Rosetta Perihelion Shotlist

* NAVCAM & OSIRIS Images of Comet before and at Perihelion from NavCam (Raw Images Credit: ESA/Rosetta/NavCam – CC BY-SA IGO 3.0) and from OSIRIS Camera (Credit: ESA/Rosetta/MPS for OSIRIS Team MPS/UPD/LAM/IAA/SSO/INTA/UPM/DASP/IDA)

- GVs of ESOC, Darmstadt, Germany with Rosetta Control Room, 13/08/2015.

INTERVIEWS 13/08/2015 at ESOC

- Andrea Accomazzo, Rosetta Flight Director, ESA , 13/08/2015 (English / Italian)

English:

* The comet is at perihelion. This means its the closest point of the orbit of the comet to the Sun. Rosetta still is nearby the comet of course. beacause of the increased activity of hte comet, the comet is warming up because it’s going closer to the Sun. Now Rosetta has had to step back. We are flying at a distance of roughly 300km form the comet itself. Dur: 22”
* We are continuously monitoring the activity of the comet to see its effect on Rosetta’s performance. So every now and then we have to change the distance to the comet. We expect the activity of the comet to grow for the coming weeks, most likely to September, October, maybe, and then it starts going down. Rosetta will be able to go again closer to the comet and we’ll start a new mission if you want. Dur: 22 ”
* Well the comet in its activity is throwing out two things: gas and dust. And both elements are interacting with Rosetta. The gas is pushing the spacecraft away because it’s impingin on the solar arrays like wind impinging on sails. It’s pushing the spacecraft away from its trajectory. The dust is actually disturbing the star sensor. So whenever there’s a jet coming out of the comet this pollutes ,if you want, the environment around the comet and Rosetta is affected by this. Of course we don’t expect that a jet will dramatically change the orbit of Rosetta. Rosetta is far away. These jets are very fast but the density is relatively small so they are not capable of pushing Rosetta completely far away from its trajectory. Dur: 40”

Italian

* Andrea on Rosetta achieving perihelion.
* Andrea says what Rosetta will do in the unlikely event of the comet breaking up into 2 parts.
* Andrea explains how Rosetta’s orbit depends on the activity of the comet.
* Andrea discusses the plans to land on the comet at the end of the mission.

- Sylvain Lodiot, Rosetta Space Operations Manager, ESA, 13/08/2015 (English/ French)

English

* We’ve arrived at our closest point to the Sun with the comet and so now we’re going to gradually start going further away again from the Sun. Rosetta has been much closer to the Sun in the past when we were on our way to the comet so we knew the spacecraft would survive perihelion because ok it’s been designed for much closer distances. Dur: 22”
* It’s clearly a milestone. We wanted to be with the comet to see its activity increases. Its activity is going to increase even further in the coming weeks. So clearly it is a milestone. It’s also somehow maybe a bit sad. It’s the start of an end. Because we will only be going further away for the Sun ‘til the end of the mission of Rosetta which will be the end of next year so yes, it’s also a strange feeling. Dur: 22”
* Hopefully once the activity goes down we’ll be able to get much closer again and we’ll probably be able to go into bound orbits and at the end of the mission even go to distances we’ve never been to the comet, so much much closer. The end scenario is the land, quote, on the comet and so this is next challenging part. Dur: 20”

French

* Sylvain explains how Rosetta has arrived at perihelion.
* Sylvain describes what happens next with Rosetta and its plans to land on the comet at the end of the mission.
* Sylvain gives an explanation of how the comet’s activity and eruptions are affecting the orbiter.
* Sylvain on whether there’s any chance of Rosetta communicating with Philae over the next few months.

- Paolo Ferri, Head of Mission Operations, ESA (German, English and Italian) 13/08/2015

English

* It’s clear that the whole phase of getting close to the Sun and also the next few weeks of getting slightly away from the Sun is the most important thing. So the perihelion itself is purely symbolic. On the other hand it’s a big relief. If I think of 20 years ago when we were starting thinking of the operations and industry was building the spacecraft, we had so many concerns about this phase. the gas, anything that would fly around the comet, would we be able at all to fly close to the comet? So the fact that we’ve come to this point is a bit more than a symbolic moment, it’s really a moment of satisfaction if you want. DUR: 44”
* It has already affected operations significantly in the past few weeks and it will continue in the coming weeks. We are flying in a very dirty environment, lots of gas, lots of dust. And flying through this dust is a problem, especially for our star trackers. These are little telescopes that look at the stars and using the stars they determine the attitude of the spacecraft and in the past few weeks we’ve had many occasions when our star trackers could not see the stars through the dust. This affected us in the sense that in order to avoid any major problem with the spacecraft we had to back off, go away from the surface of the comet and we’re now flying at 300 kms more or less. And since we are this distance the gas and dust densities seem to be good enough for us to fly. We stay there until the comet quiets down. DUR: 56”

Italian

* An explanation of the significance of perihelion for the Rosetta mission.
* How the increased activity and debris from the comet has affected operations.

German

- Explanation of the significance of perihelion for the Rosetta mission.

- How the increased activity and debris from the comet has affected operations

- Ritchie Kay, Rosetta Spacecraft Operations Engineer, ESA (German) 13/08/2015

- Significance of perihelion - Explanation of what happens next on the mission.