Subject: Re: mosaic routine?
Posted by Bringfried Stecklum on Sat, 27 Dec 2008 09:23:58 GMT
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wlandsman wrote:
> On Dec 26, 11:01 am, Dick French <rfre...@wellesley.edu> wrote:
>> Hi, folks -
>> I'm trying to create an accurate mosaic composite image from about 45
>> tiles. In the simplest instance, no rotations or reprojections are
>> required - just sliding rectilinearly.
>
>
> I presume these are astronomical images == can you get an astrometric
> solution for each individual tile? This would automatically give the
> shift between individual tiles. If I had astrometric information in
> each individual FITS header, then I would probably create an empty big
> image with a FITS header, and use hastrom.pro (http://
> idlastro.gsfc.nasa.gov/ftp/pro/astrom/hastrom.pro) to map each
> individual tile into the big image. HASTROM uses POLY_2d
> internally which gives the option of using bilinear or cubic
> interpolation for subpixel shifts.
>
> I'd be very surprised if you couldn't get an astrometric solution for
> each tile, given the availability of huge astrometric reference
> catalogs like USNO, and automatic plate solution software like
> astrometry.net.
>
> But if for some reason you need to correlate images to get relative
> shifts, you might look at some very old IDL mosaic software written by
> Frank Varosi (http://adsabs.harvard.edu/abs/1993ASPC...52..393V) for
> small infrared arrays, which is still available at
> http://idlastro.gsfc.nasa.gov/ftp/contrib/varosi/
>
> Finally, you might look at the SIMPLE software
> (http://www.aoc.nrao.edu/~whwang/idl/SIMPLE/MOIRCS/Doc/index. html)
> which is designed to create a mosaic of dithered optical images, but
> does much more than you probably need. --Wayne

Dear Dick,

along the lines of what Wayne said you might also consider using the TERAPIX package (terapix.iap.fr). While the astrometry.net code establishes astrometry for each tile blindly (provided there is a sufficient number of stars in the field) the TERAPIX-SCAMP procedure makes use of the FITS header astrometric info. Unlike the astrometry.net code SCAMP does not require to store several Gigabyte of precooked astrometric indices locally but retrieves catalog entries from CDS. I have given up my own IDL mosaic routine in favor of TERAPIX for the processing of the Tautenburg Schmidt frames (using an IDL wrapper script).

Regards,

Bringfried