ASTRODEEP

Unveiling the power of the deepest images of the Universe

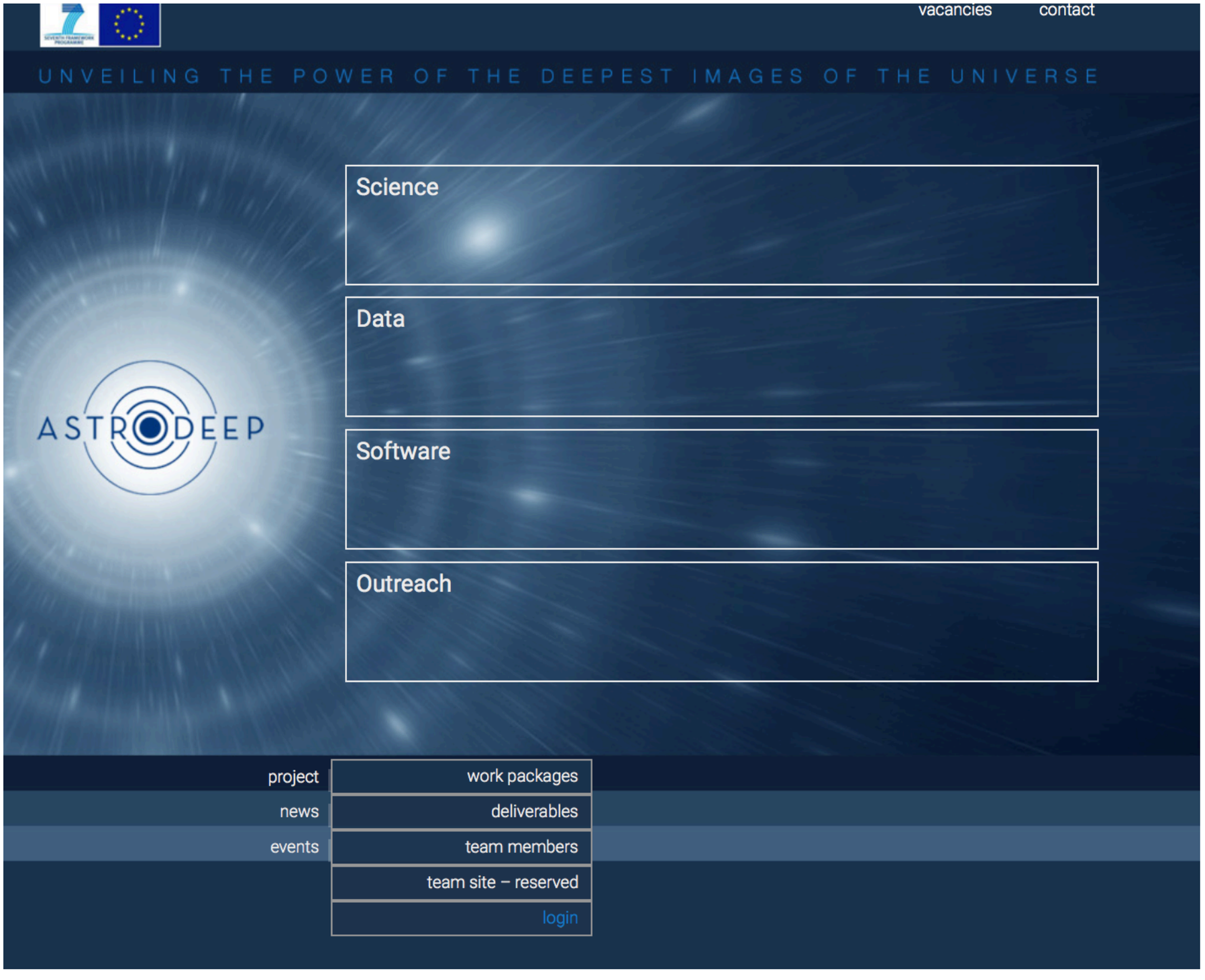
Astrodeep Site

K. Boutsia & Astrodeep team

