

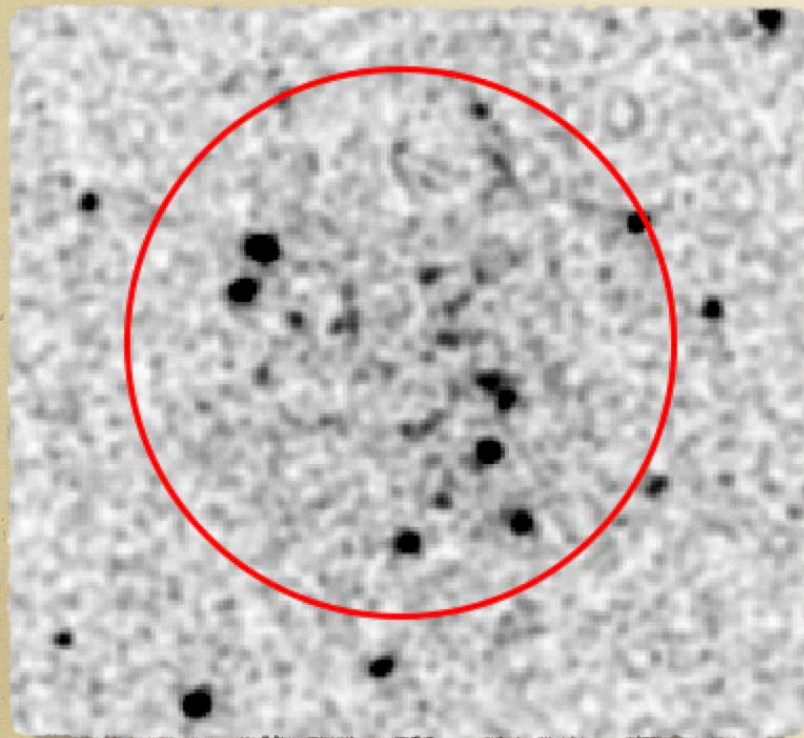
*From the HST UV Initiative to the Next UV Observatory. Making the Most of
Today's UV Window While Shaping Tomorrow's Missions*

Study of Integrated FUV Emissions from Galactic Globular Clusters Using UVIT/ AstroSat Observations

