

# GUILLAUME CASTEX

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## EDUCATION

University Paris Diderot, APC lab, PhD in Astrophysics 2013  
University Paris Diderot, Master degree in Physics 2009  
University Bordeaux I, Bachelor degree in Physics 2006

## RESEARCH EXPERIENCE

**Sissa** June 2013 - Present  
*Postdoc position* Trieste, Italy  
· Member of the Planck collaboration. Realisation of sky simulations for the component separation group.  
· Realisation of sky simulations for the PRISM project.

**AstroParticule et Cosmologie laboratory** October 2009 - January 2013  
*PhD, Advisor: J. Delabrouille* Paris, France  
· Title: *Simulation and modelisation of the sky in the millimetric domain*  
· Member of the Planck Sky Model (PSM) developping team. Use of the PSM to make simulations for the Planck collaboration. Development of the 3D Far Infrared Model used in the software.

**Commissariat à l'Energie atomique** May - August 2009  
*Internship* Saclay, France  
· Study of star formation tracers in infra-red galaxies.

**Centre d'Études Nucléaires de Bordeaux-Gradignan** May 2006  
*Internship* Gradignan, France  
· Pulsar data analysis for the satellite GLAST.

## INFORMATIC TOOLS

<b>Computer Languages</b>	IDL, C
<b>Simulations software</b>	Planck Sky Model
<b>Algorithms</b>	Map inpainting, Component separation

## TEACHING AND OUTREACH

**Petnica School of Cosmology** 5-11 August 2013  
*Lecturer* Petnica, Serbia  
· Lectures on CMB physics and observation experiments.

**Palais de la Découverte museum**

December 2009 - May 2013  
Paris, France

Lecturer

- Presentation of general astronomy lectures to the museum visitors. Lectures included Big Bang theory, Solar system physics and various topics.

**Science Ouverte association**

November 2010 - June 2011  
Paris, France

Tutor

- Tutoring in mathematics and physics for high school students.

**Fete le savoir**

20 November 2010  
Paris, France

Stand host

- Lecture to primary school students on astronomy, light, and energy during and outreach astronomy event.

**Festival d'astronomie de Fleurance**

7-13 August 2010  
Fleurance, France

Stand host

- Presentation of neutrino physics and ANTARES experiment.

**Jeunes Science association**

January - June 2006  
Bordeaux, France

Project member

- Participation in an observation trip of the March 2006 total solar eclipse in Turkey, in collaboration with Jeunes Science association and Antalya University.
- Project included astronomy lectures on solar eclipses in middle and primary schools.

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**PUBLICATIONS**

- *PRISM (Polarized Radiation Imaging and Spectroscopy Mission): an extended white paper*, PRISM Collaboration, Journal of Cosmology and Astroparticle Physics, Issue 02, article id. 006, pp. (2014)
- *A Hybrid Model for the Evolution of Galaxies and Active Galactic Nuclei in the Infrared*, Cai, Z.-Y.; et al., The Astrophysical Journal, Volume 768, Issue 1, article id. 21, 24 pp. (2013)
- *The local luminosity function of star-forming galaxies derived from the Planck Early Release Compact Source Catalogue*, Negrello, M; et al., Monthly Notices of the Royal Astronomical Society, Volume 429, Issue 2, p.1309-1323 (2013)
- *Planck intermediate results. VIII. Filaments between interacting clusters*, Planck Collaboration, Astronomy & Astrophysics, Volume 550, id.A134, 16 pp. (2013)
- *Planck intermediate results. VI. The dynamical structure of PLCKG214.6+37.0, a Planck discovered triple system of galaxy clusters*, Planck Collaboration, Astronomy & Astrophysics, Volume 550, id.A132, 14 pp. (2013)
- *Planck intermediate results. V. Pressure profiles of galaxy clusters from the Sunyaev-Zeldovich effect*, Planck Collaboration, Astronomy & Astrophysics, Volume 550, id.A131, 24 pp. (2013)
- *The pre-launch Planck Sky Model: a model of sky emission at submillimetre to centimetre wavelengths*, Delabrouille, J.; et al., Astronomy & Astrophysics, Volume 553, id.A96, 35 pp. (2013)
- *Planck early results. VI. The High Frequency Instrument data processing*, Planck HFI Core Team, Astronomy & Astrophysics, Volume 536, id.A6, 47 pp. (2011)

**Non refereed papers**

- *Planck 2013 results. I. Overview of products and scientific results*, Planck Collaboration, 2013arXiv1303.5062P (2013)
- *CMB Power Spectrum Likelihood with ILC*, Dick, J.; Castex, G.; Delabrouille, J., 2012arXiv1203.4837D (2012)