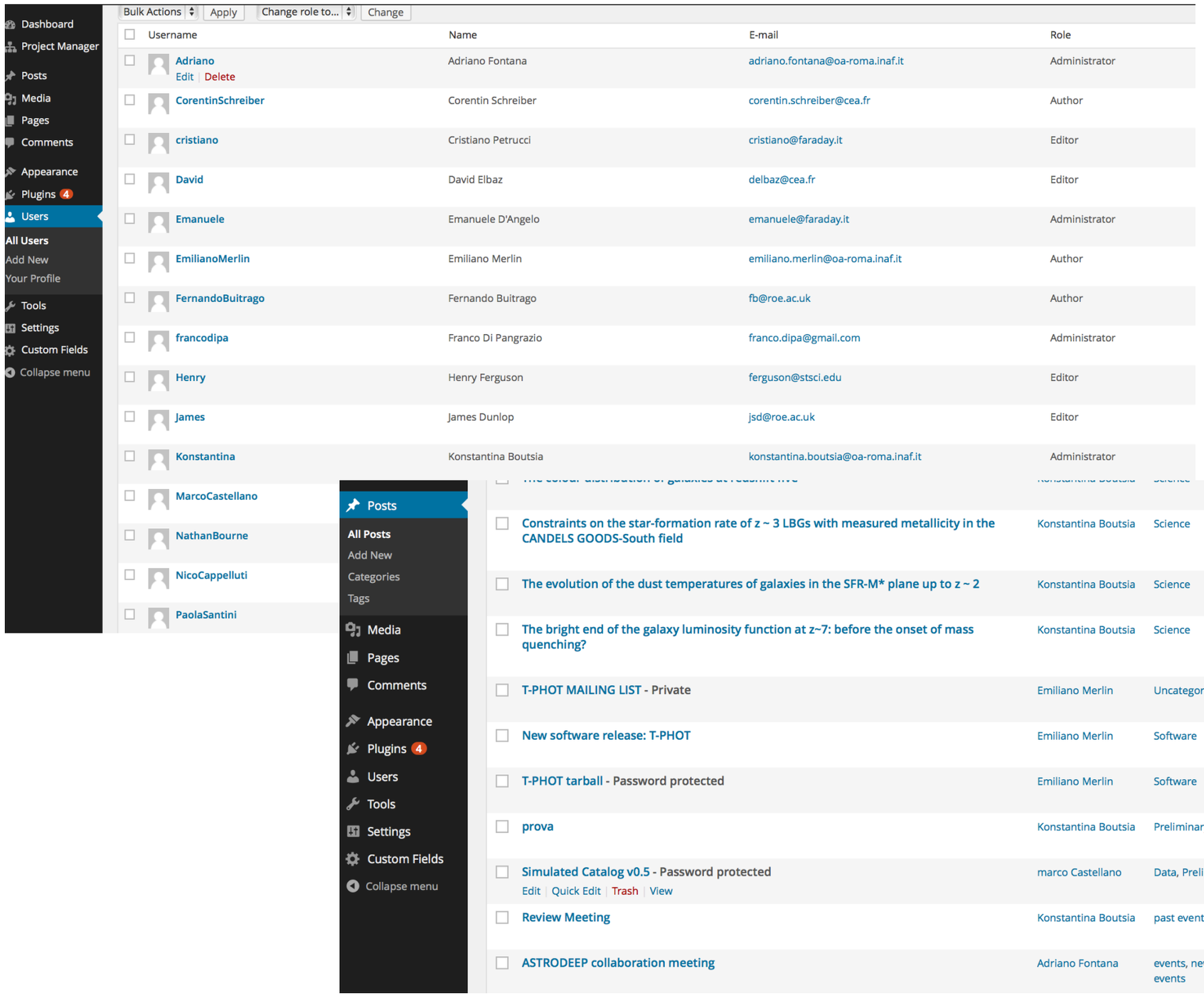
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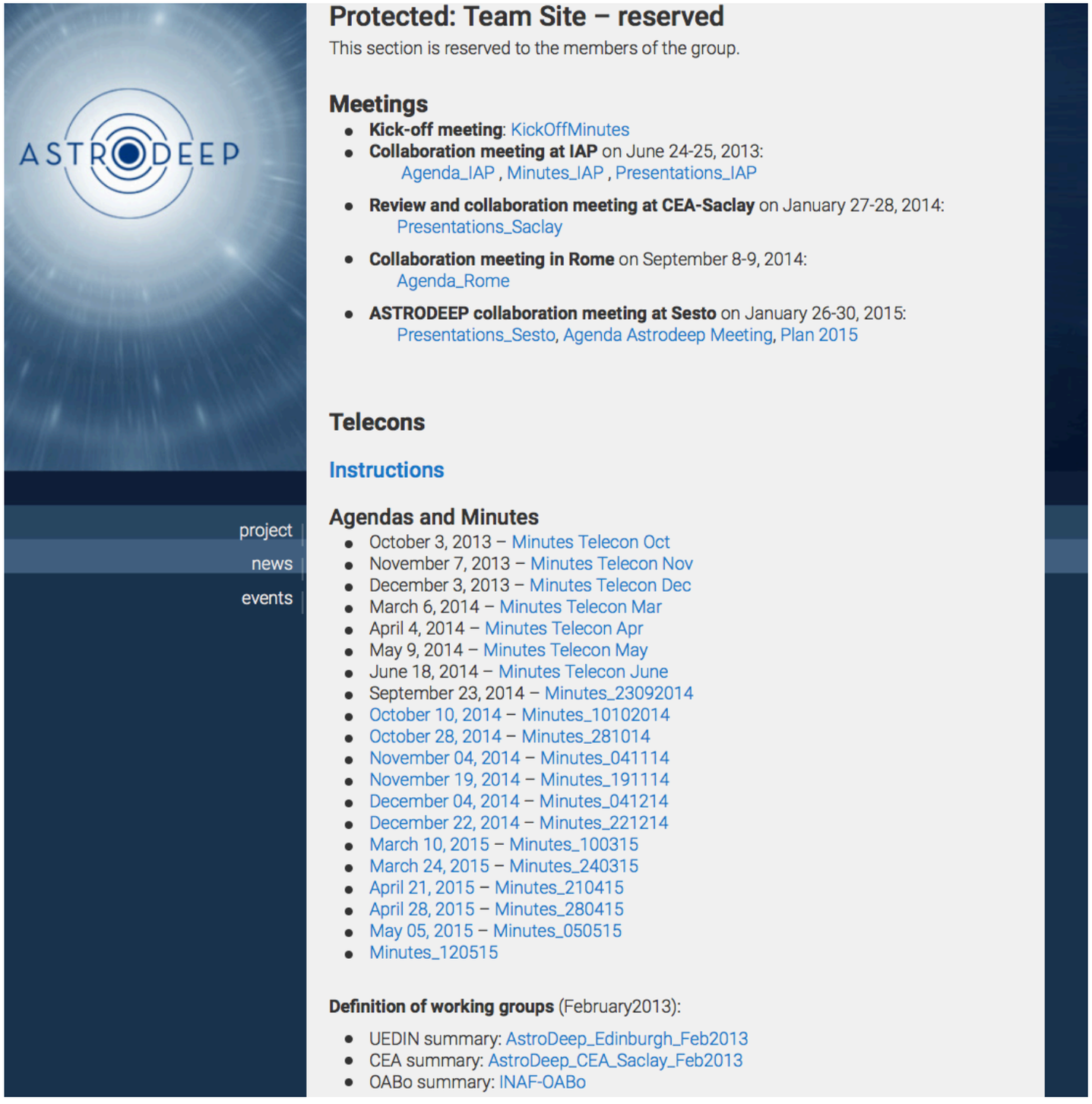