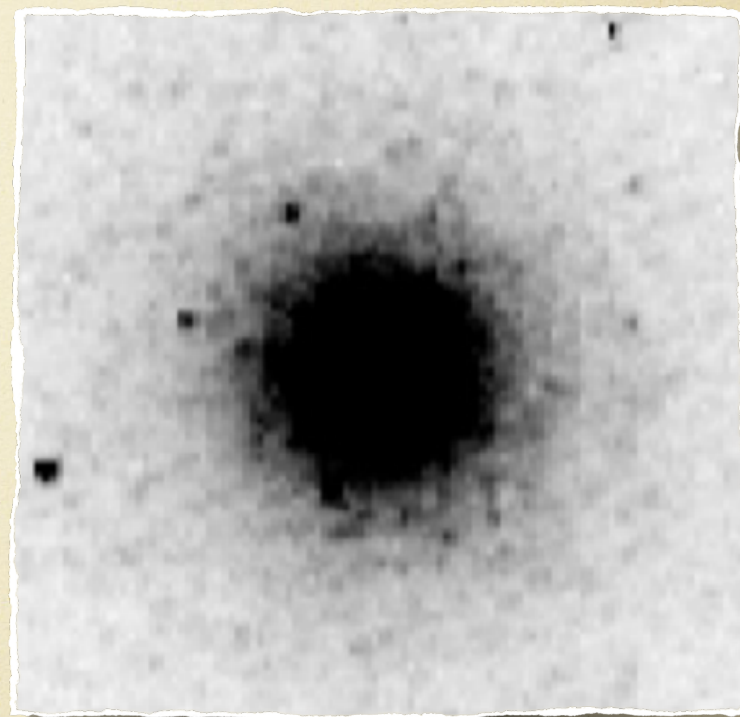
Dr. Sonika Piridi



Extragalactic Globular Clusters



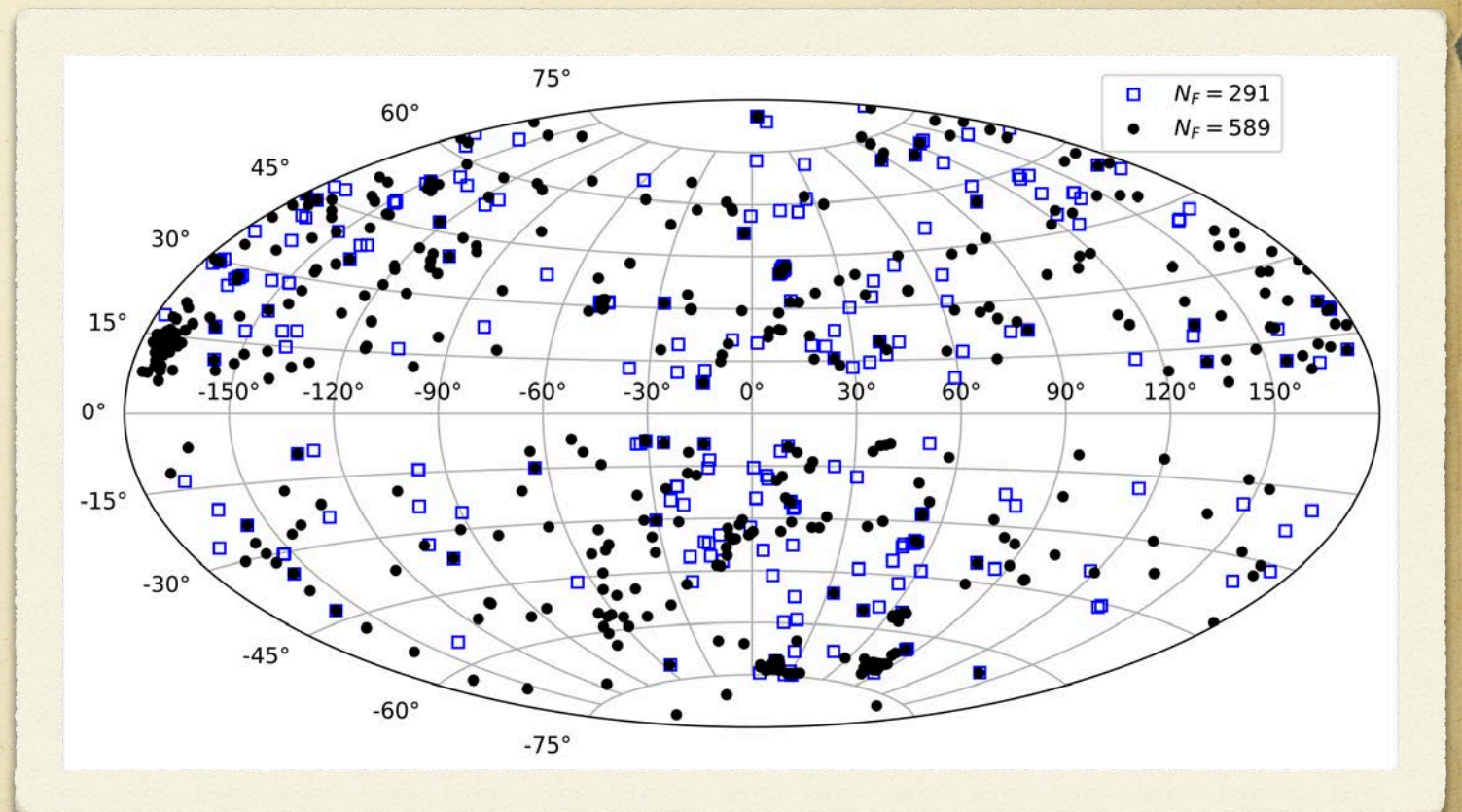
