

DEUTERIUM ARRAY MEMO #064

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December 13, 2004

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To: Deuterium Array Group

From: Alan E.E. Rogers

Subject: Test of station do2 with ground plane pointing South at 30 elevation

The station do2 was tilted by 60 degrees and the schedule changed to observe the galactic center. The data covers the time period 2004:340:12 to 2004:344:20.

The results were as follows:

Signal strength on G000	350±20 K
Relative RFI strength	12±2 dB

Compared with observing the anticenter the average RFI level increased by 12 dB minus the 5 dB increase in signal strength or 7 dB. This is about the same relative increase in RFI that we suffer in the winter when we loose the attenuation of the foliage. If increased RFI of 7 dB is approximately equivalent to a 5 fold increase in spectral occupancy. Currently the equivalent integration loss is about 10% so the data loss could go as high as 50%.

However increasing the RFI level doesn't mean the number of effected channels will increase in proportion. Also, currently the only RFI source to the South is from the meridian system – which expect will eventually be eliminated.