

# *Alternatives to the WIMP scenario*

*Jeremie Quevillon (LPSC, CNRS)*

*Jose A. R. Cembranos (UCM, IPARCOS)*

# *Alternatives to Dark Matter?*

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- **What observation clearly cannot be explained without dark matter?**

# *Alternatives to a new particle?*

- **Is Dark Matter associated to a new particle?**
  - ▶ **Primordial Black holes**
  - ▶ **General MACHOs (Masive Astrophysical Compact Halo Objects)**
  - ▶ **Vacuum Energy**
  - ▶ **...**

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  - ▶ **Quantum gravity**
  - ▶ **...**

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- **Experimental motivations**
  - ▶ **Direct searches**
  - ▶ **Colliders**
  - ▶ **Cosmic ray experiments (indirect searches)**
  - ▶ **Telescopes (many different types)**
  - ▶ **Gravitational waves**

# *Alternatives to WIMPs*

- **Experimental motivations:**
- **Anomalies pointing towards new physics:**
  - ▶ Muon  $g-2$
  - ▶ B physics
  - ▶ Hubble tension
  - ▶ Atomki experiment
  - ▶ ...