

**The Canadian Astroparticle physics Summer Student Talk (CASST)  
Competition 2023**

Contribution ID: 21

Type: **not specified**

## **Finding Primordial Black Holes via their Photon Rings**

*Thursday 17 August 2023 09:45 (15 minutes)*

The Event Horizon Telescope image of the photon ring around M87\*, a black hole, captivated the world, and this achievement was named Breakthrough of the Year by Science Magazine in 2019. How could we use these photon rings to detect primordial black holes? Since light can orbit around a black hole, instead of looking for black holes through gravitational lensing events, in which we can only search in the space between us and the source, we could potentially look for events in all the space around us if light is sufficiently deflected by the black hole. Considering how much light would come from these events we can determine how viable it is to detect PBHs this way.

### **Topics - Please choose one:**

Astronomy

**Author:** PATY, William

**Presenter:** PATY, William

**Session Classification:** Session I