

Abstract Submitted  
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**Can Dark Matter explain the WMAP Haze?** TIM LINDEN, UCSC

— There is currently a significant effort to observe indirect evidence of dark matter annihilation in our galaxy. One interesting finding was an unexpected synchrotron haze (the “WMAP haze”) with a similar intensity and morphology to those predicted by dark matter models. This might also be connected to another recent puzzle in cosmic ray physics: the excess of high energy positrons reported by the Pamela satellite. We evaluate a wide variety of well motivated dark matter particle physics setups as well as cosmic ray propagation models, and compare the simulated dark matter driven synchrotron signal against the observed WMAP haze. Further analyzing several reasonable dark matter fits to the WMAP haze, we determine the expected inverse-Compton scattering and positron/electron signals which should be detectable by cutting edge Fermi and Pamela observations.

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