

maximetrebitsch

phd student in astrophysics

about

29, avenue Félix Faure
69003 Lyon
France

+33 (0) 6 89 43 03 27

maxime.trebitsch@ens-lyon.org
<http://www.maximetrebitsch.fr>
@maximetrebitsch

science interests

galaxy formation
reionisation
first galaxies
circumgalactic medium
numerical simulations

languages

french (mother tongue)
english fluent (3 months in
Oxford)

german notions

computing

Fortran, C/C++
Python, IDL, Matlab
MPI

phd in astrophysics

2013–2016 **Simulations of galaxy formation during the Epoch of Reionisation** Observatoire de Lyon
The goal of my research is to understand the formation of small galaxies at high redshift (from $z \sim 15$ to $z \sim 6$), and their interaction with the surrounding intergalactic medium. More specifically, I focus on the contribution of small galaxies to the reionisation of the universe. Using high resolution cosmological simulation, I model the radiative feedback of these galaxies on the intergalactic medium.

education

2010–2012 **Master** in Physics École Normale Supérieure de Lyon
Specialisation in astrophysics.

2009–2010 **Licence** in Physics École Normale Supérieure de Lyon
General physics curriculum, both theoretical and experimental.

2007–2009 **CPGE** (Classes Préparatoires aux Grandes Écoles) Lycée Charlemagne, Paris
Two-year undergraduate intensive program preparing for the french competitive exam for admission to excellence schools.

2007 **Baccalauréat** Lycée Charlemagne, Paris
French high school diploma.

research

2012 – 2013 **Master 2 project** (4 months) + **research project** (1 year) Observatoire de Lyon
Simulations of the polarimetric properties of Lyman- α blobs, with Jérémy Blaizot and Anne Verhamme.

2011 **Master 1 project** (3 months) University of Oxford
Forecasting Cosmological Constraints with Weak-Lensing, with Pedro Ferreira.

2010 **Licence project** (2 months) Laboratoire de Physique des Lasers
Frequency locking of a Titane-Sapphire laser on an ultrastable cavity, with Laurent Vernac and Étienne Maréchal.

teaching

2013–2016 **Teaching assistant** Physics Department, Université Claude Bernard Lyon 1
Optics labs and classes for second year undergrads (40h / year).
Bibliography lectures for first year undergrads (9h / year).

2013–2016 **Teaching assistant** École Normale Supérieure de Lyon
General physics labs for future high school teachers (18h / year).

outreach

- Public presentation about galaxies for the Science Festival.
- “Oufs d’astro” general astronomy festival at the Vaulx-en-Velin Planetarium.
- Short talks for classes about the Solar system, the phases of the Moon, and an introduction to spectroscopy.

responsibilities

- 2014–2016 **Elected representative** Lyon Graduate School in Physics and Astrophysics
Elected representative of the of the astrophysics PhD students.
- 2014 **PhD colloquium** Observatoire des Sciences de l'Univers de Lyon
Organizing member of the PhD colloquium shared between the astrophysics and geology department in Lyon.
- 2010–2013 **Elected representative** École Normale Supérieure de Lyon
Elected representative of the students for the administrative board and scientific council at the École Normale Supérieure de Lyon.

conferences

- June 2015 **First stars, first galaxies, first black holes** Kapteyn Astronomical Institute, Groningen
Galaxies reionising the universe: light from the first objects (poster)
- June 2015 **French Astronomy Meeting (Journées SF2A)** Université Paul Sabatier, Toulouse
Galaxies reionising the universe (talk)
- June 2014 **French Astronomy Meeting (Journées SF2A)** Université Paris Diderot, Paris
Lyman- α blobs: polarisation arising from cold accretion (poster)

publications

articles

Lyman- α blobs: polarization arising from cold accretion

Maxime Trebitsch, Anne Verhamme, Jérémy Blaizot, Joakim Rosdahl
submitted to *Astronomy & Astrophysics* (2015). 2015

Ultralight axions: Degeneracies with massive neutrinos and forecasts for future cosmological observations

D. J. E. Marsh, E. Macaulay, M. Trebitsch, P. G. Ferreira
Physical Review D 85.10, 103514 (May 2012) p. 103514. 2012

conference proceedings

Lyman- α blobs: polarization arising from cold accretion

M. Trebitsch, A. Verhamme, J. Blaizot, J. Rosdahl
SF2A-2014: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics, 2014