

## ctools - Change request #3555

### cssens test source position ignored

02/26/2021 02:20 PM - Sadeh Iftach

<b>Status:</b>	Closed	<b>Start date:</b>	02/26/2021
<b>Priority:</b>	High	<b>Due date:</b>	
<b>Assigned To:</b>	Sadeh Iftach	<b>% Done:</b>	100%
<b>Category:</b>		<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	2.0.0		
<b>Description</b>			
<p>The position of the test source in cssens is arbitrarily set to {lon,lat} = {0,0} in <a href="https://github.com/ctools/ctools/blob/84115ca3c9ba3d3e9e03bde4979c9807316a9dda/cscripts/cssens.py#L166">https://github.com/ctools/ctools/blob/84115ca3c9ba3d3e9e03bde4979c9807316a9dda/cscripts/cssens.py#L166</a></p> <p>There is no way for the user to specify other values. This is critical for any use of cssens in the presence of other sources.</p> <p>The expected behaviour would be to extract the position from the source file. Proposed change for illustration (also changing the default lpnt, bpnt values):</p> <pre>def _set_obs(self, emin, emax, lpnt=None, bpnt=None):     if lpnt is None and bpnt is None:         container = gammalib.GModels(self['inmodel'].filename())         src_model = container[self['srcname'].string()]          pntdir = gammalib.GSkyDir()         pntdir.radec_deg(src_model['RA'].value(), src_model['DEC'].value())          lpnt = pntdir.l_deg()         bpnt = pntdir.b_deg()</pre> <p>A cleaner implementation would get rid of lpnt, bpnt all together in this function, and use ra/dec instead.</p> <p>Alternatively, one can add new position-reference arguments to cssens.</p>			

### History

#### #1 - 03/01/2021 09:59 AM - Tbaldo Luigi

Hi Iftach,  
thank you for reporting this. Your proposal makes a lot of sense. Would you be willing to implement this and make a pull request?  
Best, Luigi

#### #2 - 03/08/2021 07:05 PM - Sadeh Iftach

Here you go:  
<https://cta-gitlab.irap.omp.eu/sadeh/ctools/commit/f16e62339a036455703b596d338988dd42708451>

#### #3 - 05/07/2021 07:44 PM - Tbaldo Luigi

- Status changed from New to Pull request

Iftach could not set the status to pull request, he had only access to new and closed, so I did it for him.

#### #4 - 05/07/2021 09:36 PM - Knödseder Jürgen

- Assigned To set to Sadeh Iftach

- *Target version set to 2.0.0*
- *% Done changed from 0 to 90*

Thanks Iftach. I changed your status from Reporter to Developer which allows to switch the status to Pull requests. Thanks for committing the code and welcome as a co-author of ctools!

I will now integrated the code.

#### **#5 - 05/07/2021 11:00 PM - Knödlseeder Jürgen**

I refactored the code since the `_set_obs()` method is not called when an observation container is provided on construction to the script. Furthermore, the source position was not set in `_set_obs()` method if an observation definition XML file was provided on input.

I introduced a new method `_set_source()` that is called in the `_get_parameters()` method and that deals only with setting the test source name and position.

The `_set_obs()` method uses the method introduced by Iftach to extract the pointing direction from the test source position, provided that the test source actually has a position (which is for example not the case for a FITS map). The method offsets the pointing from the test source position according to the offset parameter.

Finally I updated also the cssens reference manual to explain how the setting of the test source position is done.

#### **#6 - 05/07/2021 11:41 PM - Knödlseeder Jürgen**

- *Status changed from Pull request to Closed*
- *% Done changed from 90 to 100*

I merged the code into the devel branch.

#### **#7 - 05/07/2021 11:41 PM - Knödlseeder Jürgen**

- *Tracker changed from Bug to Change request*