

More Gravitational Waves from Axion Monodromy

One common feature of models of axion inflation is the existence of instantonic modulations, which can give rise to a series of local minima in the post-inflationary region of the potential. The inflaton can then populate more than one of these vacua inside a single Hubble patch, which corresponds to a dynamical phase decomposition. In the subsequent process of bubble wall collisions, the lowest-lying axionic minimum eventually takes over all of space. Our main result is that this violent process sources gravitational waves, very much like in the case of a first-order phase transition.

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