

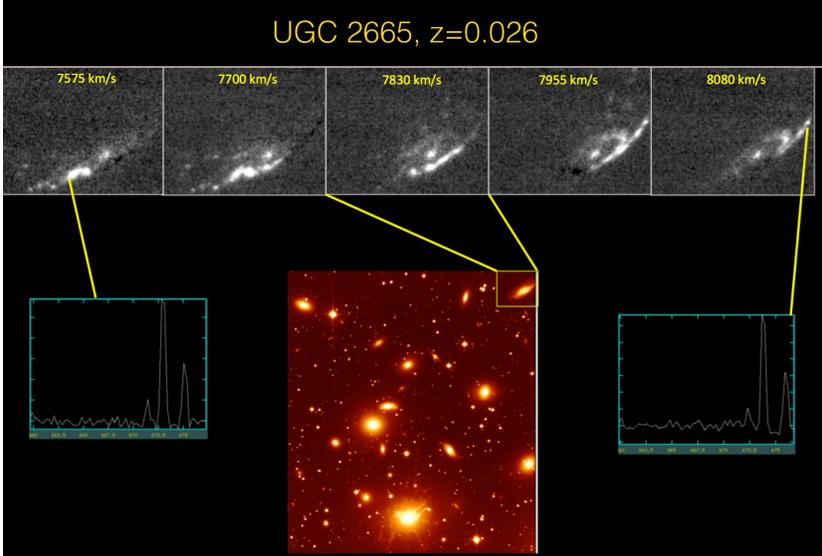
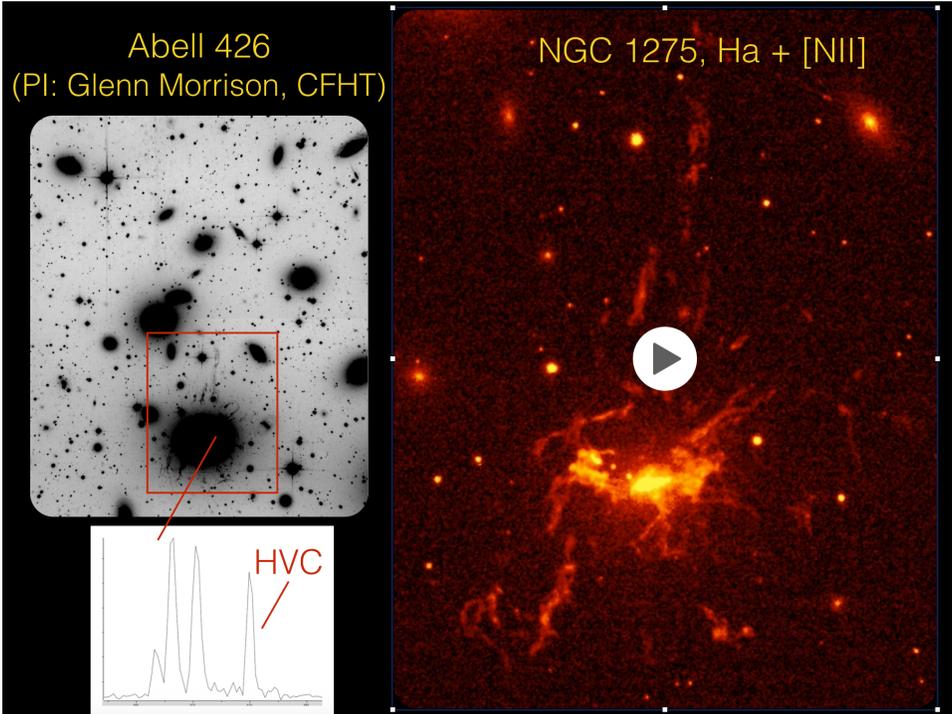
SITELLE Commissioning/SV data

In this directory, you will find five data cubes obtained during SITELLE's Commissioning (August 2015) and Science Verification (January 2016) observing runs. Do not hesitate to communicate with Laurent Drissen (ldrissen@phy.ulaval.ca) for more information. Papers and conference presentations on SITELLE are also available on this web page: http://www.cfht.hawaii.edu/Instruments/Sitelle/SITELLE_publications.php

One thing to remember when browsing through the cubes: SITELLE's instrument line function is a sinc, not a gaussian; therefore, negative images of the sources appear on channels adjacent to the line core. This is perfectly normal, and all the information included in these sidelobes are fully taken into account by ORCS, SITELLE's data analysis software (more details available here: <http://132.203.11.199/orcs-doc/index.html>).