Extra-galactic SMC



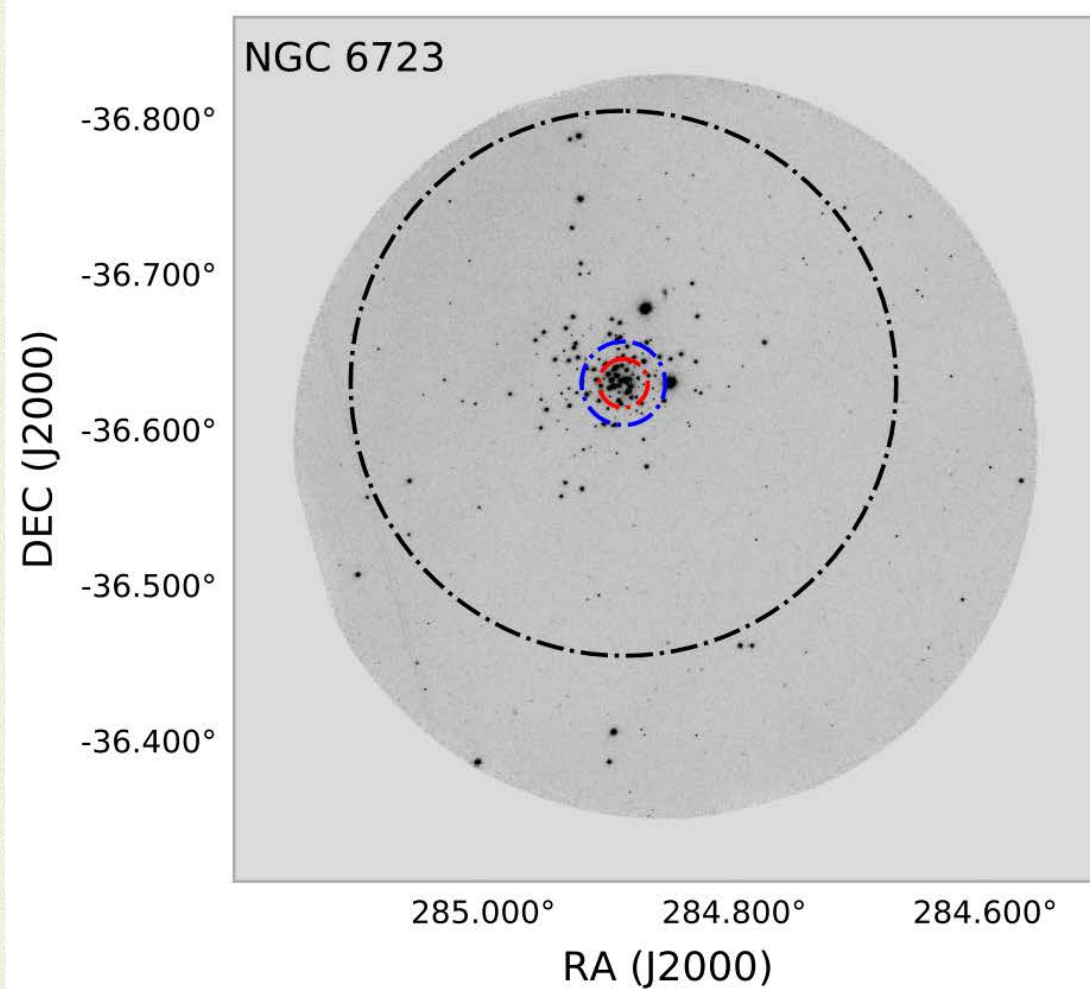
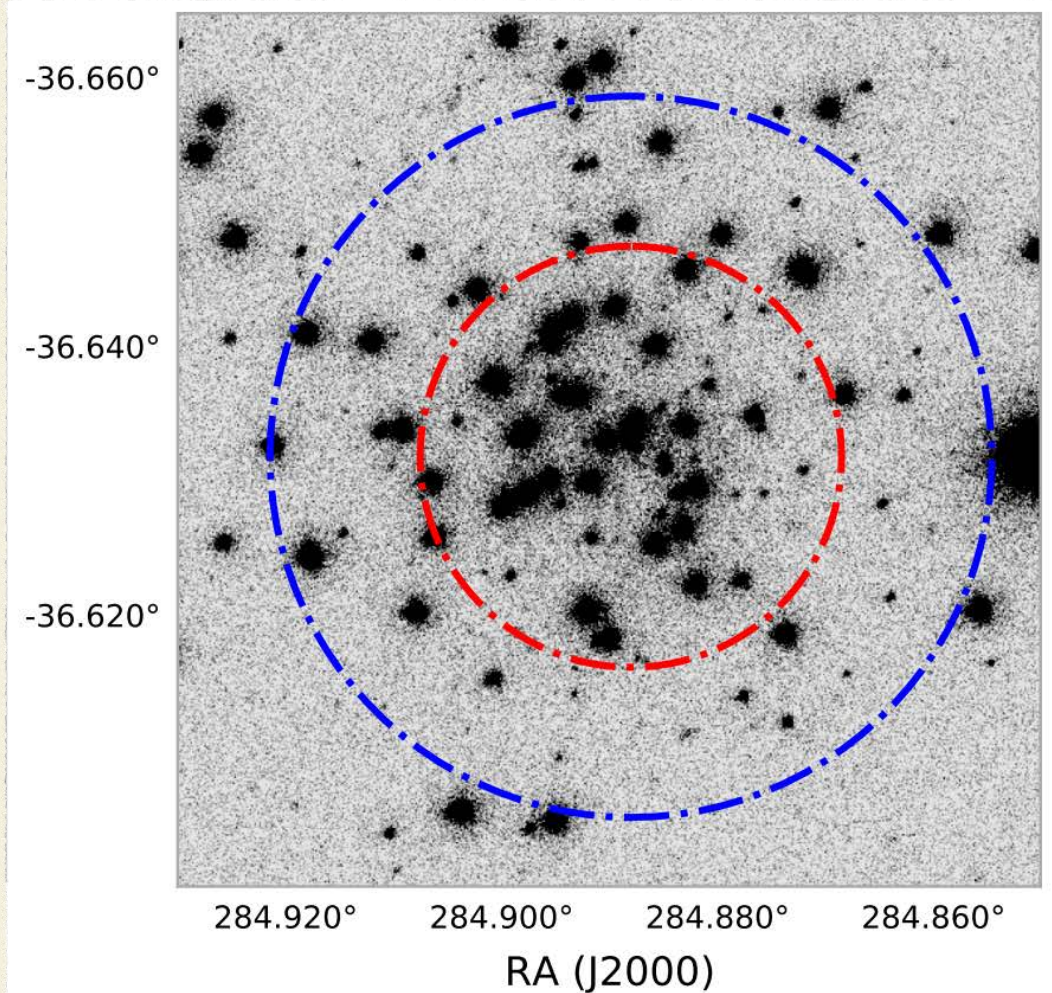
Extra-galactic M31
Globular Cluster

