Subject: [Fwd: Re (2): Test data report]
From: Antonio Perfetto <aperfett@nrao.edu>
Date: Wed, 09 Jul 2008 13:19:49 -0400
To: Darrel Emerson <demerson@nrao.edu>
CC: Geoff Ediss <gediss@nrao.edu>

Continuation of the exchange between Bernard and Geoff. Not very useful

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Subject: Re (2): Test data report
From: Bernard Lazareff <lazareff@iram.fr>
Date: Thu, 21 Feb 2008 09:54:25 +0100
To: Geoff Ediss <gediss@nrao.edu>
CC: Antonio Perfetto <aperfett@nrao.edu>, John Webber <jwebber@nrao.edu>, John Effland <jeffland@nrao.edu>, Gie Han Tan <ghtan@eso.org>, brian@sron.nl, andrey@sron.rug.nl, "Claude, Stephane" <Stephane.Claude@nrc-cnrc.gc.ca>

Geoff, all,

OK, looked at the attached phase cross cuts. Should have done before posting my first reply. Sorry.

That said, yes, there is a phase gradient in the elevation direction. This just means that the phase origin (beam waist, focal point, whatever you care to call it) is not exactly where you think it is in the focal plane in relation with the scanner coordinate system. Equivalently, if you would process the data to the sky, the actual beam is not along your fiducial bore sight. And the miserable efficiency you derive is like if you would observe with a telescope by insisting on "blind pointing" instead of resetting pointing offsets to absorb the actual position of the receiver in the telescope's focal plane and other real-world parameters. As fas as I know, for ALMA, like for all radiotelescopes, there will be a term in the pointing model, antenna- and band-dependent, to absorb the as-built position of the receiver and other stuff (encoder offsets, etc).

The 99.5% spillover efficiency B7/317/P_1/Tilt_0 is still an open issue.

Regards,
Bernard

Geoff Ediss wrote:

> Hi everybody
>
> I have put the latest version of the report on almaedm at
>
> http://edm.alma.cl/forums/alma/dispatch.cgi/iptfedocs/docProfile/104861/d20080214152926/Nc
>
> We are having difficulties phase unwrapping some of the scans, these will be added later (especially band 9 - so more to come).
>
> We are about to start measuring band 6.
>
> With reference to Bernards comments, yes we do move to get the best focus (by looking at the phase) the original plots you looked at were wrong (that is why they were removed) I attach one set for you to look at. Top two plots are phase Horizontal and vertical cuts through max, bottom two are amplitude. We get one cut pretty flat but the other direction still has some variation. Note these are NOT different polarizations.
>
> We calculate the efficiencies as given in the TICRA optics report chapter 5 in an excell spread sheet.
> I have also given the squint on the sky (see tables).

> Hope this helps the discussion
>
> regards
>
> Geoff

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Re (2): Test data report	**Content-Type:** message/rfc822 **Content-Encoding:** 7bit