

## A SKY BROWSER IN ALADIN

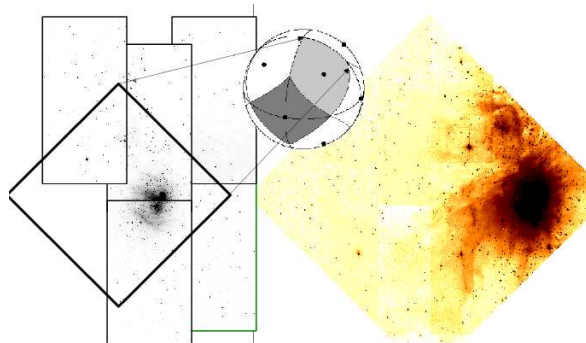
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**Abstract.** We present a new feature in progress in ALADIN software : an interactive sky browser. The aim is to give a way to browse the sky as easily as outreach softwares can do, but geared for astronomers. The user can visualize a wide field and move seamlessly on the whole sky. This navigation mode will be available for some ALADIN archive surveys, the needed images are automatically downloaded by the ALADIN client. The images for such a view have been preprocessed using the HEALPix scheme, providing a multiresolution pixelization. Usual ALADIN features (overlay of catalogs or images) remain available in this visualization mode.

### 1 Introduction

ALADIN is an interactive software sky atlas developed and maintained by the Centre de Données astronomiques de Strasbourg (CDS; Genova et al.). It allows the user to visualize digitized astronomical images, superimpose entries from astronomical catalogs or databases. In the context of the Virtual Observatory, ALADIN takes full advantage of the recent development for exploring distributed datasets, visualizing multi-wavelength data and providing liaison with other communities. In this paper, we focus on a new feature in progress, such as a wide view, built on the HEALPix scheme (Hierarchical Equal Area isoLatitude Pixelization; Górski et al., 2005)).

### 2 Building the view

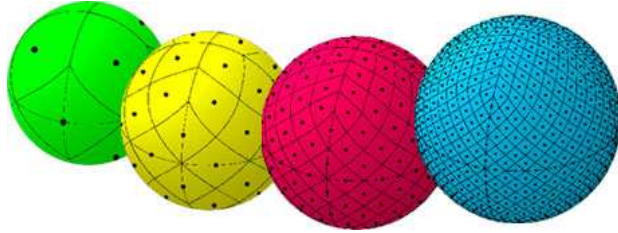


**Fig. 1.** Building a file following the HEALPix grid from common 2MASS images.

First, we select images from a survey in the wide field to build. Secondly, we copy (nearest pixel method) each pixel from these images on a FITS file which has exactly the same cover as a HEALPix pixel (in a rhombus shape). Figure 1 shows an example of the creation of one file with a wide field of view (Orion in 2MASS Ks).

As soon as the user wants to zoom (or unzoom) we can use the HEALPix pixelization scheme to know immediately the new file to show. As shown in Figure 2, we can see the HEALPix refinable quadrilateral mesh on the sphere, geometrically constructed, self-similar.

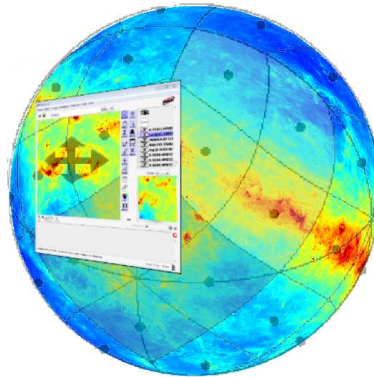
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**Fig. 2.** The HEALPix grid is hierarchically subdivided.

### 3 Navigation mode

We store such as files for the whole survey in the ALADIN server. Then, the ALADIN client just loads the files covering the best the requested field of view. The user can easily move the view on the sky thanks to a panning feature, and then browse the sky seamlessly.



**Fig. 3.** Representation of the navigation in the ALADIN software.

As usual, you can superimpose catalogs, or other images from other wavelengths.

### References

- Bonnarel, F., Fernique, P., Bienaymé O., et al. 2000, A&AS, 143, 33  
Górski, K.M., Hivon, E., Banday, A.J. 2005, ApJ, 622, 759