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Multicomponent dark matter with an Extra Abelian Gauge Symmetry

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We propose a model with a multicomponent and multiflavor dark matter which allows the realization of an effective operator for Dirac neutrino masses. Furthermore, it has an extra Abelian gauge symmetry that is spontaneously broken and generates masses for particles in the dark sector and it is responsible for the stability of dark matter candidates. We explore the parameter space of the model and we analyze the impact of the constraint of the relic abundance of the candidates of dark matter.

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