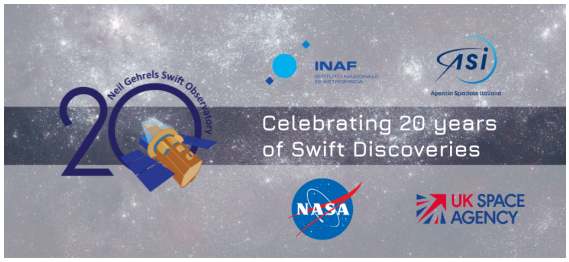

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Observations of Hot Stars and Interstellar Dust with Swift/UVOT

Tuesday 25 March 2025 14:29 (1 minute)

We review the contributions of Swift/UVOT to our understanding of interstellar dust and hot stars and young stellar populations in both the Milky Way and other galaxies. These two research areas are closely intertwined: UV-bright objects can only be fully understood when the effects of foreground dust are accounted for, yet those same effects can only be studied by observing the properties of UV-bright sources. UVOT is particularly well-suited to investigate variations in the UV dust attenuation law due to the uvm2 filter that is centered on the 2175 Angstrom "bump"feature and its ability to resolve nearby stellar populations. When combined with optical and infrared imaging, UVOT provides powerful constraints on the variability of the extinction law, both across different galaxies and within individual galaxies, in addition to providing key insights into the properties of young stellar populations. UVOT surveys have spanned the Milky Way, Local Group galaxies, the Local Volume Legacy Survey (LVLS), and two multiwavelength deep fields. These surveys are contributing to the most detailed data to date on the UV dust attenuation law and connecting variations in dust attenuation to underlying physical processes and improve our understanding of the UV characteristics of hot stars and young stellar populations.

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