

A Herschel open time proposal: “Star formation and galaxy evolution in the cluster infall region”

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What's special about the cluster infall region ?

- high merger-rate environment
- more easily found than filaments etc.
- many existing cluster samples as a starting point

The flow of galaxies

Galaxies flow out of the voids, along the filaments, and into the clusters. In this compressing flow, mergers and interactions will induce starbursts, but where and when exactly ? And which of these starbursts are 'dusty' ?

Plan to study the cluster infall region

- use well-defined rich cluster samples at a few redshift bins ($z=0.2, 0.4, 0.8$)
- map the infall region around these clusters out to around 5 Mpc
- measure SFR for each galaxy
- measure stellar masses from near-IR (follow-up or existing)
- remove interlopers (foreground/background)

Open issues

- which cluster sample ?
 - X-ray selected
 - optically selected
 - SZ-selected ?
- PACS and/or SPIRE
- measure stellar masses from near-IR (follow-up or existing)
- how to remove foreground/background sources
- politics