HiPS everywhere!

The hierarchical tiling mechanism allows to access, visualize and browse image, catalogue and cube data.

HiPS is a standard endorsed by the International Virtual Observatory Alliance (IVOA) and can be freely implemented inside any visualization client software.

The HiPS scheme uses the HEALPix framework for mapping a sphere and transforms it into tiles and pixels which contain the astronomical data.

Available data for research but also education and outreach

Aladin uses reprocessed data based on HiPS technology with the capability to zoom and pan on any regions of the surveys. There are about 950+ HiPS surveys available for 850TB of pixels provided by several collaborative servers as of 2/22.

HiPS are easy to access and to include in custom software for education and outreach purposes with mediation to interpret it. The most significant examples are: E&S Digistar 7, Stellarium and Worldwide Telescope.

HiPS education and outreach in planetaria

The main interest is to describe the methods and devices used by scientists to advance our knowledge of the Universe:

- The observation of the sky in different wavelengths with massively collected data and whole or parcel sky data acquisition
- Highlighting the types of observation instruments used (cameras, ground-based telescopes & arrays, space telescopes, space probes)
- A digital memory of the history of the acquisition of its data (from photographic plates to GAIA data)

General use cases in the dome

We could stimulate the interest of many audiences by making this data visible and presenting it in a structured way thanks to human mediation.

For the general audience...

Comparing the whole sky acquisition in a lower resolution captured by Mellinger, and a more focused highly resolved image of M31 by the HST.

For the school audience...

Choosing iconic objects from the sky (e.g. M1, M54 & M104) and projecting them at different wavelengths to compare their properties.

View their data in 360° and facilitate the promotion of the Virtual Observatory with funders. Here we highlight the Gaia mission.

Contact: benjamin.rota@unistra.fr - jardin-sciences.unistra.fr / Thanks to: CDS, Evans & Sutherland / Photo credits: CDS, E&S, Stellarium, WWTe, Seán Doran