

SPACE OPERATIONS SYMPOSIUM (B6)  
Interactive Presentations (IP)

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AN INTERNET WEB SERVER FOR THE ROSETTA LANDER MISSION IN THE COMET 67P/CG  
EXPLORATION**Abstract**

Rosetta is an ambitious ESA mission whose aim is the exploration of the comet Churyumov-Gerasimenko orbited from August 2014. Tail, coma and nucleus are being studied thanks to 12 experiments on-board the Orbiter and 10 experiments on-board the Lander Philae. Carrying an extensive payload with panoramic and microscopic cameras, spectrometers, chromatographs, magnetometer, antennas for a tomography of the comet, up to a drill to study samples of the subsurface, Philae landed on November 12th after a comet mapping to choose the best landing site and compute the descent trajectory.

Philae operational tasks are shared between two centers: the Control Centre (LCC) at DLR Cologne and the Science Operations and Navigation Centre (SONC) at CNES Toulouse. The SONC is involved in the landing site selection process, the Philae flight dynamics, the instruments operations scheduling and the scientific data processing. During the mission, its aims are the coordination of the different activities and the communication between a large community composed by scientists, operational teams, flight dynamics teams and ESA centers.

In this context of very short mission but wide range of activities, large variety of data and important decisions to be shared among a large number of dispersed users, an Internet Web server backed to a data base appeared to be the most relevant tool to ensure the SONC tasks.

The W3-SONC server provides the main following functions: - visualization of the comet models (shape, kinematics, topography, surface composition and temperatures, fluxes) - management of Flight Dynamics products and visualization of ephemerides - landing site selection interface allowing each scientist to choose his desired site on the base of the 3D shape model, the 2D maps (from SONC FD team and labs) and the accessible areas (FD product), - visualization of the 3D Philae model on the detailed DTM (Digital Terrain Model) with shadows, instruments deployments and cameras fields of view - visualization of data processing results (images, magnetic field, spectrum,...) All the 3D animated visualizations are based on Java technology.

The poster shows the most characteristics users' interfaces of the W3-SONC server and includes pictures illustrating the numerous visualization possibilities of the tool, enhanced by demos if possible.