

Abstract Submitted
for the SES17 Meeting of
The American Physical Society

Constraining Extinction due to Dust in Distant Galaxies

ALEXANDER KIRBY, VARSHA KULKARNI, University of South Carolina — Extinction due to interstellar dust is a ubiquitous phenomenon that dims and reddens the light of background objects. As such, it is essential to apply extinction corrections to observations of distant objects in order to deduce their properties. Since the discovery of interstellar extinction in 1930, astronomers have developed a fairly detailed understanding of the interstellar dust in the Milky Way and other Local Group galaxies, especially the Magellanic Clouds. However, studies of extinction by dust in galaxies beyond the Local Group have been limited. In this work, we seek to generate better constraints on dust extinction in other galaxies in order to improve corrections for observations of objects that lie beyond them. As such, we are constructing spectral energy distributions (SEDs) for quasars/active galactic nuclei whose lines of sight go through foreground galaxies at lower redshifts. We will describe our compilation of archival optical, UV, and IR spectroscopic and photometric data from various observatories. Using the SEDs compiled from these data, and fitting the underlying continuum of the background quasar/AGN, we will estimate dust extinction curves for each foreground galaxy, and compare those with extinction curves in the Milky Way and the Magellanic Clouds.

Alexander Kirby
University of South Carolina

Date submitted: 11 Oct 2017

Electronic form version 1.4