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Light from Dark Matter

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The detection of gamma lines from dark matter annihilation has been seen as a “smoking gun” signature for the existence of dark matter.
However, it turns out that this signature if far from being a generic feature of dark matter models. In fact in most models tree level annihilation to Standard Model particles and Final State Radiation off them leads to a gamma ray continuum which makes the line invisible to a realistic experiment.
I will present a novel mechanism which allows to have suppressed tree level annihilation and a dominant gamma ray signal in the late universe. At the same time the interactions with the Standard Model lead to the correct relic abundance via a thermal freeze in.

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