
Subject: Zoom out of astronomical image preserving header info

Posted by [burkina](#) on Thu, 17 Feb 2005 13:59:05 GMT

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Ciao,

I need to zoom out an astronomical image, in order to make it visible a part of the sky which is NOT included in the image itself. In other words, I need to display the original image in a smaller region of the picture and the rest is black. BUT, I need to preserve the RA and DEC coordinates in the black part of the picture, because I have to draw a box at certain coordinates to show that it is well outside the original image. Moreover, I need to put RA and DEC axis (as it's done with imcontour), BUT for all the total picture, not only the original image. I hope it's clear! In any case, I've done it succesfully with ds9, so that I can show what I want to you, but in IDL the result can be much better!

Thank you very much,

Stefano

Subject: Re: Zoom out of astronomical image preserving header info

Posted by [burkina](#) on Fri, 18 Feb 2005 11:23:47 GMT

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Well, actually ATV doesn't do exactly what I want, because it does not preserve RA and DEC information outside the original image...

Stefano

Subject: Re: Zoom out of astronomical image preserving header info

Posted by [mperrin+news](#) on Fri, 18 Feb 2005 21:34:21 GMT

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burkina <stebia@inwind.it> wrote:

- > The problem with hrebin (and hcongrid) is that they don't zoom the
- > image out as I need (like atv for example). They will produce an image
- > with that number of pixels, so that if the zoom factor is 2, an
- > original image of, say, 300x300, will become 600x600. This means a lot
- > of time in processing the image when you need a very large zoom factor
- > (as in my case) and enormous image files. That's not what I need. I
- > actually need a costant image size, but with the original image
- > shrunked to the desired dimension.
- > In practice, I need a functionality completely equivalent to the ATV

- > zoom, together with the possibility to re-center the final image where
- > I want. I need space outside the image with the correct RA and DEC
- > coordinates. ATV does it, but it can't do other things I need. That's
- > why I can't use it directly.

In that case, may I suggest that you read through the atv source and copy the algorithms from there? ATV is actually fairly well written and I think it's not too difficult to pull out the relevant sections.

In particular, look at atv_getdisplay for the code that actually resizes the array using congrid and embeds it into a larger fixed-size array initialized to all zeros. You may have some more complicated manipulations needed to get the astrometry header to match correctly.

What you really want is to resize the image to a smaller size and then embed it in a larger array, I think. The first part is easy with HCONGRID. The second needs the inverse of HEXTRACT, which doesn't seem to exist yet. (HEMBED?) Maybe if you end up writing such a thing, you could consider contributing it to the library!

- Marshall

Subject: Re: Zoom out of astronomical image preserving header info
Posted by [burkina](#) on Mon, 21 Feb 2005 14:33:49 GMT
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Thank you Marshall.

I have found a workaround for what I needed, simply using larger astronomical images that actually included the entire field I needed. Therefore, I haven't actually resolved my first problem, but I have managed to produced the pictures I wanted...

If I ever find the time to try to resolve the issue, I will let you know (but I'm not so sure I'll be able to do that!).

Stefano
