

Dust Reverberation Mapping with the VISTA Telescope and the Vera Rubin Observatory

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In a recent paper (Lira et al., 2024, MNRAS, in press), we carried out Dust Reverberation Mapping (DRM) for 13 AGN from the Ultra-VISTA survey found at $0.3 < z < 0.8$. The $z < 0.8$ limit ensured that emission in the rest-frame $\sim 1\mu\text{m}$ could be detected in the Ks band. Our determined lags are systematically found below the radius-luminosity relationship determined for local sources. Following previous works, we introduced a relation that corrects lags by the rest-frame wavelength of the band that samples the dust emission, as shorter wavelengths arise from hotter regions of the torus (i.e., a dust K-correction). When the correction is introduced, our results are consistent with previous findings. Finally, we show how these results impact future DRM campaigns to be carried out by the Legacy Survey of Space and Time for local AGN sampling dust emission in the y-band.

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Primary author: LIRA, Paulina (University of Chile)

Presenter: LIRA, Paulina (University of Chile)

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