Subject: Warping with intensity conservation or drizzle algorithm
Posted by Giorgio on Sat, 14 Jun 2008 01:00:15 GMT
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Hi,
Does anyone know if there is already a warping with intensity conservation implemented in IDL? Or an implementation of the drizzle algorithm?

Thanks,

Giorgio

Subject: Re: Warping with intensity conservation or drizzle algorithm
Posted by wlandsman on Sun, 15 Jun 2008 21:35:30 GMT
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On Jun 13, 9:00 pm, Giorgio <giorgiol...@gmail.com> wrote:
> Hi,
> Does anyone know if there is already a warping with intensity
> conservation implemented in IDL? Or an implementation of the drizzle
> algorithm?

I don't know of anything that would work out of the box. But if you don't find anything else and want to stick with IDL and are willing to do some work, here are some ideas:

(1) If you download the IDL pipeline for the SIMPLE (Simple Imaging and Mosaicking PipeLinE) http://www.aoc.nrao.edu/~whwang/idl/SIMPLE/index.htm by Wei-Hao Wang, you'll find a program warp_im.pro that uses first warps using POLY_2D() but then conserves intensity by multiplying by a map of pixel area ratios. I haven't tried this to see how well it works.

(2) JD Smith's CUBISM software (http://turtle.as.arizona.edu/jdsmith/cubism.php ) uses an algorithm similar to drizzling to resample 1-d spectra. The workhorse procedure for this algorithm is called polyclip.pro and it performs Sutherland-Hodgman polygon clipping. He also provide a C version which is 50 (!) times faster. (So let's encourage ITTVIS to include Sutherland-Hodgman clipping or something similar as an intrinisc IDL function.)

(3) Tom McGlynn provides a Java class implements a fast flux conserving resampling based on the Sutherland-Hodgman clipping algorithm at http://skyview.gsfc.nasa.gov/polysamp/ It looks like this would be easy to implement with the IDL-Java bridge though I haven't tried it, and one would still need to implement the

reprojection software.

--Wayne