Constructing binary black hole template banks using numerical relativity waveforms PRAYUSH KUMAR, Syracuse University, SXS COLLABORATION — We present methods for constructing and validating template banks for gravitational waves from high mass binary black holes in advanced gravitational-wave detectors using waveforms from numerical relativity. We construct these template banks using numerical waveforms from the Simulating eXtreme Spacetimes (SXS) collaboration. We show how a template bank can be constructed using numerical waveforms for non-spinning black hole binaries and discuss how this can be extended into the aligned spin black hole binary space.

Prayush Kumar
Syracuse University

Date submitted: 15 Jan 2013   Electronic form version 1.4