

Preprocessing

Gravitational Self-Force

Parameter Space Expansion
Smart Grid Interpolation

Teukolsky Amplitudes

ROM for Teukolsky Modes
Neural Network Training on ROM

Input

$p, e, M, \mu, \theta, \phi$

Fast Trajectories

Efficient NIT Implementation

Phase Refinement

Add Oscillatory Piece
Directly from GSF

Amplitude Generation

Teukolsky Mode Generation
Mode Contribution Determination

Waveform Creation

Fast Mode Interpolation
Efficient Parallelized Summation

$\mathbf{h}_+, \mathbf{h}_\times$

Input for LISA Response

