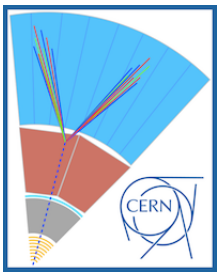

Contribution ID: **2** Type: **not specified**

Using white dwarfs to constrain atomic dark matter

Monday 25 May 2020 18:00 (15 minutes)

A subcomponent of dark matter could in the form of “dark atoms”, which emit dark radiation and could have cooled to form a second “dark disk” in our galaxy. Dark atoms are predicted in a variety of models, in particular the Mirror Twin Higgs model. I will present new constraints on this type of dark matter from white dwarf cooling – if white dwarfs have a captured nugget of dark atoms in their cores, the energy loss to dark radiation can alter predictions for white dwarf cooling rates. We are able to extend existing constraints on the kinetic mixing parameter by at least an order of magnitude across a wide range of dark matter masses.

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