

For binary black hole coalescences with spins misaligned with the total orbital angular momentum, the orbital plane of the binary precesses around the approximately constant total angular momentum, leaving behind characteristic modulations in the detected gravitational waveform. Despite comprehensive models for this phenomenon, there has been no evidence for precession in any of the current detections to date. It is not immediately clear from the waveform models and the current LIGO detector network when precession will be measurable. We present a new, intuitive model for understanding the observability of precession. We demonstrate the accuracy of this model by comparing the predictions to a systematic parameter estimation study across the parameter space. Using this model, we can calculate the fraction of binaries for which precession is measurable and predict when precessional effects will be observed for the first time.