



Contribution ID: 124

Type: **Oral presentation**

## **Cosmic String Loop Collapse in full general relativity**

We construct, for the first time, the time-domain gravitational wave strain waveform from the collapse of a strongly gravitating Abelian Higgs cosmic string loop in full general relativity. We show that the strain exhibits a large memory effect during merger, ending with a burst and the characteristic ringdown as a black hole is formed. Furthermore, we investigate the waveform and energy emitted as a function of string width, loop radius and string tension  $G\mu$ . We show that the efficiency is only weakly dependent on the initial string width and initial loop radii.

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