

APR17-2016-020098

Abstract for an Invited Paper
for the APR17 Meeting of
the American Physical Society

The LIGO Discovery and Primordial Black Hole Dark Matter

ELY KOVETZ, Johns Hopkins University

The LIGO observatory has recently reported several detections of gravitational waves from the coalescence of binary black holes. We consider the extraordinary possibility that the detected events involving heavier masses are mergers of primordial black holes making up the dark matter in the Universe. We will describe various ways of testing this proposition once more gravitational wave data is gathered, survey some of the existing constraints and present a novel probe of massive compact dark matter in the relevant mass range based on strong gravitational lensing of fast radio bursts. We will conclude with a summary of observational prospects to constrain the proposed scenario in the next decade.