

Development of VLBI Tracking Technique in Support of Chang'E Lunar Missions

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We will give a brief overview on VLBI tracking technique in support of Chang'E lunar missions. The development of e-VLBI capability for high speed data transfer over long distance allowed the real time tracking of lunar probes for positioning and navigation. The new digital backend installed at VLBI stations has made better measurements of group delays by overcoming the nonlinear phase-frequency response of the traditional analog backend. Some features of the VLBI tracking system developed by Shanghai Astronomical Observatory will be highlighted. Accurate positioning experiments by using VLBI phase referencing imaging will be addressed. Technical challenges for tracking multiple probes in future Chang'E-5 mission will be discussed.