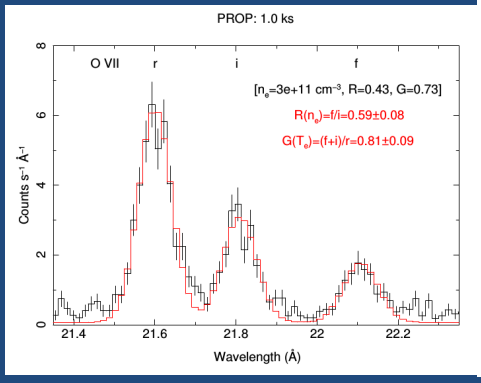
X-IFU Simulations of the close (57 pc) Classical T Tauri star TW Hya

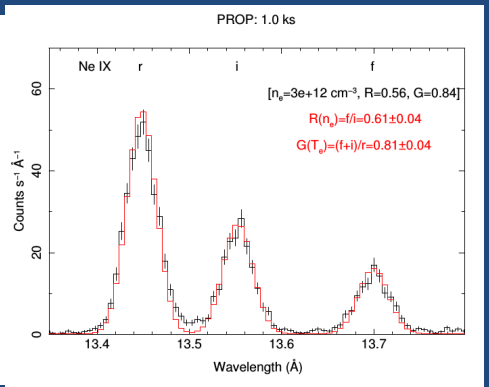
Grosso (2015, XST-TN-012)

References: Kastner et al. (2002), Stelzer & Schmitt (2004), **Brickhouse et al. (2010)**, Dupree et al. (2012).



TW Hya (Brickhouse et al. 2010)



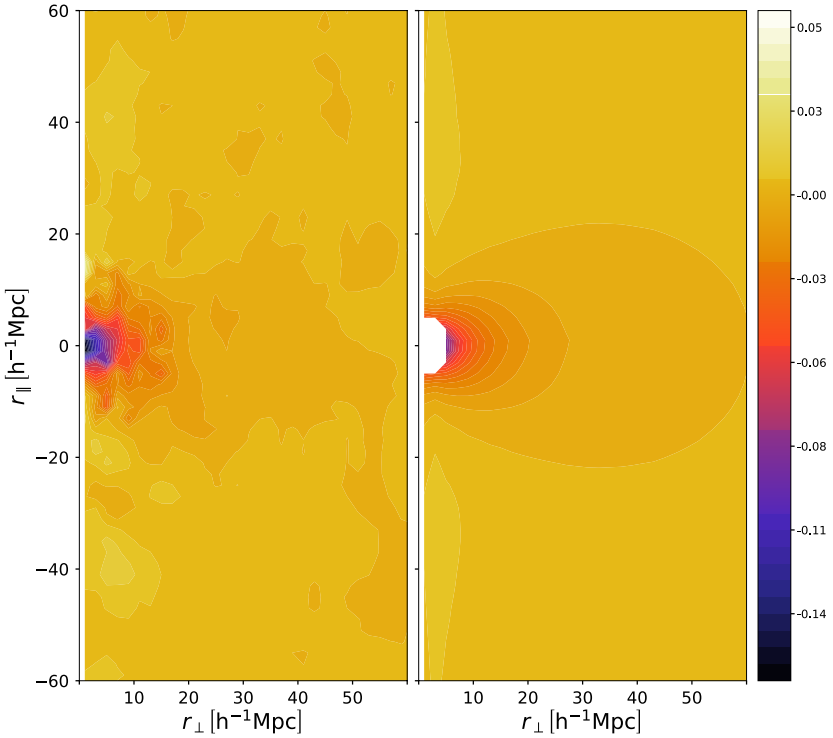


Strong synergy with ground telescopes to simultaneously monitor the veiling, the magnetic field (spectropolarimetry),...

Cross-correlation between DLAs and the Ly-alpha forest

Ignasi Pérez-Ràfols

Aix*Marseille université
cnrs
LAM LABORATOIRE D'ASTROPHYSIQUE DE MARSEILLE
GECO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0
−20
−40
−60
$r_\parallel$ [h^{-1}Mpc]
10
20
30
40
50
$r_\perp$ [h^{-1}Mpc]
$r_\perp$ [h^{-1}Mpc]
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0.03
-0.00
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-0.06
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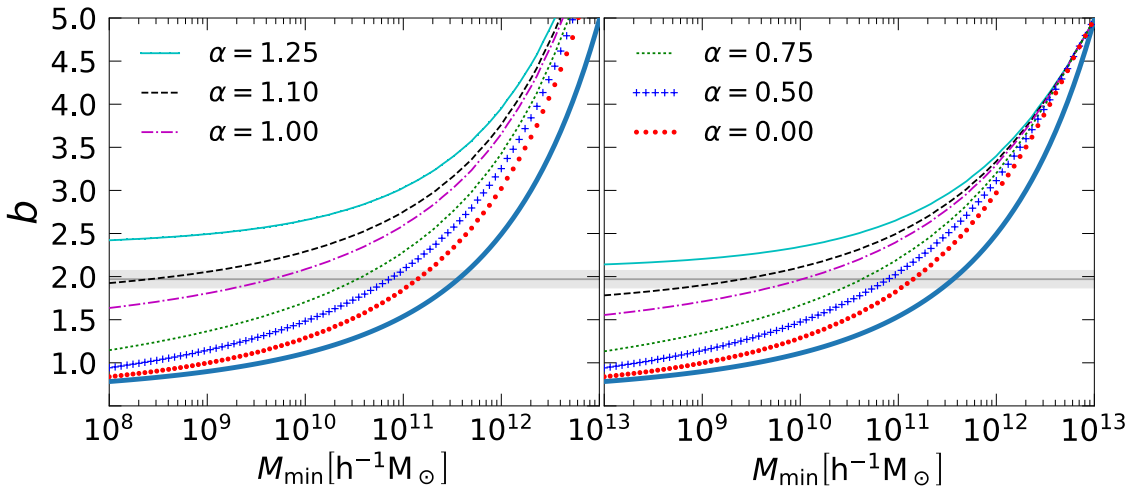
b
$\alpha = 1.25$
$\alpha = 1.10$
$\alpha = 1.00$
$\alpha = 0.75$
$\alpha = 0.50$
$\alpha = 0.00$
$M_{\rm min}[{\rm h}^{-1}{\rm M}_\odot]$
$M_{\rm min}[{\rm h}^{-1}{\rm M}_\odot]$