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Constraints on the star-formation rate of z ~ 3 LBGs with measured metallicity in the CANDELS GOODS-South field
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The evolution of the dust temperatures of galaxies in the SFR-M* plane up to z ~ 2
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The bright end of the galaxy luminosity function at z~7: before the onset of mass quenching?
Konstantina Boutsia
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T-PHOT MAILING LIST - Private
Emiliano Merlin
Uncategorized
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2014/10/08
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New software release: T-PHOT
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marco Castellano
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Adriano Fontana
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2014/05/08
Published

Contributions





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Team Members

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Team members

The ASTRODEEP team collects most of the PI (or main Co-I) of all major ultradee
surveys, covering also the whole range of the electromagnetic spectrum: CANDE
HST, ground based imaging at VLT and LBT and ULTRAVISTA at VISTA, GOODS-
HERSCHEL, HERMES@HERSCHEL, PEP@HERSCHEL, SPUDS@SPITZER, XMM-C
and Chandra on CDFS. This ensures the highest technical and scientific expertise
analysis and prompt exploitation if these data.

People involved in the Astrodeep project are:

INAF :
Adriano Fontana – Project Coordinator
Andrea Comastri – Partner Coordinator (OABo)
Ricardo Amorin – Starburst-driven evolution of low-mass galaxies
Nico Cappelluti – X-ray catalogs
Marco Castellano – Analysis of multi-wavelength data
Emiliano Merlin - Software development and testing
Paola Santini – Galaxy evolution through multi-wavelength surveys
Konstantina Boutsia – Management support

UEDIN:
James Dunlop – Partner Coordinator
Nathan Bourne – Sub-mm deconfusion and obscured star formation studies
Victoria Bruce - Evolution of massive galaxies at intermediate redshifts
Fernando Buitrago – Formation and evolution of the most massive galaxies
Fergus Cullen
Ross McLure
Michael Michalowski

