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25-Extinction curves of type Ia supernovae from the Dark Energy Survey

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Type Ia supernovae are a particular type of supernova that occur in binary star systems where one of the stars is a white dwarf. They are very important objects in cosmology as they can be used as distance indicators with up to 5% precision.

The Dark Energy Survey is an astronomical survey that studies dark energy by analysing images in the near-ultraviolet, visible, and near-infrared to measure the expansion of the Universe using type Ia supernovae, among other objects. Its data, however, is affected by astrophysical and cosmological effects such as reddening and redshift.

In this project I will study dust parameters in type Ia supernovae and estimate the dust contribution to the apparent magnitude of these objects in order to infer their intrinsic magnitude, which can be used to calculate their distance.

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