



Holographic Surface Measurement Techniques for Radio Antennas

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Radio holography is the preferred method for the assessment of the surface accuracy and alignment of high gain microwave and millimeter/sub-millimeter-wave antennas and relay optics chains used in radio astronomy. High signal to noise ratio measurements using transmitters in the near-field are used to assess and correct small scale deviations. Elevation dependent large scale deformations are studied using measurements on celestial sources. A review of the methods used will be presented using experience primarily with the sub-millimeter wavelength antennas of the Submillimeter Array (SMA).