

Dark Matter Bound States

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Dark Matter might be an accidentally stable baryon of a new confining gauge interaction. I will explore the possibility that the DM is made of dark quarks. The resulting phenomenology contains new unusual elements: a two-stage DM cosmology, a large DM annihilation cross section through recombination of dark quarks. Light dark glue-balls are relatively long lived and give extra cosmological effects; DM itself can remain radioactive up to the present day, leading to new signals. The new confining sector leads to new resonances, which can be searched for at the LHC. Those can have long live times and get accumulated in the LHC. Thus these models provides an excellent example of the complementarity of collider, direct and in-direct searches.

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