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Detectable Gravitational Wave Signals from Inflationary Preheating

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I will describe gravitational wave (GW) production during preheating in hybrid inflation models where an axion-like waterfall field couples to Abelian gauge fields. Based on a linear analysis, I will show that the GW signal from such models can be within the reach of a variety of foreseeable GW experiments such as LISA, AEDGE, ET and CE, and is close to that of LIGO A+, both in terms of frequency range and signal strength. Furthermore, the resultant GW signal is helically polarized and thus may distinguish itself from other sources of stochastic GW background. Finally, such models can produce primordial black holes that can compose dark matter and lead to merger events detectable by GW detectors.

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