

A Search for Sexaquarks in Parked 2018 Data at CMS

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There has been much interest of late in the hypothetical “Sexaquark”, a deeply bound uuddss state with potential as a dark matter candidate from entirely within the Standard Model. We discuss a first-of-its kind search for the production of its anti-particle at the LHC and its subsequent annihilation with a neutron in the CMS beampipe, with the unique doubly strange final state reconstructed entirely within the CMS tracker. Due to its low pileup and minimal trigger requirements, the 2018 B-parking dataset is well-suited to this analysis, and we present the first ever anticipated limits at CMS for this signal.

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