

Call for collaboration meeting



INAF – OAR for the Astrodeep project



ASTRODEEP

"Unveiling the power of the deepest images of the Universe"

THEME [SPA.2012.2.1-01]

[Exploitation of space science and exploration data]

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ABSTRACT

Call for a collaboration meeting of the ASTRODEEP consortium, open to all participants of the CANDELS and HERSCHEL deep surveys

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Goal

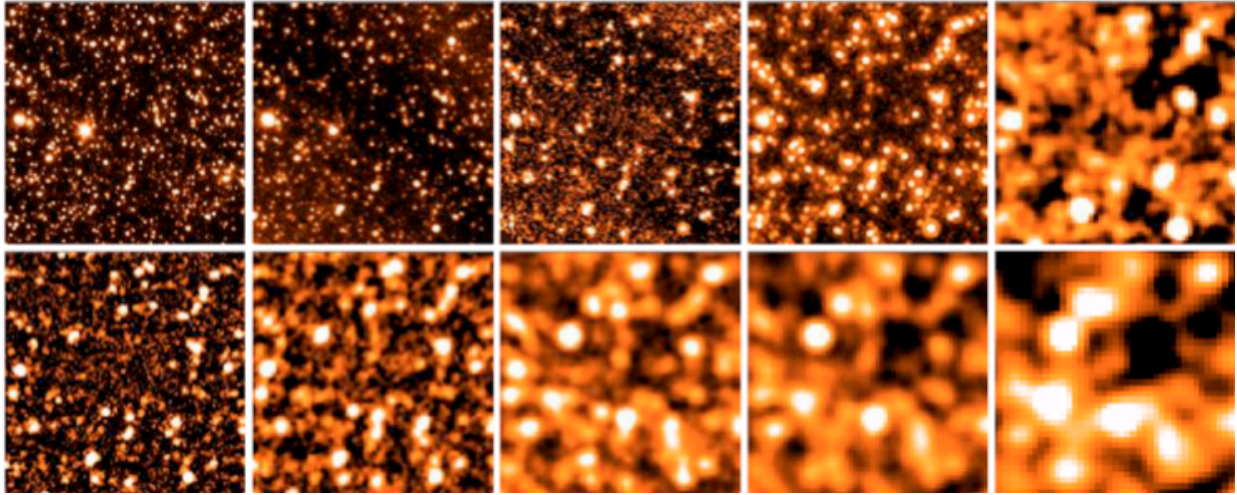
One of the main goals of ASTRODEEP is to broaden the collaboration between the main teams that are active in Europe in the exploitation of the deepest images of the Universe.

At this purpose, well-focused scientific meetings are crucial to establish connections, foster new ideas, and spread latest ideas and news among the scientists.

In this context, ASTRODEEP organizes a scientific meeting focused to gather the participants of the CANDELS and GOODS-HERSCHEL surveys to discuss a well defined scientific aspect.

This document describes the scientific goal and the preliminary list of participants of the meeting, that will be held at the Sexten Center for Astrophysics (Sesto Val Pusteria, Italy) in January 2015.

We decided to organize the meeting in January 2015, slightly later than originally planned in the DoW (second year). This choice has been taken after considering the planned date of release of the main datasets (including the ASTRODEEP-released catalogs) for the forthcoming new generation of surveys: the full CANDELS data set (mid 2014), the HERSCHEL-CANDELS data set (August 2014), the ALMA deep field (mid-2014), the first set of the Frontier Fields (late 2014). Taking into account that a proper analysis of these data sets requires at least some month, a meeting in January 2015 seems to guarantee the optimal timing for an appropriate scientific discussion of the results from these surveys.



A CANDELS – GOODS-HERSCHEL SCIENCE MEETING

The Spectral Energy Distribution of high redshift galaxies:

lessons learned and open questions.

Sexten Center for Astrophysics

January 26-30 2015

Aim of the workshop

This workshop is organized under the auspices of the ASTRODEEP project and is devoted to discuss what can be learned about the Spectral Energy Distribution of high redshift galaxies. We aim at bringing together members of the CANDELS and the GOODS-Herschel collaborations, as well as external scientists interested in the topics.

Scientific rationale

Multiwavelength photometry turned out to be one of the most powerful approaches to study galaxy evolution. Thanks to the dramatic technological improvements we have witnessed in recent years, full panchromatic information from X-rays to radio is available of large samples of galaxies at high redshift. This large amount of complementary data allow us to understand the physical processes at play and to observe them at different cosmic epochs, provided that sophisticated techniques are adopted to measure the spectro-photometry and to reconstruct the galaxy Spectral Energy Distribution.

Despite its potentials, the full informational content of galaxy SED is still difficult to extract, due to both the technical challenges in the extraction of a self-consistent spectro-photometry over a full wavelength range, and to the difficulties in reconstructing the physical parameters of the emitting sources.

4 CALL FOR COLLABORATION MEETING

This workshop aims at gathering experts from both the CANDELS and the GOODS-HERSCHEL teams to discuss the latest results and open problems in these fields. Selected scientists from other teams will also be invited, in order to put the discussion in a broader context.

Topics

Topics to be covered are:

- Methods for optimal photometry over a large wavelength and spatial resolution range;
- Synthetic templates for SED fitting techniques;
- Optimal use of spectroscopic data;
- The consistency of spectral identification at different wavelengths: Differentiating AGN and starburst galaxies at different wavelengths;
- Rest frame properties of high redshift galaxies and AGN:
 - Star formation indicators at various wavelengths;
 - Estimate of metallicity and its impact on the global properties;
 - The evolution of stellar masses in high redshift galaxies;
 - The evolution of dust and dust-to-gas content in high redshift galaxies

Workshop location and format

The workshop attendance will be limited to about 40-50 scientists. The format allows ample time for presentations (all oral, no poster is foreseen) and for interactive work among the participants. The workshop will be hosted by the Sexten Center for Astrophysics (SCfA), located in Sexten (Italy).

The main aim of SCfA is organising and hosting every year small and medium-size workshops and schools, in order to offer to scientists, working in the fields of Astrophysics, Cosmology and Physics, the opportunity to meet in an informal environment and to carry out collaborative work. It already hosted two CANDELS meeting in the last three years.

SOC:

- A. Fontana (Chair)
- A. Comastri
- J. Dunlop
- D. Elbaz
- H. Ferguson
- S. Faber

Preliminary list of expected speakers:

(from CANDELS+GOODS-HERSCHEL)

- G. Barro
- M. Cirasuolo
- E. Daddi
- M. Dickinson
- S. Finkelstein
- A. Grazian
- D. Koo
- R. McLure
- C. Papovich
- L. Pentericci

Preliminary list of expected speakers:

(from other teams)

- G. Brammer
- S. Charlot
- R. Maiolino
- D. Marchesini