



Science Requirements



Problems to be Addressed in Extragalactic Astronomy

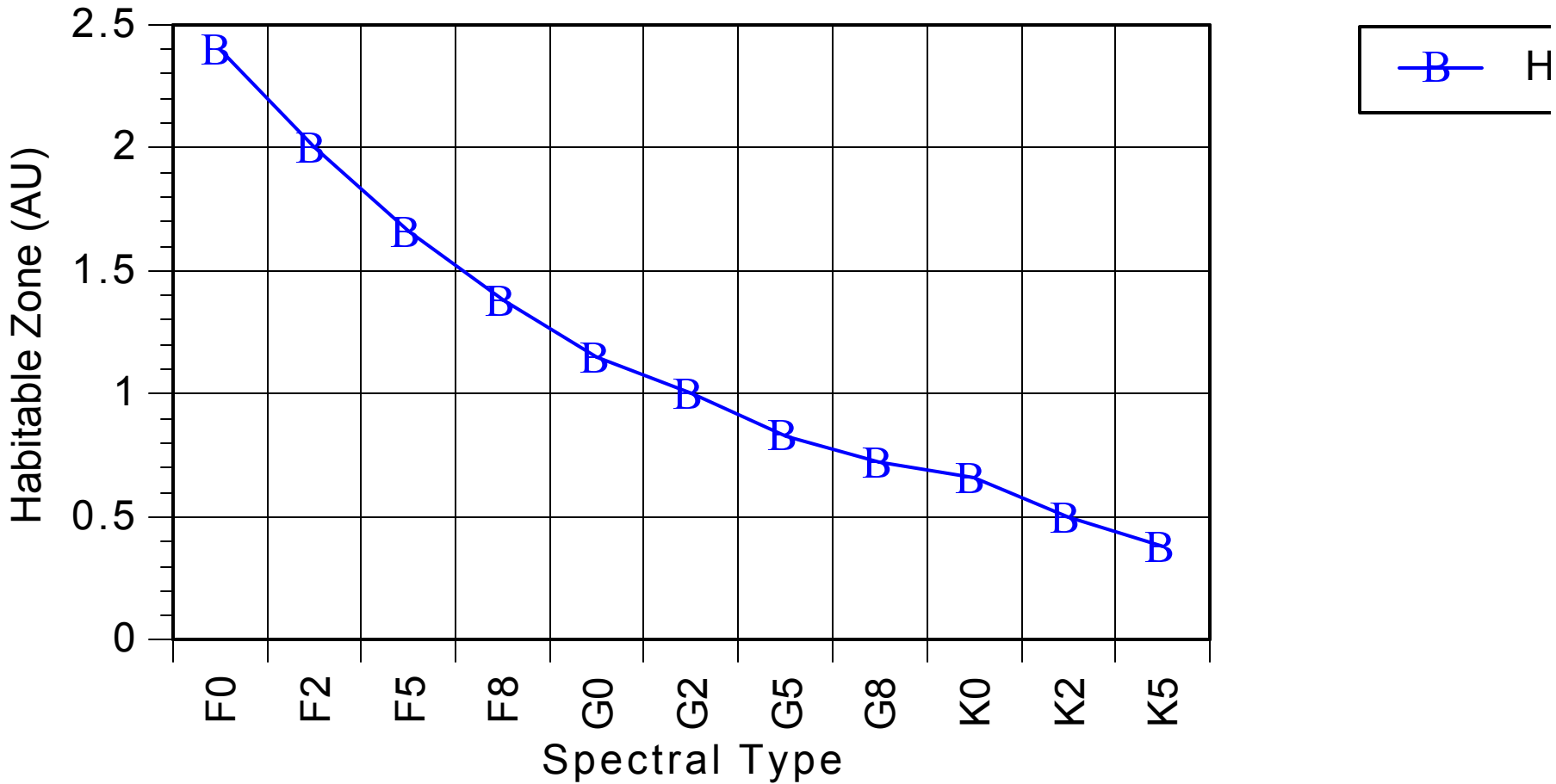
- Within 1 arcsec from a Bright Source, ASA will have 3 - 5 Orders of Magnitude Lower Stray Light Levels than NGST
- This will permit a Search for Answers to Questions like:
 - What is the Nature of Quasar Host Galaxies?
 - How are Quasars and Starburst Galaxies Related?
 - Are Quasars Born in Mergers or through other Processes?
 - Do Orientation Effects Account for the Diversity of AGNs?
 - What Determines whether a Quasar is Radio-loud or -quiet?
 - What is the Dark-Matter Distribution in Lensing Galaxies?
 - Are Damped Lyman-alpha Systems Protospiral Galaxies?



