Contribution ID: **906** Type: **Talk**

# Dark Matter Searches for heavy Dark Matter with LHAASO

*Wednesday 21 July 2021 13:18 (12 minutes)*

We show how the LHAASO experiment, located in the province of Sichuan (China), can provide a unique opportunity to test new heavy candidates of Particle Dark Matter (DM) beyond the currently explored regimes, namely ~1 PeV and higher. Such scenarios are motivated by several DM models featuring different mechanisms for DM production in the early Universe. In particular, PeV mass DM can decay into Standard Model particles producing Very High Energy (VHE) diffuse gamma rays in the LHAASO sensitivity window. In a multi-messenger approach, LHAASO DM phenomenology can therefore be combined with high-energy neutrinos' signals in order to test the Heavy DM hypothesis.

## Keywords

Dark matter, LHAASO

## Collaboration

other (fill field below)

## other Collaboration

## Subcategory

Theoretical Results

**Primary authors:** ADDAZI, Andrea (Sichuan University); CIRELLI , Marco; PANCI , Paolo; SERPICO , Pasquale; Prof. SALA , Filippo; FORNENGO , Nicolao; Prof. MARCIANO , Antonino; Prof. KHLOPOV , Maxim; Prof. SEMIKOZ , Dimitry; Prof. NERONOV , Andreii; DI SCIASCIO , Giuseppe

**Presenter:** ADDAZI, Andrea (Sichuan University)

**Session Classification:** Discussion

**Track Classification:** Scientific Field: DM | Dark Matter