WATER VAPOR IN THE ATMOSPHERE: AN EXAMINATION FOR CARMA PHASE CORRECTION

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Phase correction schemes for interferometers rely on accurate measurements of the atmospheric water vapor rotational lines at either 22GHz or 183GHz. To date, there have been numerous attempts to utilize sensitive receivers to track small water vapor fluctuations, but the predicted phase variation from those measurements was not consistent with the known phase errors from observed phase calibrators. Therefore, current atmospheric water vapor models may be possibly over-simplified. We will discuss a re-examination of models and instruments. In addition, we will outline the CARMA series of tests on site, which should allow us to better understand the atmospheric problems with respect to phase correction methods.