CEA:
David Elbaz – Partner Coordinator
Corentin Schreiber – Characterisation of galaxy star formation rate and simulation of Herschel images
Xinwen Shu – Formation and evolution of far-infrared luminous galaxies observed with Herschel
Tao Wang – Identification of distant galaxies using Herschel images
Koryo Okumura
Emanuele Daddi
Emeric Le Floc'h
Maurillio Pannella

CNRS:
Sebastien Derriere – Partner Coordinator (OABo)

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Nathan Bourne



My research focuses on multi-wavelength studies of star formation in populations of galaxies from the local universe up to high redshifts. In particular I am interested in de-confusing sub-mm images from Herschel and SCUBA-2 using higher-resolution priors to maximise the potential of data-sets that are limited by confusion.

My main activities as part of ASTRODEEP are scientific application and testing of the T-PHOT tool with SCUBA-2 data, with the aim of extending our understanding of the star formation history of the Universe at early times.

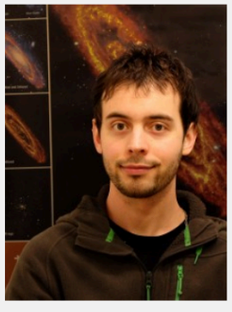
Email: bourne@roe.ac.uk

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Corentin Schreiber



My research interests are to understand the processes through which galaxies are growing in mass, consume their gas content, and eventually die. In particular, I have focused my work on characterizing the typical star formation rate of galaxies of different stellar mass, seen at different epochs, providing constraints on the global star formation density in the Universe, and showing that most galaxies form their stars in a unique and universal way. I am also interested in figuring out the mechanisms that allow some galaxies to experience intense, and probably short, episodes of enhanced star formation activity. This research is primarily based on FIR data from the Herschel satellite, combined with a large variety of multi-wavelenght data from the UV to the radio.

Within ASTRODEEP, my goal is to provide realistic galaxy mock catalogs, and accurate simulated Herschel images. These mock data sets are used to test the reliability of current and new source extraction softwares.

Email: corentin.schreiber@cea.fr

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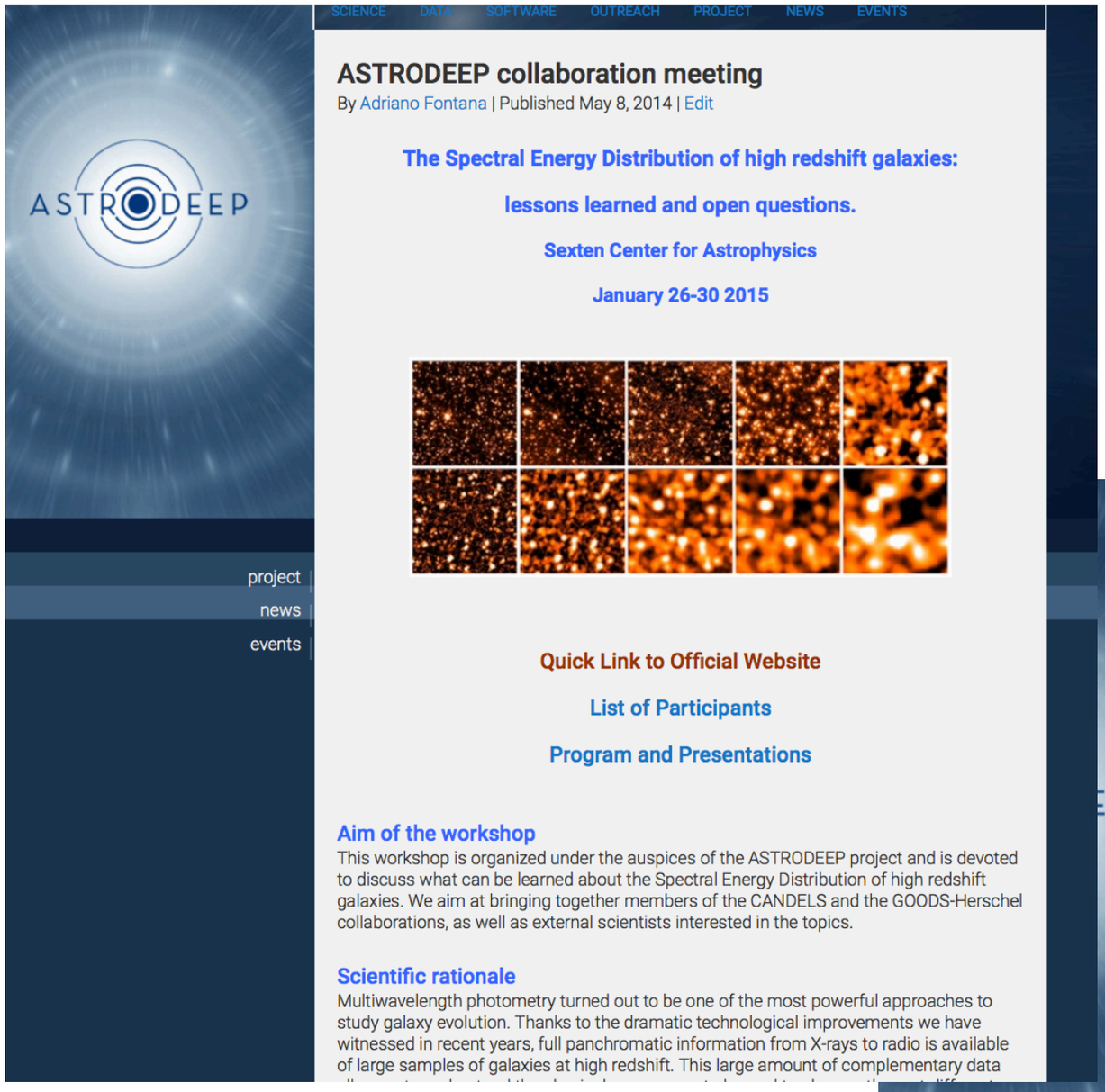
Theme Updates

