

# Dark Radiation and Decaying Matter

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Recent cosmological measurements favors additional relativistic energy density beyond the one provided by the three active neutrinos and photons of the Standard Model(SM), suggesting the need of new light states in the theory beyond those of the SM. Another alternative is that this increase comes from the decay of some new form of heavy matter into the SM neutrinos. In this talk I will present the results of the cosmological data analysis for the second possibility studying the decaying matter density and it's lifetime using data from the Wilkinson Microwave Anisotropy Probe, the South Pole Telescope, measurements of the Hubble constant at present time, the results from high-redshift Type-I supernovae, the information on the Baryon Acoustic Oscillation scale, and the constraint on the expansion rate from Big Bang Nucleosynthesis.

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