Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Effective Fly-By Waveforms NICHOLAS LOUTREL, Princeton University — Binary black holes may be formed dynamically in globular clusters, with large (close to unity) orbital eccentricity and emitting gravitational waves within the detection band of ground based detectors. The gravitational waves from such sources resemble more a discrete set of bursts than the continuous signal of their quasi-circular counterparts. I here present new analytic waveform models to accurately capture the bursts of radiation from such systems by treating the leading post-Newtonian order orbital evolution as a perturbation of a parabolic fly-by, leading to an effective fly-by (EFB) formalism. I discuss the comparison of these EFB waveforms to fly-by waveforms from numerical relativity, and the prospect of using them for detection.

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Date submitted: 01 Jan 2020 Electronic form version 1.4