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## **Sp(4) SIMP Dark Matter on the Lattice**

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The Strongly Interacting Massive Particle (SIMP) paradigm has recently been increasingly studied. It provides dark matter candidates as pseudo-Goldstone bound states of dark fermions under a new gauge group. In this scenario freezeout occurs through  $3 \rightarrow 2$  dark matter self-annihilation and points to DM particles with masses of  $\mathcal{O}(100 \text{ MeV})$ . We study the spectrum of the lightest mesons of  $Sp(4)$  gauge theory with 2 massive almost-degenerate fundamental Dirac fermions using lattice gauge theory. This setup leads to a total of 5 pseudo-Goldstone bosons which can self-annihilate. In particular, we investigate the breaking of the flavour symmetry when making the fermions non-degenerate. We report that one pseudo-Goldstone is lighter than the others while the remaining heavier four pseudo-Goldstones are still mass-degenerate.

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