Stars & Planets

Discussion points

- Archival research using Great Observatory data is becoming increasingly important: Improve cross-linking between the individual archives
- “Balanced” observing proposals (for 2-3 GObs) are not well served by the current proposal structure: Consider modifications
- 3 GObs have different timelines: GObs TAC/panels should take this into account in assessing proposals
Planetary systems

Key science issues……

…………..from the review

• Colours, compositions and masses of KBOs: Spitzer & HST imaging
• Physics of extrasolar planets through observations of transiting systems, particularly M dwarf planets: Spitzer & HST time-resolved imaging & spectra
• Observations of Solar System gas giants – transient phenomena: Chandra, Spitzer & HST imaging & spectroscopy

……..from the discussion session:

• Statistics & structure of protoplanetary disks – probing planet formation in the outer disk: Chandra to find young stars to target; Spitzer to find disks; & HST to image disks – focus on complete samples and sub-solar mass stars
• Concerted observations of comets – structure and composition: Chandra gas emission, HST imaging, Spitzer IRS spectra

Stars  MS and beyond

Key science issues……

…………from the review

• Beyond T dwarfs – probing extreme ultracool dwarfs: Spitzer & HST imaging of targets identified through ground-based surveys (UKIDSS)
• UV spectra of [Fe/H]<-5 stars – constraining the first epoch of Milky Way star formation: HST STIS/COS spectra of stars identified through ground-based surveys
• Systematic study of interacting binaries – particular emphasis on investigating potential SN I1 progenitors: Chandra + HST UV spectra
• Galactic Bulge globular clusters – age, composition & evolution from near-IR CMD analysis: HST IR imaging (WFC3)
Stars MS and beyond

……from the discussion session:

• Astrophysics of jets and outflows – systematic coordinated study of well-defined, representative sample: Chandra, HST & Spitzer imaging of a statistically representative sample; multi-epoch observations for variability
• Excavating the stellar graveyard - characteristics of neutron star & black hole populations: Chandra detection in nearby galaxy, Spitzer and HST imaging to characterise environment
• Star cluster dynamics – mass segregation, stellar evolution & neutron star/BH progenitors: Chandra, HST & Spitzer imaging & spectra
• Coordinated observations of the Galactic Centre – transient phenomena & environment: Chandra, Spitzer & HST imaging & spectra
• Mass loss and winds in massive stars: Chandra, HST, Spitzer imaging & spectroscopy
• Probing the low-mass IMF – searching for planetary-mass brown dwarfs in young star clusters: Deep Spitzer imaging, targeted HST imaging