Clusters of Galaxies

Astrosat must find a niche

New Science

Astrosat must compete

Do few (new?) Objects well

Use Unique Capabilities

- Broad-band Photometric Spectroscopy
- Low and stable Background

Some Current “Hot Topics” ?

- (Non-) Cooling Flows and AGN Feedback
- Sub-Cluster Mergers and Shocks

Other Ideas

- Cluster Outskirt Dynamics
- Galaxy Infall – stripping and star formation
- IC and powerlaw tails?
- New Objects

(Non-) Cooling Flows and AGN Feedback
Sub-Cluster Mergers and Shocks

SXT - x x x

UVIT – UV +Line emission from shocked/phoo-ionised gas?

Cluster Outskirt Dynamics

SXT - √√ but needs r~10 arcmin, bright clusters
→ z=0.2 – 0.3

UVIT – x x x - but maybe interesting for galaxies etc

IC and powerlaw tails?

Hot electrons + photons → scattering
Magnetic field + electrons → synchroton
Shocks + electrons → cosmic rays + photons

SXT+LAXPC+CZT+(HESS2?) New Objects

New Objects

Planck S-Z catalogue ?
XMM-Newton Serendipitous extended sources
RASS cluster catalogue?