A0426_SN3:

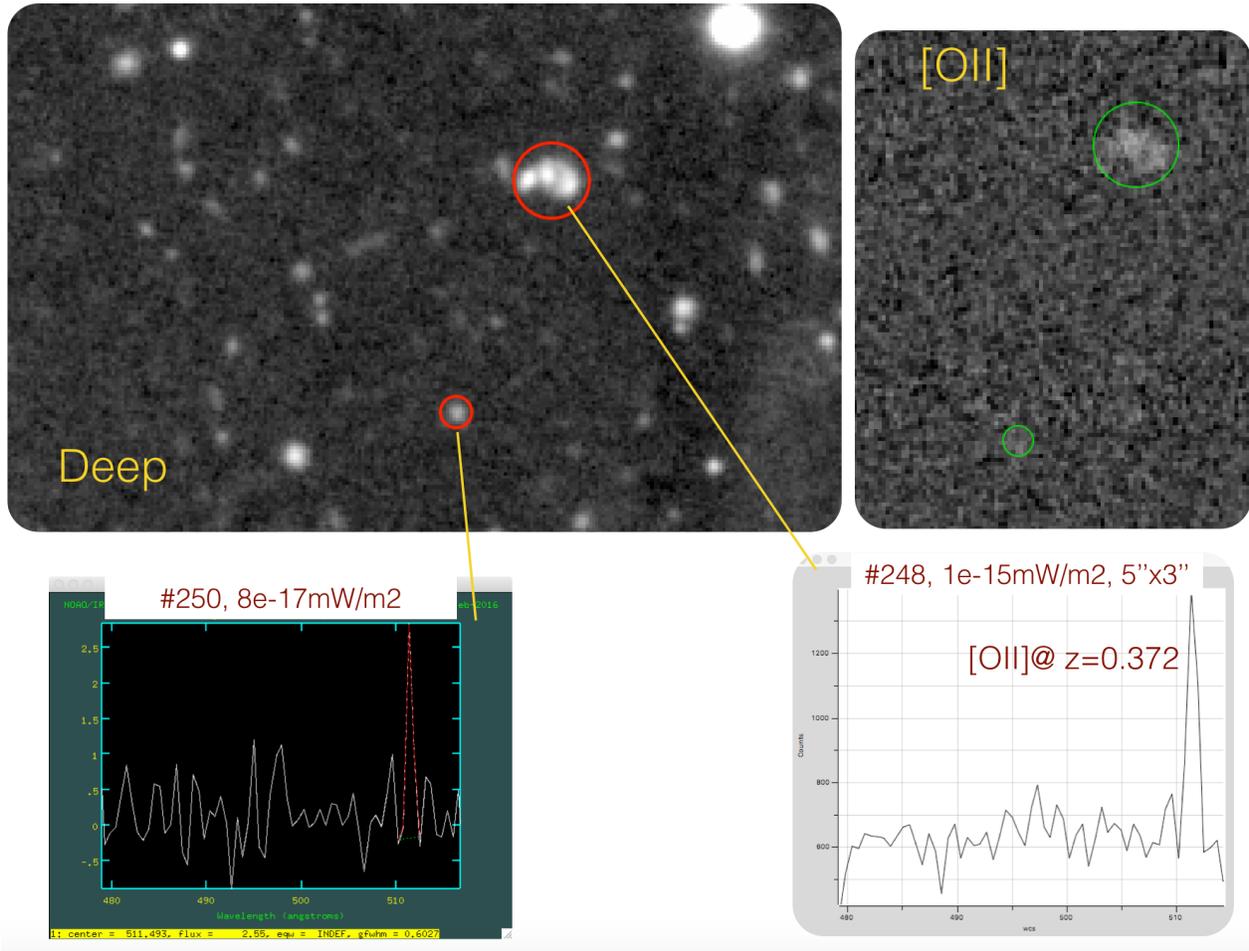
Core of the Perseus cluster, filter SN3 (650 - 685 nm), R~ 1300



High-z-1_SN2:

