AMCS Antenna Rotation Test (paper, 2001)

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AMCS Antenna Rotation Test

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Summary

An antenna test was conducted at UNAVCO in order to determine the effect of antenna rotation on carrier phase observations, a possible concern for the AMCS feed antenna or the parabolic antenna. For the test, two Trimble 4000SSI's were run concurently on the UNAVCO roof. One antenna was fixed and one antenna was rotated. Both receivers were run with a 15 second sampling interval and choke ring antennas (TRM29659.00) were used. One antenna was rotated 360 degrees about the vertical axis approximately every 30 minutes. The following times are when the antenna was rotated: 20:05, 20:30, 21:06, 21:30, 22:00, and 22:30. The data were then run through teqc with 7 different elevation angle cutoffs (0, 5, 10, 15, 20, 25, 30) in order to look for possible elevation angle dependencies. The rotation of the antenna is denoted by the large spike seen in the .iod output file from teqc (Estey and Meertens, 1999), please refer to Figure 1. The .iod is the time derivative of the ionospheric linear combination, .ion.

[See attached .pdf file for more.]

Online URL: https://kb.unavco.org/article/amcs-antenna-rotation-test-paper-2001-246.html