UVIT/AstroSat

- Six years of observations (Piridi et al. 2024)
- 850 unique FoVs
- 30 Globular Clusters



Spatial Regions



Galactic GC NGC 6723

Completeness

➤ 100% completeness:

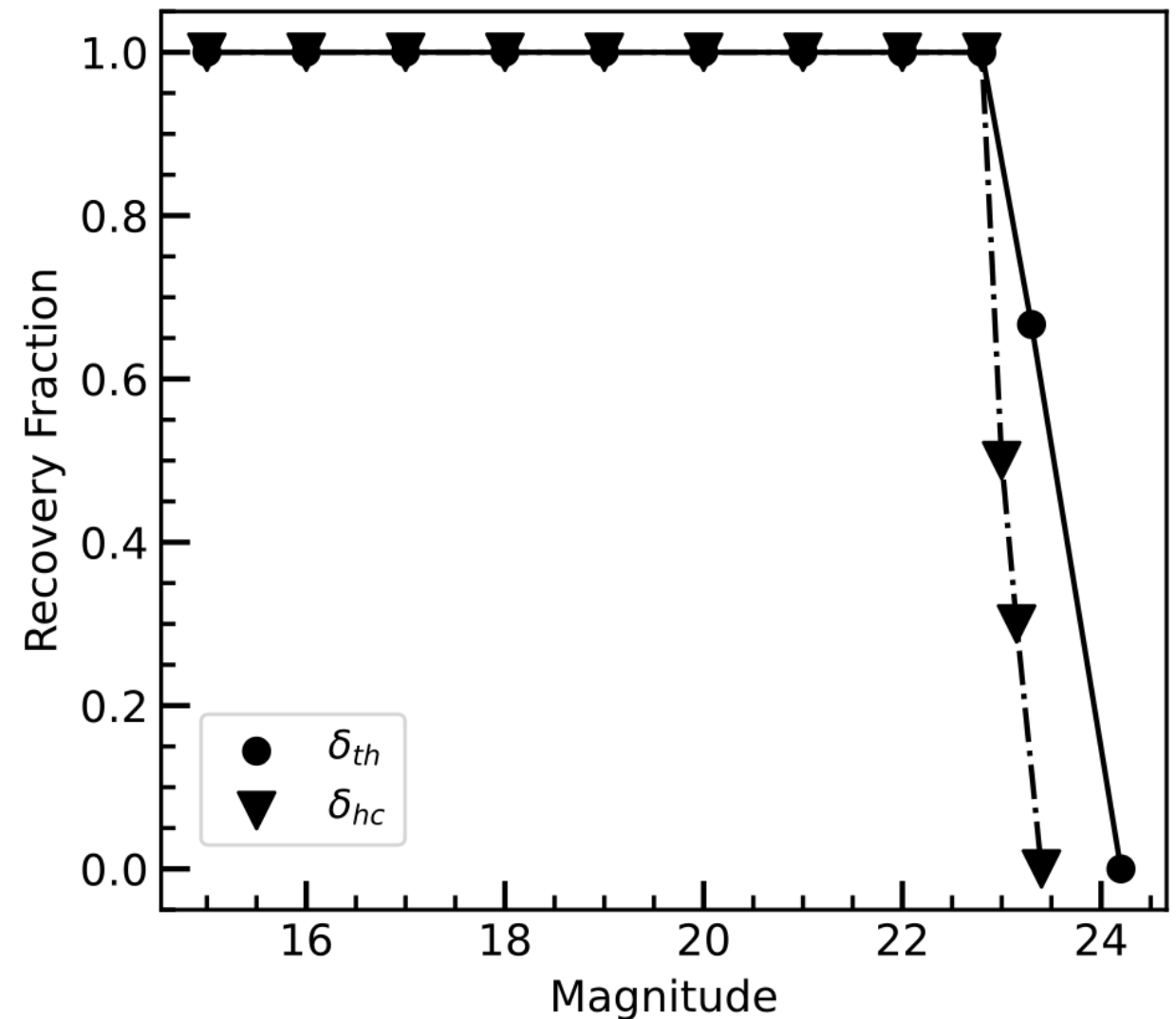
➤ hc: 22.8 mag

➤ th: 22.8 mag

➤ 50% completeness:

➤ hc: 23.5 mag

➤ th: 23.0 mag



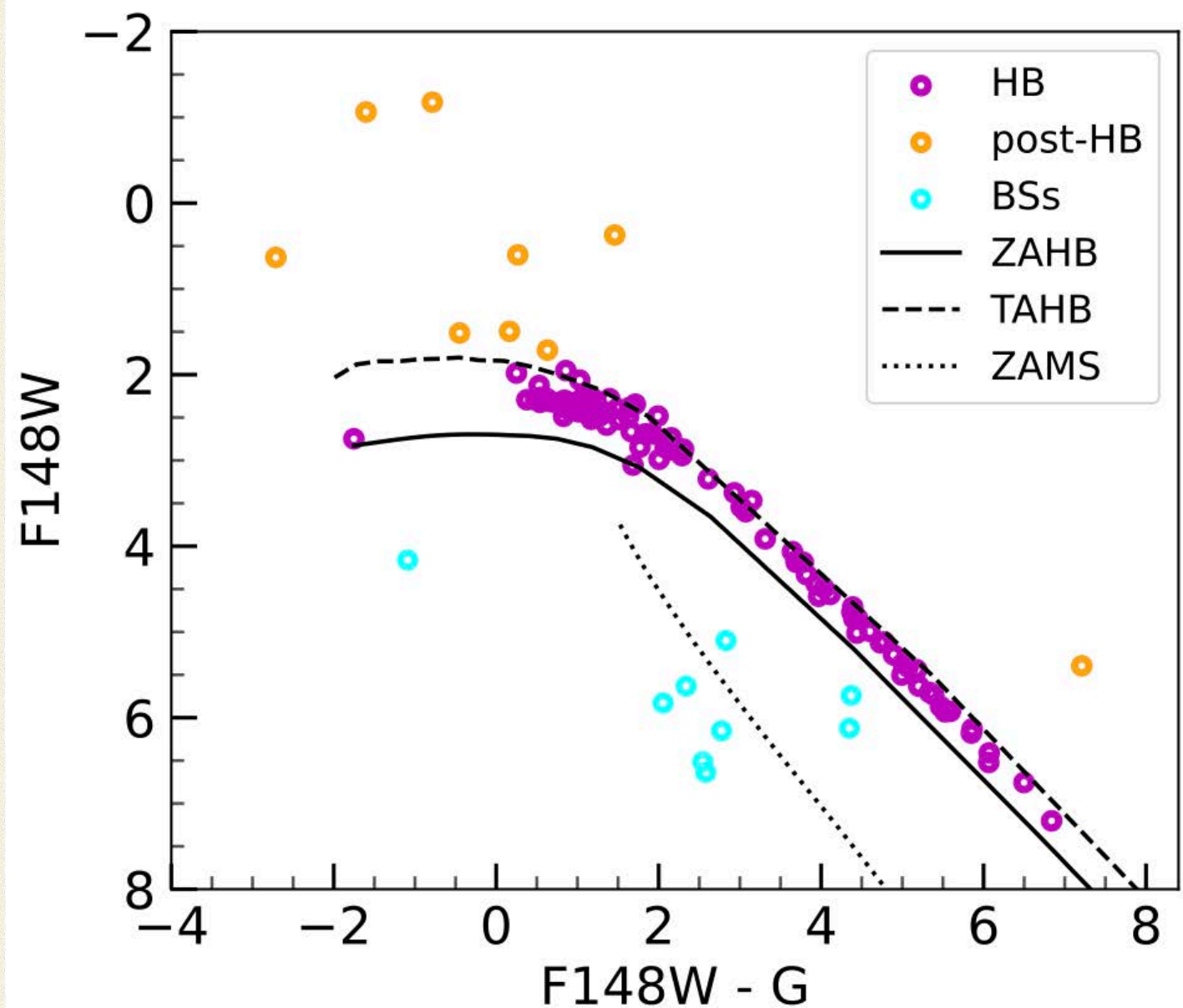
Classification of Sources

➤ Major contributors:

