

MADCUBA: An ImageJ based astronomical data analysis system

Abstract:

Astronomical investigators have some problems using image analysis tools in their research. Applications are not customized to their necessities.

ImageJ is widely recognized by its powerful utilities in image processing and its versatility visualization of multi-axis data arrays. It also offers a very powerful infrastructure for adding customized plug-ins and run macros. In the last decade, astronomical data have evolved from single images, single spectra or slit-spectra to imaging spectroscopy measured in 3D cubes. ImageJ offers a unique infrastructure for the visualization and manipulation of astronomical data. However, the astronomical data analysis and visualization require the implementation of the World Coordinate System (WCS) and the customization of the ImageJ processors, the image display and the plot for astronomical data analysis and visualization.

We have started to develop the MADRID Data CUBE Analysis (MADCUBA) using the ImageJ infrastructure to make the astronomical data cube processing faster and user friendly. We will present the progress we have made in the implementation of the spatial WCS developed by Skyview and the spectral WCS developed by us. We will also present the visualization tools customized for astronomical purpose. These will make possible to process at the same time the two spatial dimension images and the plot of the spectrum in real time

Keywords:

MADCUBA astronomy FITS WCS ImageJ java

Author

Jose Luis Asensio Igoa

Organisation

Homepage

Short Biography

I received my college education at Public University of Navarre, where I finished my telecommunication degree three years ago.

I am a Java certified programmer and Java certified web component developer.

I am in charge of the design and development of the astronomical analysis software we are presenting to the conference in the infrared-astrophysics (radioastronomy) department of the "Consejo Superior de Investigaciones Científicas" (CSIC) of Spain -Spanish National Research Council.

From:
<http://imagejconf.org/> - **ImageJ User and Developer Conference**

Permanent link:
http://imagejconf.org/archive/imagej-user-and-developer-conference-2008/copy_of_programme/presentations/madcuba-an-imagej-based-astronomical-data-analysis-system 

Last update: **2009/11/24 13:08**