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Two-Component Dark Matter in UED Models KEN HSIEH, RA-
BINDRA MOHAPATRA, SALAH NASRI, University of Maryland — We show that
in a class of universal extra dimension models (UED), which solves both the neutrino
mass and proton decay problem, an admixture of KK photon and KK right handed
neutrinos can provide the required amount of cold dark matter (CDM). This model
has two parameters R^{-1} and $M_{Z'}$ (R is the radius of the extra space dimensions
and Z' the extra neutral gauge boson of the model). Using the value of the relic
CDM density, combined with the results from the cryogenic searches for CDM, we
obtain upper limits on R^{-1} of about $400 - 650$ GeV and $M_{Z'} \leq 1.5$ TeV, both being
accessible to LHC and a lower bound on the dark matter- nucleon scattering cross
section of 10^{-44} cm^2, which can be probed by the next round of dark matter search
experiments.

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