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Spectator Dark Matter TOMMI TENKANEN, Johns Hopkins University — The observed dark matter (DM) abundance in the Universe can be fully accounted for by a minimally coupled spectator scalar field that was light during cosmic inflation. In this scenario, dark matter was produced during inflation by amplification of quantum fluctuations of the spectator field. I will discuss the production mechanism in detail, as well as the DM isocurvature perturbations that are unavoidably generated in such scenarios and the circumstances under which they are not problematic for the viability of non-thermal DM models. I will also discuss implications of DM isocurvature for structure formation, showing that the model has interesting consequences which allow one to test the scenario.

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