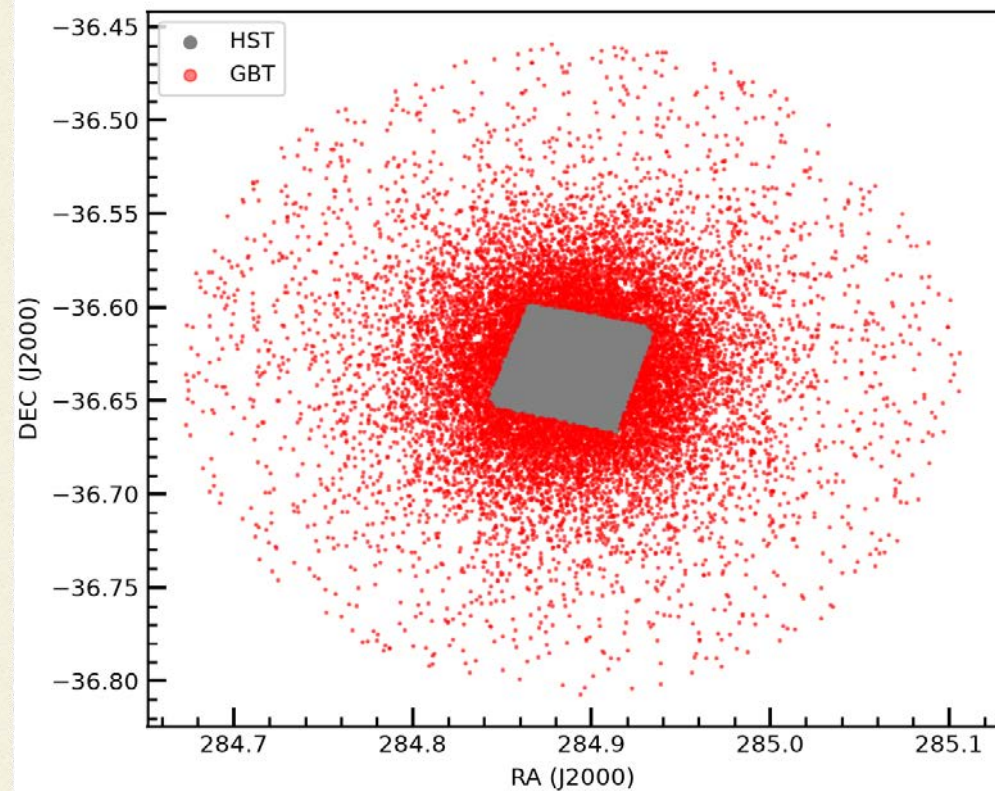
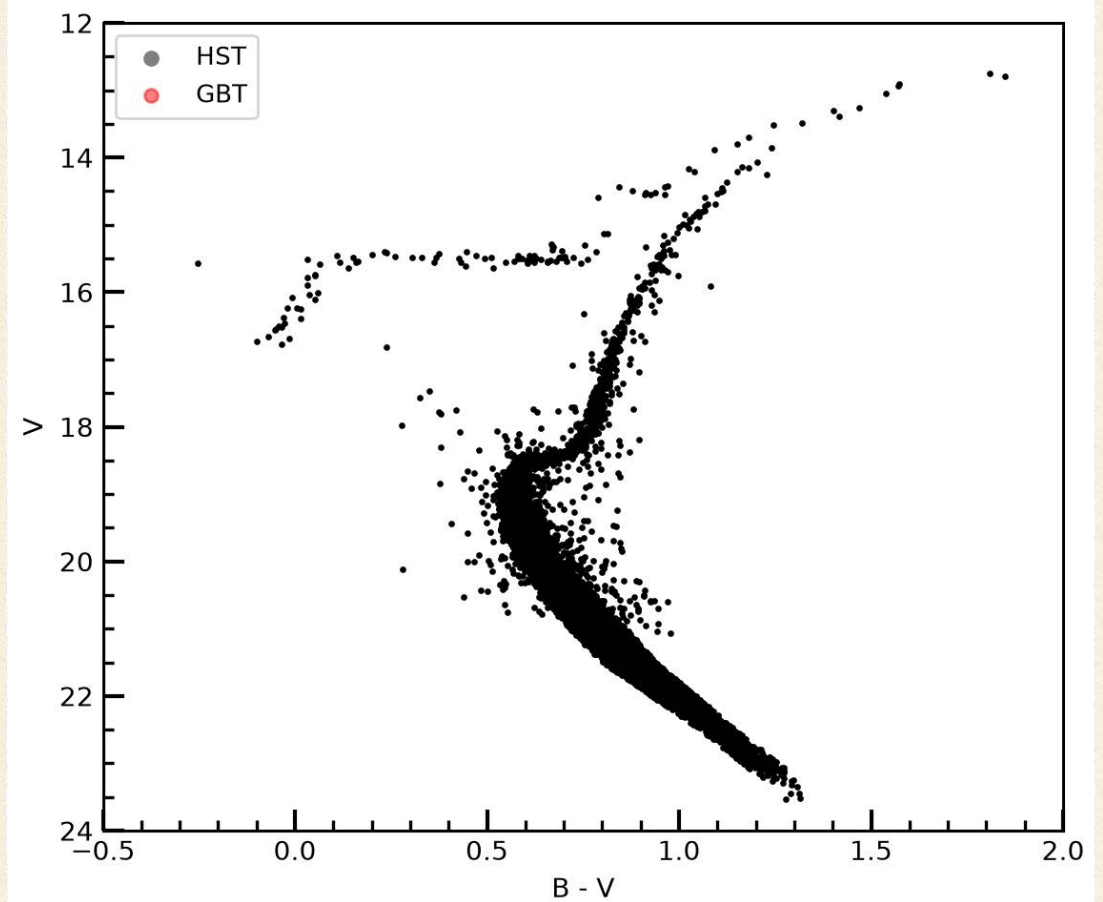
➤ HB

