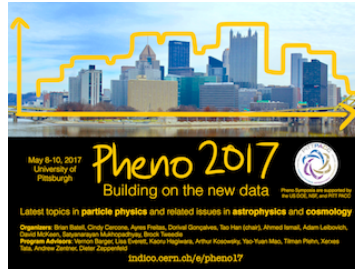


# Phenomenology 2017 Symposium



Contribution ID: 287

Type: parallel talk

## Detecting compact dark matter with fast radio bursts

*Tuesday 9 May 2017 16:45 (15 minutes)*

A significant part of dark matter could be made of compact objects, such as primordial black holes. In this talk I will discuss how to use Fast Radio Bursts (FRBs) to directly test this hypothesis. FRBs are powerful and short radio emissions emanating from extragalactic sources. A compact component of the dark matter can act as a gravitational lens and create multiple images of a single FRB. Oppositely to strong lensing of quasars, where the angular resolution allows us to resolve the different lensed images, here we use the time delay induced by gravitational lensing to search for lensed FRBs. With one year of data from CHIME/HIRAX, which are under construction, we will be able to detect any compact component of the dark matter down to one part in a hundred, if it is more massive than 20 solar masses.

### Summary

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**Session Classification:** DM IV