THE ORIGIN OF DUST IN THE HIGH REDSHIFT UNIVERSE

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Observations of galaxies and quasars (Quasi stellar objects, whose strong emission is due to gas accretion onto the nuclear black hole) in the high redshift Universe are strongly affected by the presence of dust, and our ability to interpret the observed properties of such high redshift sources depends on a detailed understanding of the star formation history and the history of metal and dust pollution in their interstellar medium.
Evidence for the presence of dust at high redshifts comes from the detection of dust thermal emission from high-redshift quasars.
The inferred far-IR (FIR) luminosities of samples of z>5 quasars are consistent with thermal emission from warm dust (T<100 K), with dust masses > 10^8 Msun. Yet, the origin of such a huge amount of dust at early epochs is still unclear. I will review the theoretical efforts and progresses in study/modeling the origin and evolution of dust in galaxies hosting quasars in the z>5 Universe, showing how both observations and theoretical models can be improved/constrained one with each other.