➤ post-HB

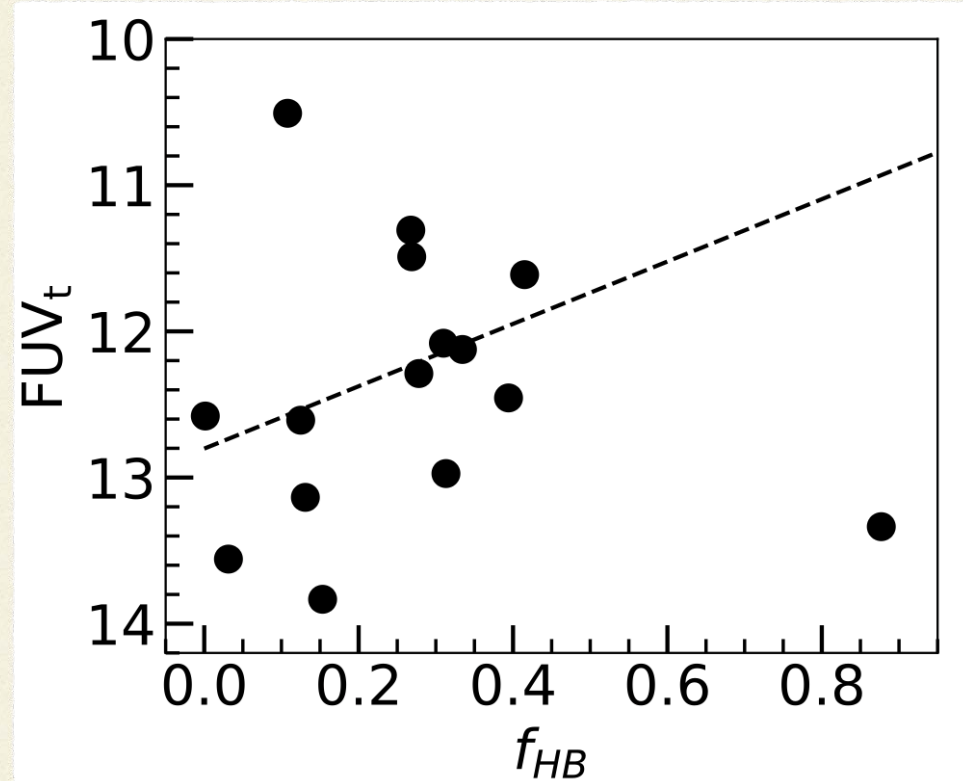
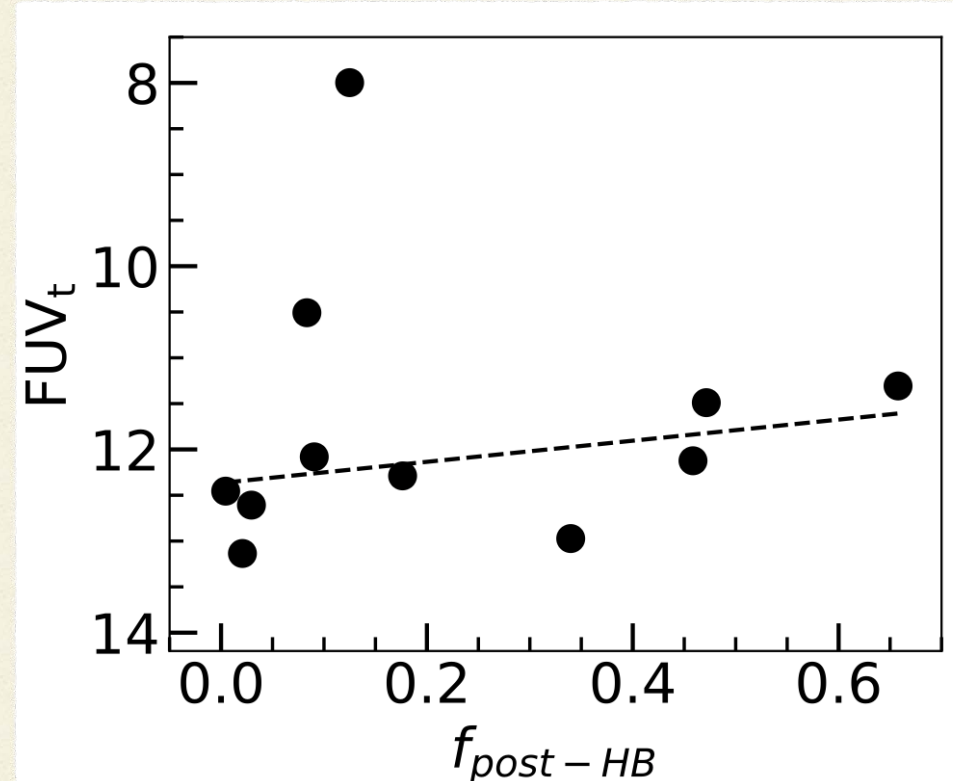
➤ BS