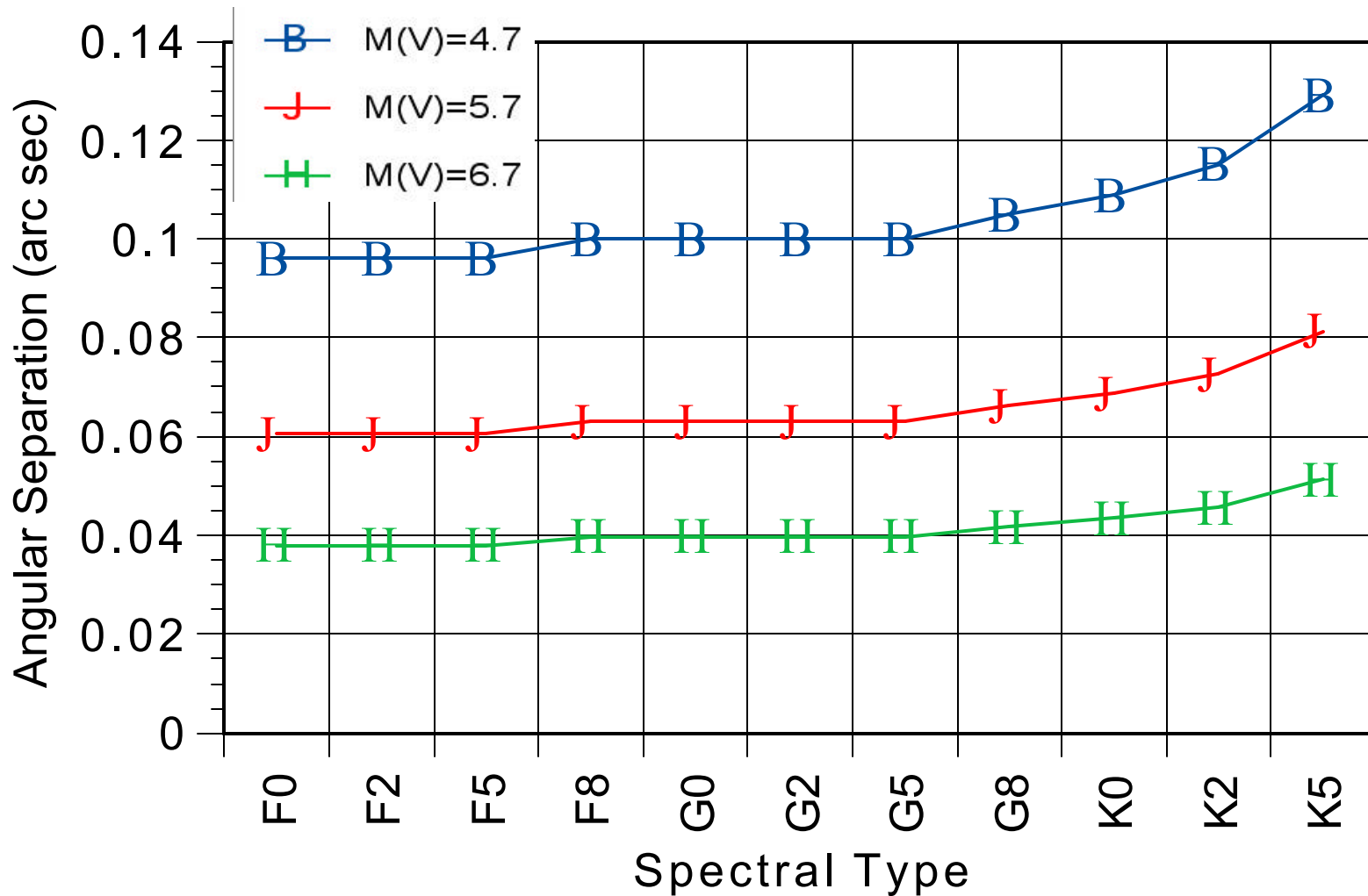
Tasks to be Addressed in Galactic Astronomy

- Within 1 arcsec from a Bright Source, ASA will have 3 - 5 Orders of Magnitude Lower Stray Light Levels than NGST
- This will permit us to:
 - Differentiate between Brown Dwarfs and Giant Planets
 - Determine Mass & Luminosity of Nearby Binary White Dwarfs to obtain the Ages of the Oldest WDs and the Galaxy's Disk
 - Map the Mass Loss from Mira Variables and AGB Stars
 - Observe the Changes in Outflow Symmetries as AGBs Age and Evolve to Become Young Planetary Nebulae
 - Image the Environs of T Tauri and other Young Stars
 - Study the Mass Exchange in Symbiotic Variables
 - Follow the Outflow in Cataclysmic Variables

Habitable Zone for Stars of Different Type



Angular Radius of Habitable Zone for Different Types of Stars





Relative Visual Flux of Planets for Stars of Different Magnitudes $M(V)$

