MMTO Conversion Internal Technical Memorandum #00-1

Smithsonian Institution & The University of Arizona

MMT f/5 Wind Loading,
Supports at Support Sector Centroids

January 31, 2000
MEMORANDUM

The centroids of the three axial pneumatic sectors, shown in Figure 1, have been determined to be at (.757,18.432), (-16.341,-8.561) and (15.584,-9.872). These are Three points on an 18.448” radius clocked 120 degrees apart. Wind loading based is based on Table G.1 of Technical Report #33, F/5 Secondary Support System Design, B. Cuerden, March, 1998. Structure function results assuming a 1 Hz bandwidth control system with No de-correlation, are plotted in Table G.3. These results are comparable to those previously reported for a 26” radius support (see Figure G.1 in TR #33).

Note that the centroid locations are beneath the proposed hexapod interface plate. It may be necessary to modify this plate to clear the axial supports.
Figure G3  Structure Function, MMT f/5 Wind Loading, Supports at 18.45° Radius.

Graph showing the relationship between distance and height difference for wind loading at different wind speeds. The graph compares the height difference in inches along the distance in inches, with wind speeds of 6.7 m/sec and 22 m/sec represented by different markers.