Optical Bands

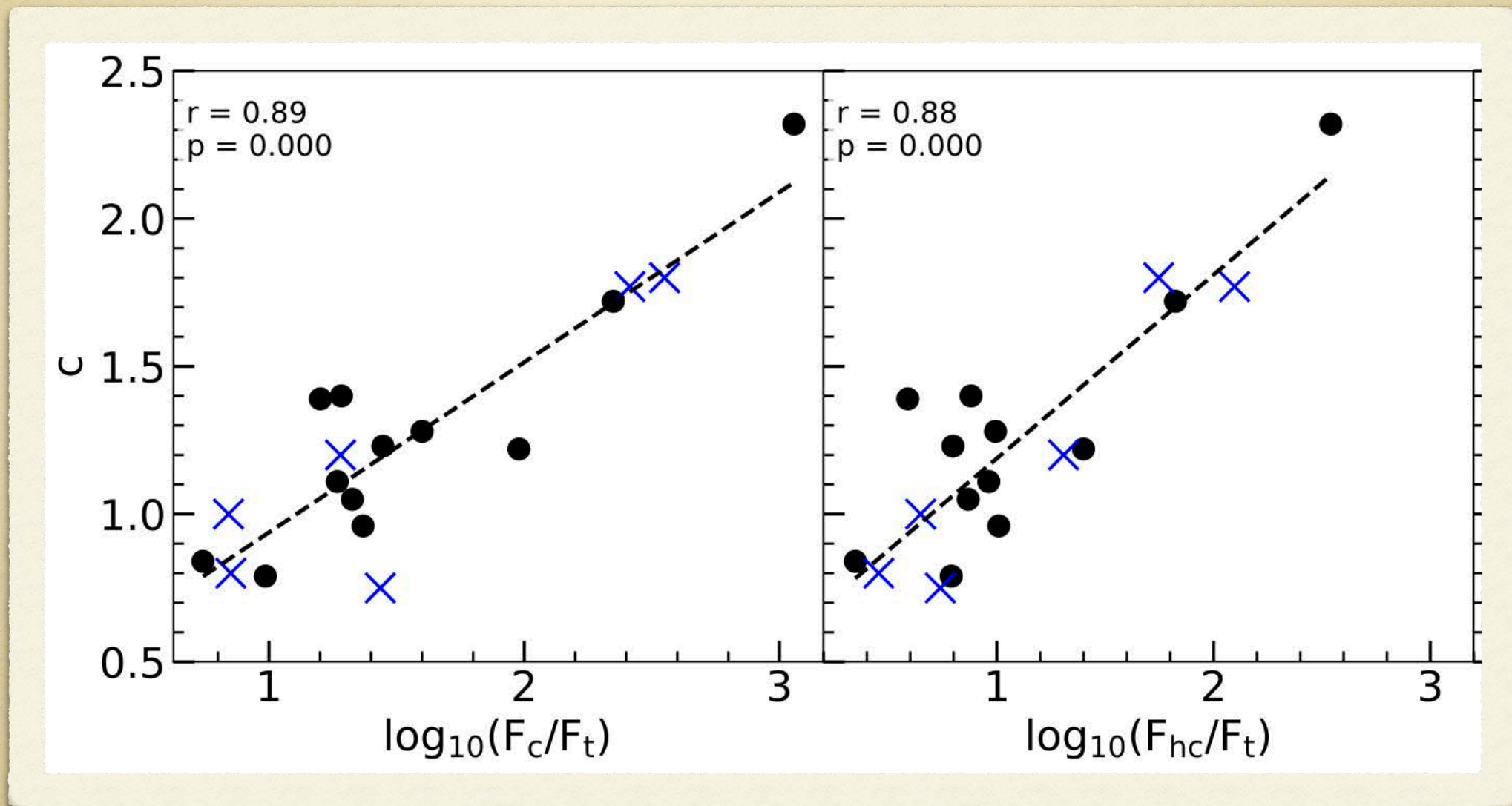


Contribution of Evolved Stars to Total FUV Emission



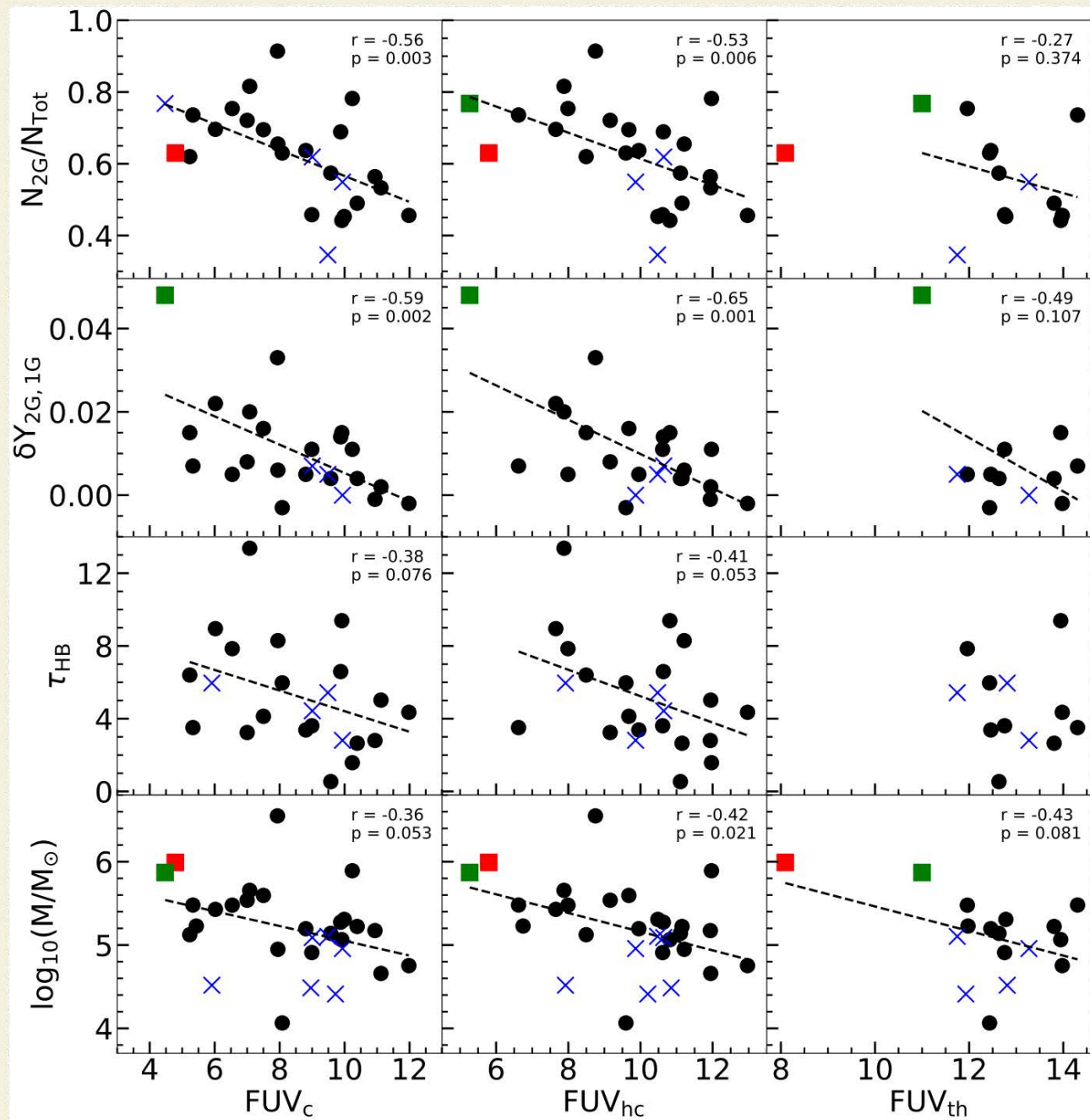
$\propto N_{\text{post-HB}}$ and $N_{\text{HB}} \propto$ integrated FUV flux

