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Presentation Requested: oral
Category: Assembly of Galaxies / Mass & Structure Evolution
Question: Other

Stellar Surface Brightness Profile Breaks of Dwarf Galaxies

Radial stellar surface brightness profiles of spiral galaxies can be classified into three types: (I) single exponential, or the light falls off with one exponential out to a break radius and then falls off (II) more steeply (truncated), or (III) less steeply (anti-truncated). Why there are three different radial profile types is still a mystery, including why light falls off as an exponential at all. Profile breaks are also found in dwarf disks, but some dwarf Type IIs are flat or increasing (FI) out to a break before falling off. I have been re-examining the multi-wavelength stellar disk profiles of 141 dwarf galaxies, primarily from Hunter & Elmegreen (2004, 2006). Each dwarf has data in up to 11 wavelength bands: FUV and NUV from *GALEX*, *UBVJHK* and Hα from ground-based observations, and 3.6 and 4.5 μm from *Spitzer*. I will highlight some results from a semi-automatic fitting of this data set including: (1) statistics of break locations and other properties as a function of wavelength and profile type, (2) color trends and radial mass distribution as a function of profile type, and (3) the relationship of the break radius to the kinematics and density profiles of atomic hydrogen gas in the 40 dwarfs of the LITTLE THINGS subsample.