Jefferson Lab Alignment Group
Data Transmittal

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DETAILS: data: inspection\hallb\fwd carriage\htcc\140102a

The Hall B HTCC detector for 12 GeV was inspected on December 11th and 12th, 2013. A coordinate system was established using the following geometry:
- origin based on the center radial point of the lower outer circle
- Z axis is based upon a line established from the lower outer circle and the upper outer circle
- X axis based on the interception line created from 4 bolts holes on the bottom ring.

The data below shows the circle centers and radius for each circle. The data for the measured cone is also shown. Additionally, the angles that the cone plane and the top plane make with the Z axis are shown. Units for coordinates and radii are in millimeters. Angles are in degrees.

HTCC Data [mm and decimal degrees]				
Name	**X**	**Y**	**Z**	**Radius**
LOWER OUTER CIRCLE	0.00	0.00	0.00	2300.13
MIDDLE OUTER CIRCLE	-0.11	0.26	905.61	2300.61
UPPER OUTER CIRCLE	0.00	0.00	1483.57	1729.25
UPPER_INNER_CIRCLE(DETECTOR)	0.52	-0.09	1483.57	1364.77
Cone Center	0.41	2.65	1019.60	
Direction vector of cone	-0.00093	-0.00347	-0.99999	
Projection angle of cone	-90.1988º			
angle of cone	72.294º			
Plane Angles	**degrees**			
ang cone plane to Z axis	89.9747º			
angle top plane to Z axis	89.9347º			

Attached to this document is a spreadsheet entitled, Hall B HTTC worksheet.xlsx, which contains the coordinates associated with this memo.