Relative Distribution of FUV Emission across Globular Clusters



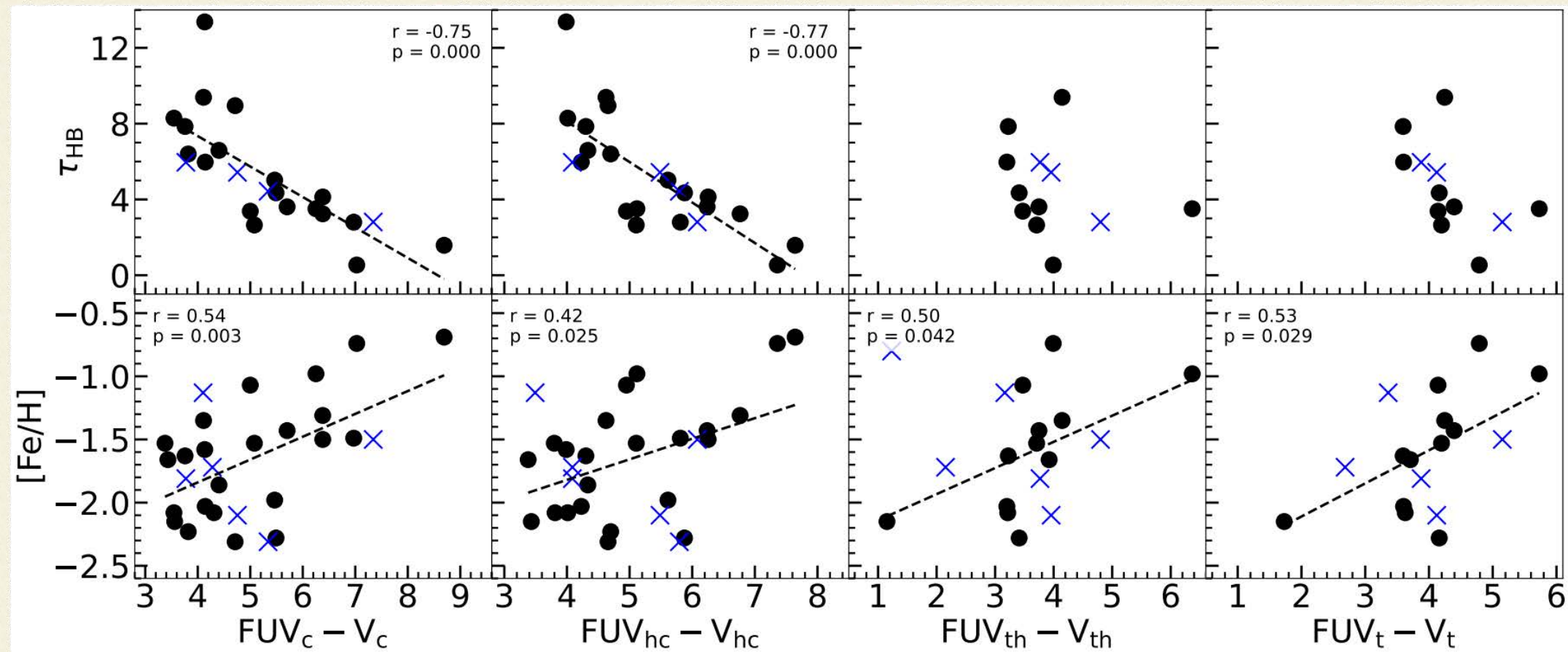
- HB, post-HB stars are concentrated at the central regions

UV Flux vs. Cluster Parameters



➤ 2G HB stars: He-enhanced: Hotter SB: Bluer HB morphology: Massive GCs

UV-Optical colors vs Cluster Parameters



➤ Bluer GCs: blue HB morphologies: Metal-poor

Thank You