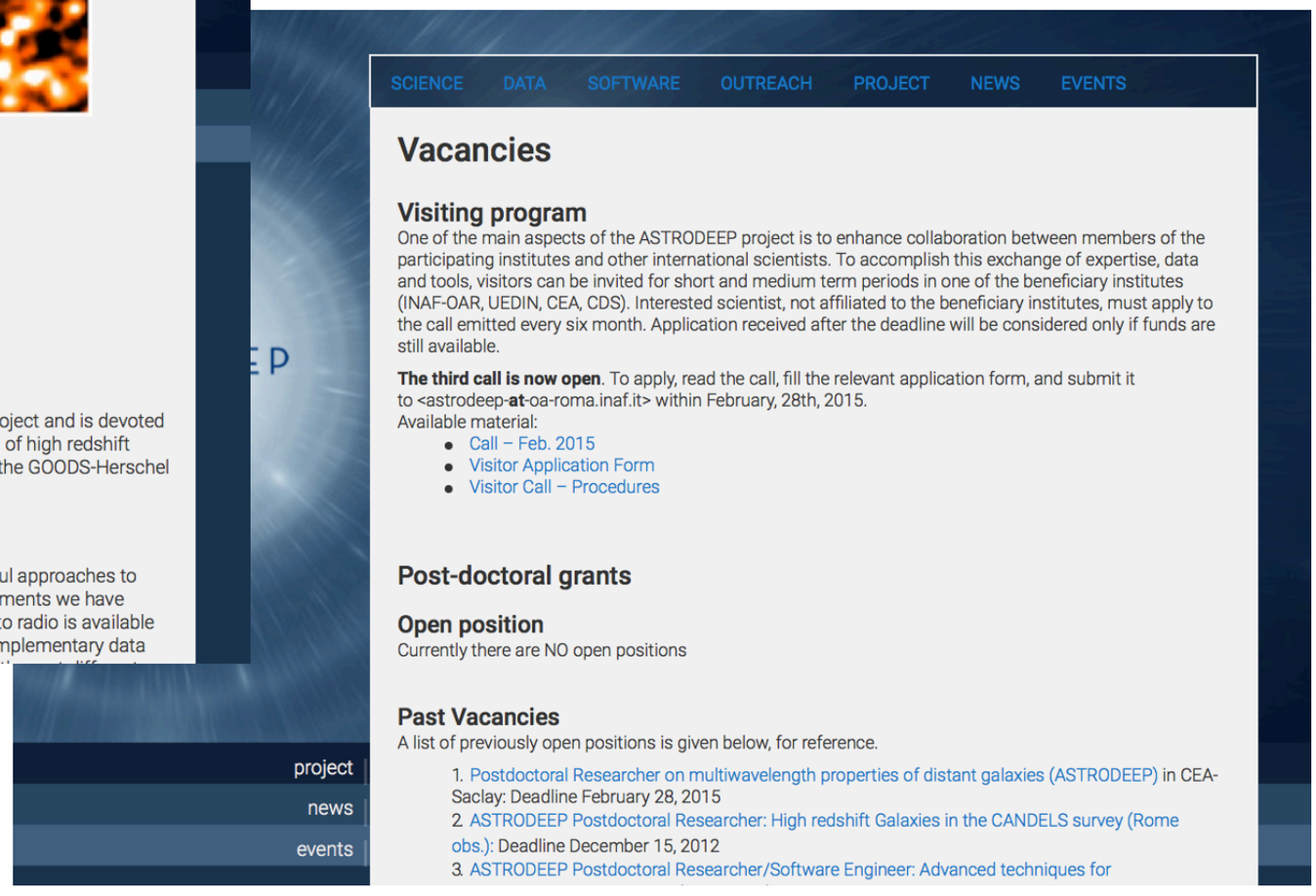


Theme Updates

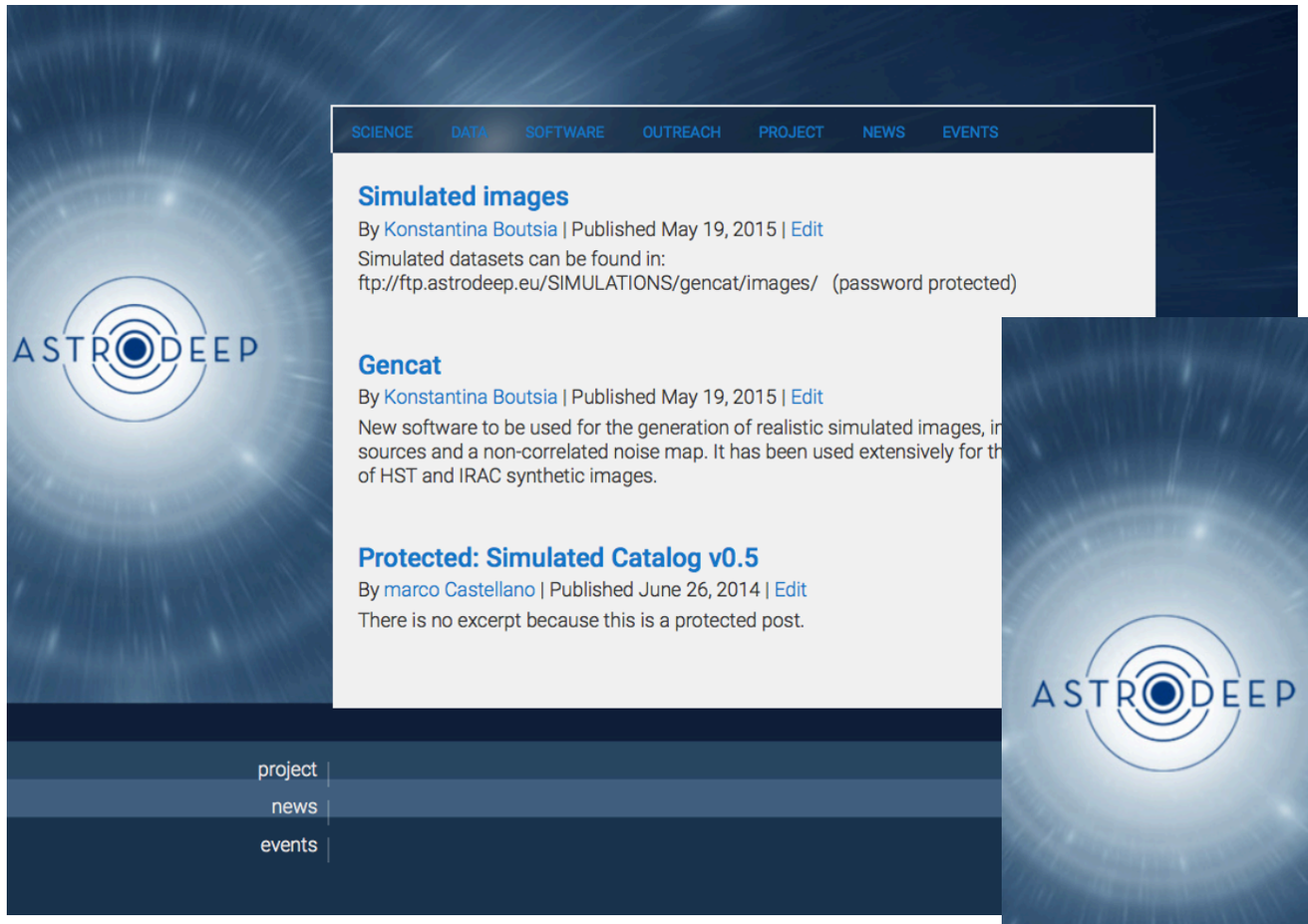


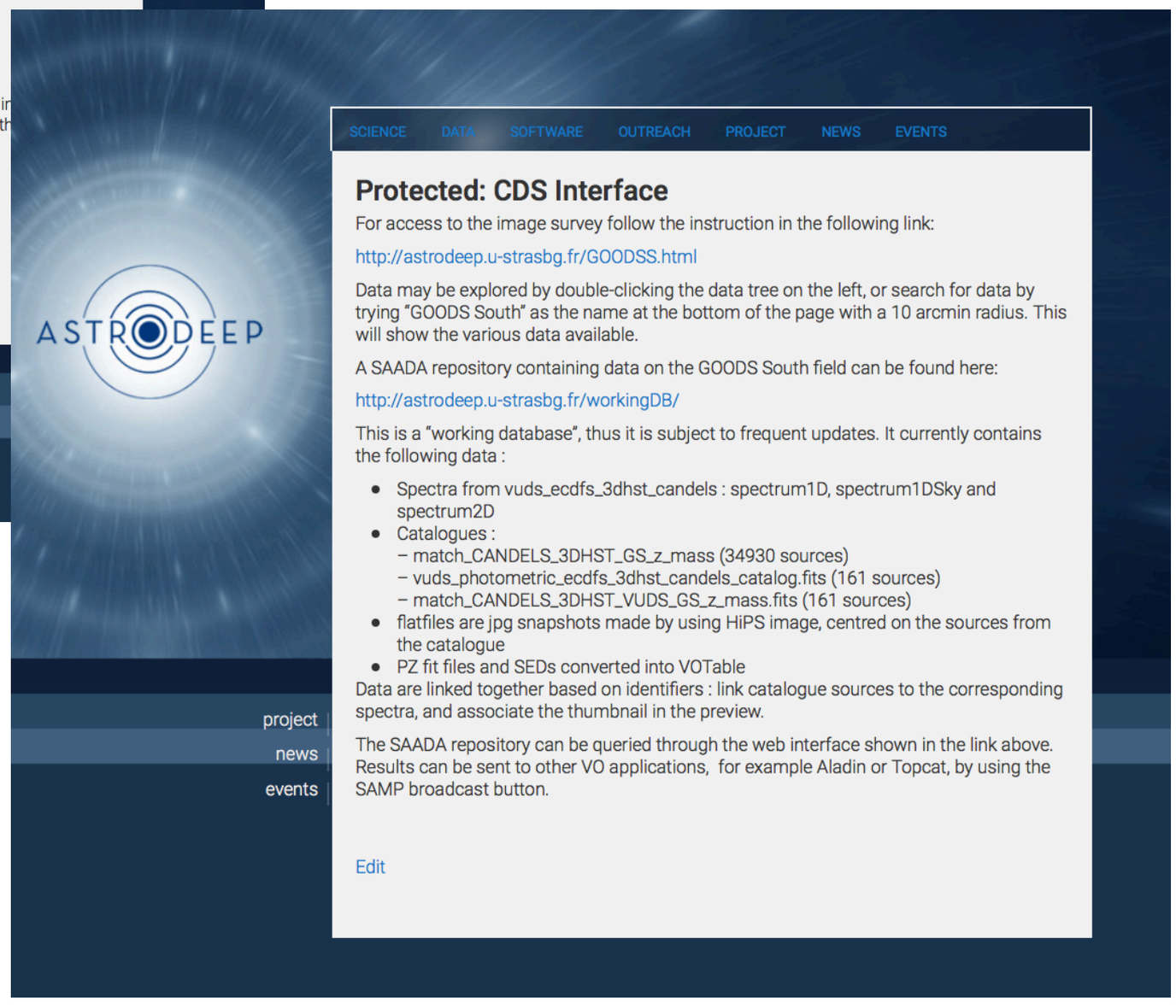
Events and vacancies





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Simulated images
By Konstantina Boutsia | Published May 19, 2015 | Edit
Simulated datasets can be found in:
ftp://ftp.astrodeep.eu/SIMULATIONS/gencat/images/ (password protected)
Gencat
By Konstantina Boutsia | Published May 19, 2015 | Edit
New software to be used for the generation of realistic simulated images, in
sources and a non-correlated noise map. It has been used extensively for th
of HST and IRAC synthetic images.
Protected: Simulated Catalog v0.5
By marco Castellano | Published June 26, 2014 | Edit
There is no excerpt because this is a protected post.
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Protected: CDS Interface
For access to the image survey follow the instruction in the following link:
http://astrodeep.u-strasbg.fr/GOODSS.html
Data may be explored by double-clicking the data tree on the left, or search for data by trying "GOODS South" as the name at the bottom of the page with a 10 arcmin radius. This will show the various data available.
A SAADA repository containing data on the GOODS South field can be found here:
http://astrodeep.u-strasbg.fr/workingDB/
