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A Twin Higgs Model with SU(4) Color

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Twin Higgs models address the hierarchy problem and can provide interesting dark matter possibilities. However, the cosmology of these models can be problematic.

I present a new twin Higgs model in which the usual color group originates from the spontaneous breaking of a gauged SU(4) symmetry in the visible sector. In the hidden sector the SU(4) is not broken leading to new dark matter possibilities. I present the signals necessary to observe this model in collider experiments, and address its cosmological effects on $N_{effective}$.

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