Error estimation of phase measurements in differential VLBI between radio sources on the Moon and lunar orbiter

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The differential VLBI measure angular distance between a radio transmitter on a lunar orbiter, that on the Moon and quasars and can obtain amplitudes of the physical librations, gravitational harmonic coefficients of the Moon and lunar ephemeris with an accuracy one or two orders higher than before. Possible error sources which will affect the measurement of the phase are discussed. Frequencies of carrier waves emitted from the radio sources are chosen so that the cycle ambiguity and the effect of the ionosphere are simultaneously resolved.