The High-Contrast Data Centre : description, results and future evolution

The High-Contrast Data Centre (HC-DC), formerly known as the SPHERE Data Centre, has been operational for more than a decade now. This talk will review its goals and infrastructure, some results, and future prospects. The HC-DC provides a systematic reduction of publicly available VLT/SPHERE data and on-demand reduction for individual principal investigators. In the past years, new modes have been included in the post-processed data offered to the community, such as images from the optical arm of the SPHERE instrument called ZIMPOL. More advanced post-processing algorithms such as ANDROMEDA or PACO have been implemented in the workflows, allowing to push the detection limits of the instrument. We will review recent results made with SPHERE thanks to the HC-DC. Instruments other than VLT/SPHERE have also been included in the delivered products such as surveys from the VLT/NaCo or Gemini/GPI, hence the new name of the service. The infrastructure of the processing centre is hosted at OSUG. The service also includes many tools to monitor the data quality or the environmental conditions in which the data were obtained (turbulence conditions, jet stream wind speed,..). With the future commissioning of ELT instruments, the HC-DC is considering evolving to offer te data reduction of the high-contrast modes of the first ELT instruments METIS, MICADO and HARMONI.