

Abstract Submitted  
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**Nonspinning numerical relativity waveform surrogates: assessing the model** SCOTT FIELD, Cornell University, JONATHAN BLACKMAN, CHAD GALLEY, MARK SCHEEL, Caltech, BELA SZILAGYI, JPL, MANUEL TIGLIO, UCSD — Recently, multi-modal gravitational waveform surrogate models have been built directly from data numerically generated by the Spectral Einstein Code (SpEC). I will describe ways in which the surrogate model error can be quantified. This task, in turn, requires (i) characterizing differences between waveforms computed by SpEC with those predicted by the surrogate model and (ii) estimating errors associated with the SpEC waveforms from which the surrogate is built. Both pieces can have numerous sources of numerical and systematic errors. We make an attempt to study the most dominant error sources and, ultimately, the surrogate model's fidelity. These investigations yield information about the surrogate model's uncertainty as a function of time (or frequency) and parameter, and could be useful in parameter estimation studies which seek to incorporate model error. Finally, I will conclude by comparing the numerical relativity surrogate model to other inspiral-merger-ringdown models. A companion talk will cover the building of multi-modal surrogate models.

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