

# Heavy warm dark matter from supercooling

*mercredi 1 juin 2022 16:30 (20 minutes)*

We point out that dark matter which is produced non-adiabatically in a supercooled phase transition receives a boost in velocity which leads to long free-streaming lengths. We find that this could be observed via the suppressed matter power spectrum for dark matter masses around  $\sim 10^8 - 10^9$  GeV. We thus offer novel physics goals for galaxy surveys, Lyman- $\alpha$ , and weak lensing observations, and connect these to the gravitational waves from such phase transitions.

**Orateur:** BALDES, Iason (Universite Libre de Bruxelles)

**Classification de Session:** Parallel session 2