

Spectral mapping of comet 67P/Churyumov-Gerasimenko with VLT/MUSE and SINFONI



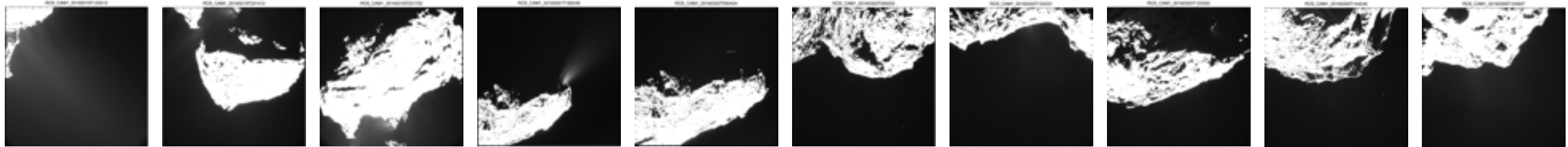
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ESA/Rosetta NavCam images
for 2016/02/19 outburst

« event » caught
on 2016/03/01
by the star tracker

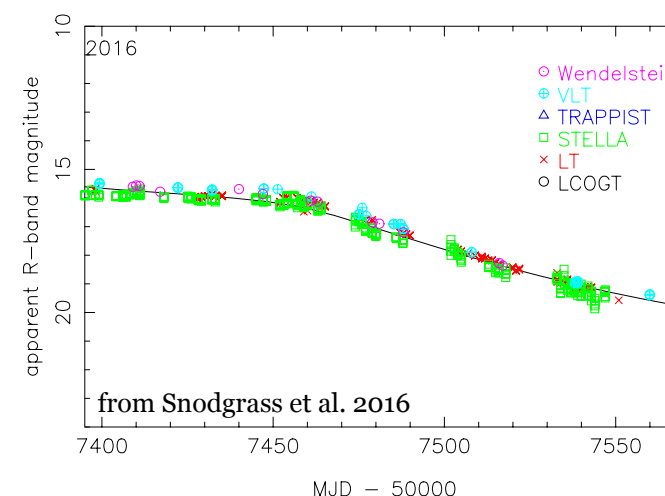
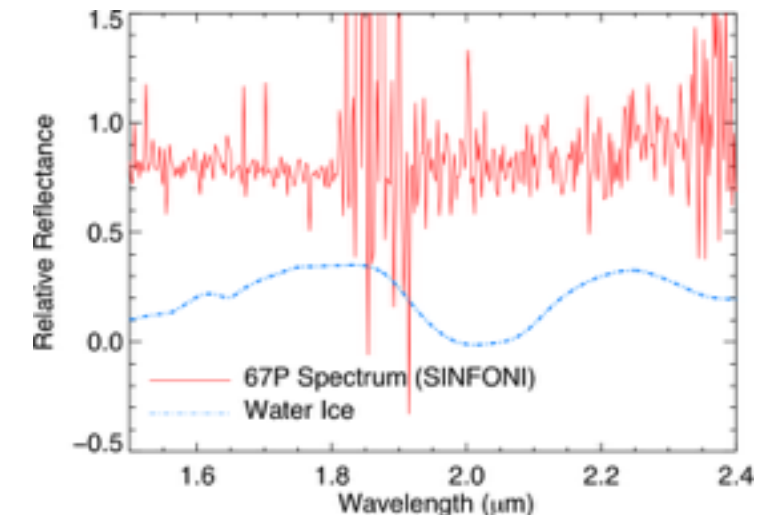
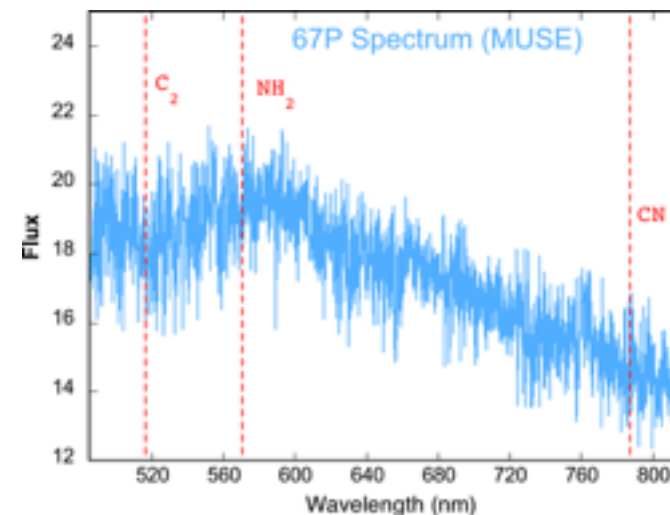
ESA/Rosetta NavCam images during our
observations from 2016/03/02 to 2013/03/06

Context

Rosetta is measuring the properties and evolution of comet 67P at small distances from the nucleus, but is unable to make measurements over the thousands of km of the rest of the coma, which is accessible from the ground and directly comparable to other comets. The goal of these observations was to perform a spectral mapping of the coma, both in visible with VLT/MUSE, and near-infrared with VLT/SINFONI.

Observations were performed from March 2nd to 6th 2016, i.e. at the very end of the intensive summer in the southern hemisphere of the comet. Although the comet was still relatively active, the period was not necessarily the best for ground-based observations.

However, on February 19th 2016, nine different Rosetta instruments detected an outburst of gas and dust from the comet (Grün et al. 2016, MNRAS in press). We expected to possibly measure the evolution of the coma in the aftermath of this event. In addition, an other event (similar in intensity on the NavCam images, but less significant) was caught by the star tracker on March 1st.



Results

- Visible spectra do not show any gas. Maybe an effect in slope, but further work is required
- NIR spectra are featureless
- Apparent magnitude (measured from VLT/FORS images, see Snodgrass et al., 2016) are well within the expected constraints

Nothing significant from the ground!
Outburst was dominated by dust rather than gas
Ground-based observations are missing all the fun!