Subject: [Fwd: Re: Beam Pattern Data for B7 Cart#01]
From: Antonio Perfetto <aperfett@nrao.edu>
Date: Wed, 09 Jul 2008 13:21:55 -0400
To: Darrel Emerson <demerson@nrao.edu>
CC: Geoff Ediss <gediss@nrao.edu>

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Bernard's email on 2008-May-29
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Subject: Re: Beam Pattern Data for B7 Cart#01
From: Bernard Lazareff <lazareff@iram.fr>
Date: Thu, 29 May 2008 18:08:29 +0200
To: Antonio Perfetto <aperfett@nrao.edu>
CC: "S. Mahieu" <mahieu@iram.fr>, Gie Han Tan <ghtan@eso.org>

Sent previous message in Text format. Values for subref location were missing. Once more (see towards the end). Sorry about the hiccup. Bernard

Bernard Lazareff wrote:

> Dear Antonio,
>
> The near- and far-field data for B7 Cart#01 are available as a zip archive at:
> http://www.iram.fr/~lazareff/SummaryForNRAO-20080529.zip
> The filenames are not 100% systematic for the near-field data, but you can recognize the polarization and signal frequency clearly indicated. The filenames for the far-field data are more systematic and end with _FF.
>
> All the data files follow the format:
> X Y Amp(dB) Phase(deg)
> Where X and Y are mm for the near field and radians for the far-field.
> The phase convention is such that increasing propagation delay corresponds to negative phase.
>
> There is also an excel file that is a summary of the measurements. The "sign" variable is an indicator of whether the measurement was done in USB or LSB.
>
> The far-field data are oversampled by a factor of 2 (to allow a precise definition of the telescope pupil); even though the extra points carry only redundant information, we decided to make available the full data. When generating the far-field data, the phase center was moved (from the measurement plane to near the cryostat front plate) to the (approximately) optimum location, that results in flat (i.e. minimal curvature, but not constant) far-field phase; the values are not the same for all three frequencies but are the same for two polarizations at the same frequency. The value of that Z-offset is indicated in the summary Excel file. Please again note that only the Z position of the phase center has been corrected; not the X and Y coordinates; i.e. we do not claim that the beam waist in the focal plane is accurately centered at X=0, Y=0.
>
> With the far-field coordinate system (orientation!) that we use, the theoretical location and radius of the subreflector are (in radians) at:

$\theta bx := 0.00$ $\theta by := -0.0167$ $\theta sub := 0.0625$

All the best,
Bernard

Bernard Lazareff <lazareff@iram.fr>
Head
Receiver Group
Institut de Radioastronomie Millimetrique (IRAM)

Re: Beam Pattern Data for B7 Cart#01	**Content-Type:** message/rfc822 **Content-Encoding:** 7bit