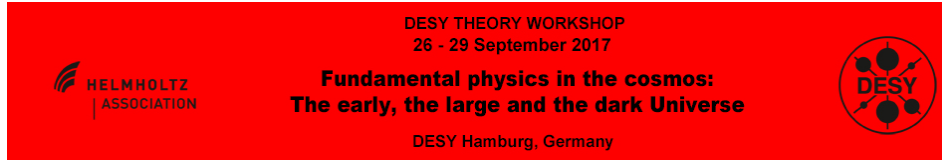


Fundamental physics in the cosmos: The early, the large and the dark Universe



Contribution ID: 21

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Dark-Matter Bound States

Thursday 28 September 2017 14:00 (17 minutes)

I will discuss the importance of bound-state formation in the dark matter sector.

On the one hand as we have shown in a recent publication, the effect of unstable bound states is crucial for the correct computation of WIMP relic abundances. On the other hand capture photon detection from late time bound state formation will provide a new search method for heavy, multi-TeV dark matter. I will present for the first time, WIMP annihilation spectra containing information about the gauge group structure.

Additionally, I will demonstrate that dark matter as a composite state of new heavy fermions is well motivated theoretically and present methods to study the relic abundance and detection signals in the composite models.

Primary author: Dr SMIRNOV, Juri (INFN Firenze)

Co-authors: Prof. STRUMIA, Alessandro (CERN and Pisa University); Mr MITRIDATE, Andrea (Pisa Scuola Normale); Dr REDI, Michele (INFN Firenze)

Presenter: Dr SMIRNOV, Juri (INFN Firenze)

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