HetDex test field, filter SN2 (482 - 513 nm), $R \sim 450$

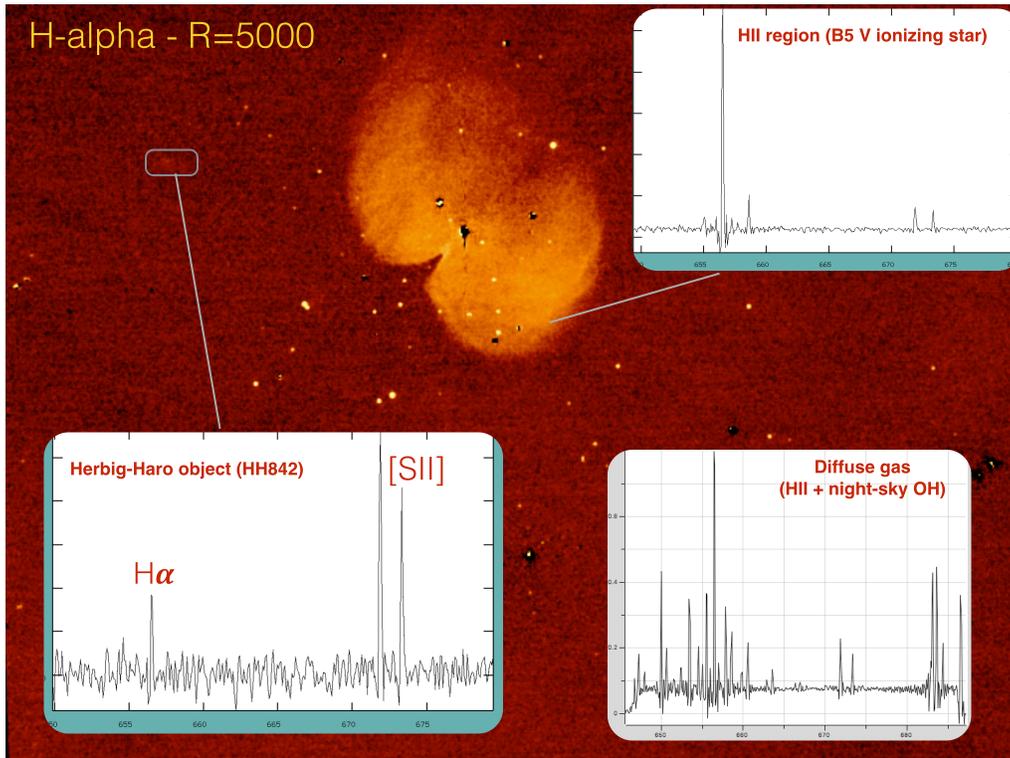
This data cube was obtained in order to show SITELE's ability to observe "cosmological" fields. This one is one of a HETDEX pilot fields (Adams et al 2011, ApJSup, 192, 5). Shown below are examples of sources for which the [OII] 3727 emission line was detected at $z \sim 0.37$. One of them (#248) is obviously multiple (interacting galaxies) and its [OII] flux is extended.



IC 348_SN3:

Star forming region IC 348, filter SN3 (650 - 685 nm), $R \sim 5000$.

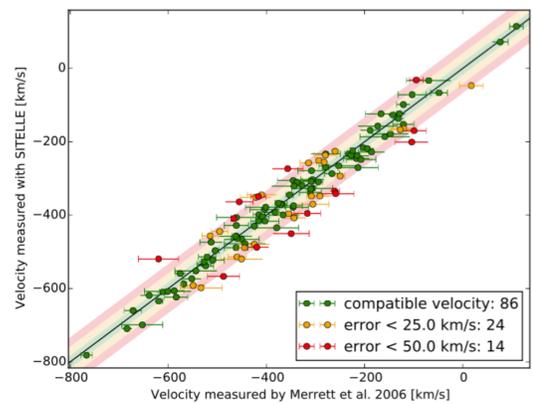
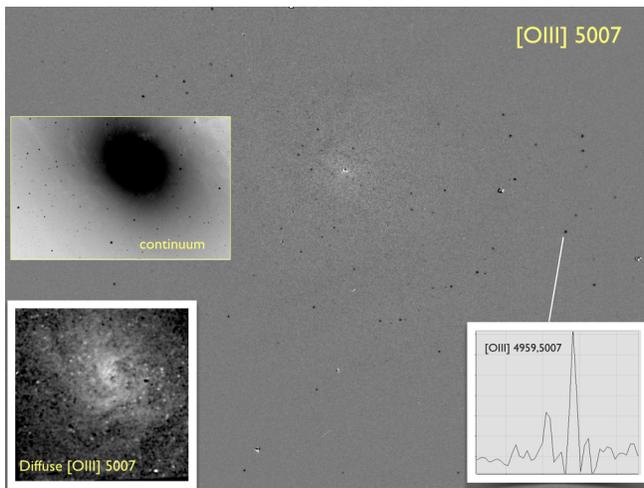
The highest-resolution (spectrally speaking) cube obtained by SITELE during SV (PI: Gregory Herczeg, Peking University). Shown below is the H α image of the nebula, along with spectra of the HII region, a Herbig-Haro object (strong [SII] doublet) and a spectrum of the sky outside the nebula, including numerous night-sky OH lines and emission lines from the diffuse interstellar medium of the Milky Way.



