

## A large stochastic GW background at interferometer scales from axion inflation

Axion inflation is a natural class of models of inflation, in which the flatness of the inflaton potential is protected

against quantum correction by an approximate shift symmetry. The symmetry highly constrains the couplings of the inflaton to other fields. The allowed coupling to vector fields produces an amplification of these fields, exponentially proportional to the speed of the inflation. The amplified vector fields source primordial density perturbations and gravitational waves (GW). As the speed of the inflaton generally increases during inflation, these signals are naturally blue, and can grow to an observable amplitude at interferometer scales. We will discuss under which conditions a visible signal can be obtained at LISA and LIGO scales, without at the same time overproducing primordial black holes. The GW background produced by this mechanism is chiral and highly non-gaussian.

These properties may allow us to discriminate this signal against astrophysical backgrounds.

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