

## GRAPPA @ 5: Celebrating 5 years of astroparticle physics and cosmology in Amsterdam



Contribution ID: 29

Type: **not specified**

### Searching for primordial black holes

*Tuesday, 17 October 2017 12:15 (15 minutes)*

The idea that primordial black holes (PBHs) of  $O(10)$  solar mass can account for all the dark matter has been recently reconsidered after the discovery of a gravitational wave signal.

We present a robust bound on this scenario based on a novel approach: We model in a conservative way the accretion of gas and the subsequent radio and X-ray emission originating by a population of PBHs in our Galaxy, exploiting well established empirical relations confirmed by current astronomical observations. We find a more reliable bound compared to the ones based on CMB spectrum and anisotropies, competitive with the dynamical ones.

We discuss in detail future developments of our study, aimed at searching either a subdominant population of PBHs that contribute to a fraction of the DM, or a population of astrophysical black holes, and the role of the forthcoming radio facilities data in this context.

**Primary author:** GAGGERO, Daniele

**Presenter:** GAGGERO, Daniele

**Session Classification:** Contributed talks - Cosmology & High-energy Astrophysics