This is a "working database", thus it is subject to frequent updates. It currently contains the following data :
Spectra from vuds_ecdfs_3dhst_candels : spectrum1D, spectrum1DSky and spectrum2D
Catalogues :
– match_CANDELS_3DHST_GS_z_mass (34930 sources)
– vuds_photometric_ecdfs_3dhst_candels_catalog.fits (161 sources)
– match_CANDELS_3DHST_VUDS_GS_z_mass.fits (161 sources)
flatfiles are jpg snapshots made by using HiPS image, centred on the sources from the catalogue
PZ fit files and SEDs converted into VOTable
Data are linked together based on identifiers : link catalogue sources to the corresponding spectra, and associate the thumbnail in the preview.
The SAADA repository can be queried through the web interface shown in the link above. Results can be sent to other VO applications, for example Aladin or Topcat, by using the SAMP broadcast button.
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New software release: T-PHOT

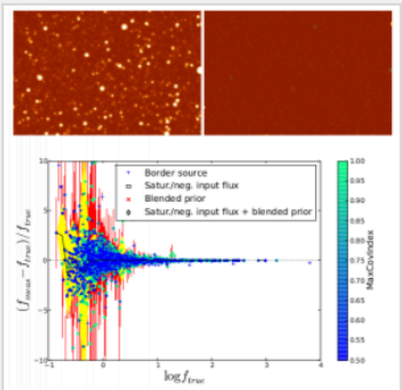
By Emiliano Merlin | Published October 5, 2014

What is T-PHOT

T-PHOT (Merlin et al. 2015, submitted to A&A – arXiv:1505.02516) is a new software designed for high precision, prior-based photometry in crowded, deep extragalactic fields, developed by the Astrodeep collaboration.