M31-Field1_SN2:

Core of the Andromeda galaxy, filter SN2 (482 - 513), R~400

Very first cube obtained by SITELLE, a low-resolution blue one of the core of M31. This cube was obtained in order to show SITELLE's capability in detecting emission-line sources above a very strong continuum background. The figure on the left below shows a continuum-subtracted [OIII] 5007 image. Planetary nebulae stand out as unresolved black dots. Inserts show the blue continuum image of this field from the same cube, the spiral structure from the diffuse [OIII] emission, as well as a spectrum of one planetary nebula. On the right, a comparison between the radial velocity of the planetary nebulae, as measured with SITELLE, with data obtained with a long-slit spectrograph.

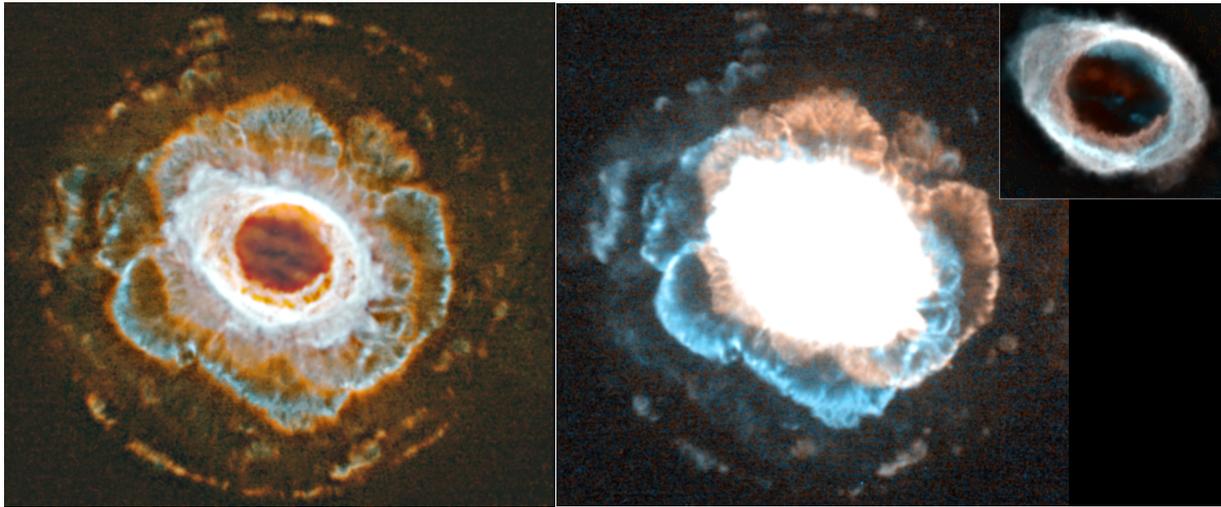


M57_SN3:

Planetary nebula M57 & spiral galaxy IC 1296, filter SN3 (650 - 685 nm), R ~ 2000

Details on this cube, as well as informations on the instrument line function, can be found in this recently accepted paper: <https://arxiv.org/abs/1608.05854>

Below are images from this cube. On the left, color composite with red representing $H\alpha$ and blue the $[NII]$ 6584 line. On the right, a "Doppler image", with blue and red representing the blue- and red-shifted gas, in the $[NII]$ line (analogous to Figure 8 in the publication).



Also found in the same cube is the spiral galaxy IC 1296. The figure below shows monochromatic intensity maps in $H\alpha$ and $[NII]$ 6584, as well as the Doppler map and the metallicity gradient map.

