Contribution ID: **49** Type: **Poster**

The AGN torus as a dynamical dusty wind

Wednesday 13 June 2018 14:44 (1 minute)

High resolution interferometric observations of infrared emission from dust in the immediate environment of AGNs reveal that the warm dust is extended in the polar directions. This suggests a scenario where warm dust is raised above the plane of the AGN through a radiation-pressure driven wind. We have produced a 3D radiation hydrodynamic model including self-gravity effects, and radiation pressure from the central source, with the goal of explaining the features of the dusty wind, as well as the observed emission and obscuration properties. We pre-calculate the heating, cooling, radiation pressure, and sublimation of dust grains for an assumed dust population, and include these effects in the dynamical model. We will present the results of these simulations, commenting on what physical processes are required to accurately model the observations, and examining how our simulations compare to other recent models.

Consider for a poster?

Yes

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Session Classification: Poster Presentations

Track Classification: Dust as a tool