It represents an evolution of its direct predecessors TFIT and CONVPHOT. T-PHOT uses the data from a high resolution image of the a region of the sky as priors for position and morphology. It can use as priors:

1. the observed 2-D profiles in the high resolution image, gathering it from a detection catalog and segmentation map,
2. input analytical models (e.g. Galfit stamps), or
3. a list of positions for unresolved objects.



Example of a simulation set used to test the accuracy of the T_PHOT performance: LRI (top left), residual image (top middle) and accuracy of the flux determination (bottom, relative flux difference [f_meas – f_input] / f_input; different symbols and colors for points refer to various diagnostics as explained in the legend; black line: average in bins; yellow shade: standard deviation) relative a simulated IRAC1 image with synthetic PSF processed with whole image fitting.

Convolving such data with a convolution kernel, T-PHOT then produces low-resolution templates which will be used to obtain precision photometric measurements on a lower resolution image of the same field. Compared to its predecessors, T-PHOT is much faster (up to 100x faster than TFIT when used with identical parameters), more accurate and versatile. It has already been tested on a wide range of images from the far infrared to the UV domains, proving to be an excellent tool for photometric analysis.

Download and use T-PHOT

To download T-PHOT, please subscribe to the T-PHOT mailing list filling the form below. You will soon receive an email containing a link and a password to download the T-PHOT tarball. Also, you will be kept informed about updates and new releases of the code.

For any issue regarding downloading, installation, or bugs, or for any other comment or suggestion, please feel free to contact *emiliano.merlin@oa-roma.inaf.it*

T-PHOT mailing list

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Protected: T-PHOT tarball

By Emiliano Merlin | Published October 3, 2014

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← CONVPHOT

New software release: T-PHOT →

Protected: T-PHOT tarball

By Emiliano Merlin | Published October 3, 2014

Download and use T-PHOT

This is the T-PHOT 1.5.10 tarball:

TPHOTv1.5.11.tar.gz

(Note: it is a .tar.gz file, although the .gz extension might be not visible)

Download the tarball, untar it and follow the instructions in the tphot/README file.
Fon any issues/comments please feel free to contact *emiliano.merlin@oa-roma.inaf.it*

Please cite: Merlin et al. 2015, arXiv:1505.02516

Thanks for downloading!

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