



Contribution ID: 40

Type: **not specified**

## Self interacting dark matter

*Tuesday 19 June 2018 15:15 (25 minutes)*

Self interacting dark matter (SIDM) is a long-standing candidate to alleviate the problems of collisionless cold dark matter (CDM) in cosmic structure formation at small scales. I will review the status of the small scale structure problems, and the feasibility of the SIDM solution in light of the current constraints on the DM self scattering cross section. I will present an overview of the particle physics models that can reproduce the SIDM phenomenology. Finally, I will discuss how the self interacting nature of the DM particles may impact the production mechanism of DM in the early universe.

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**Session Classification:** Dark Matter and Gravity