

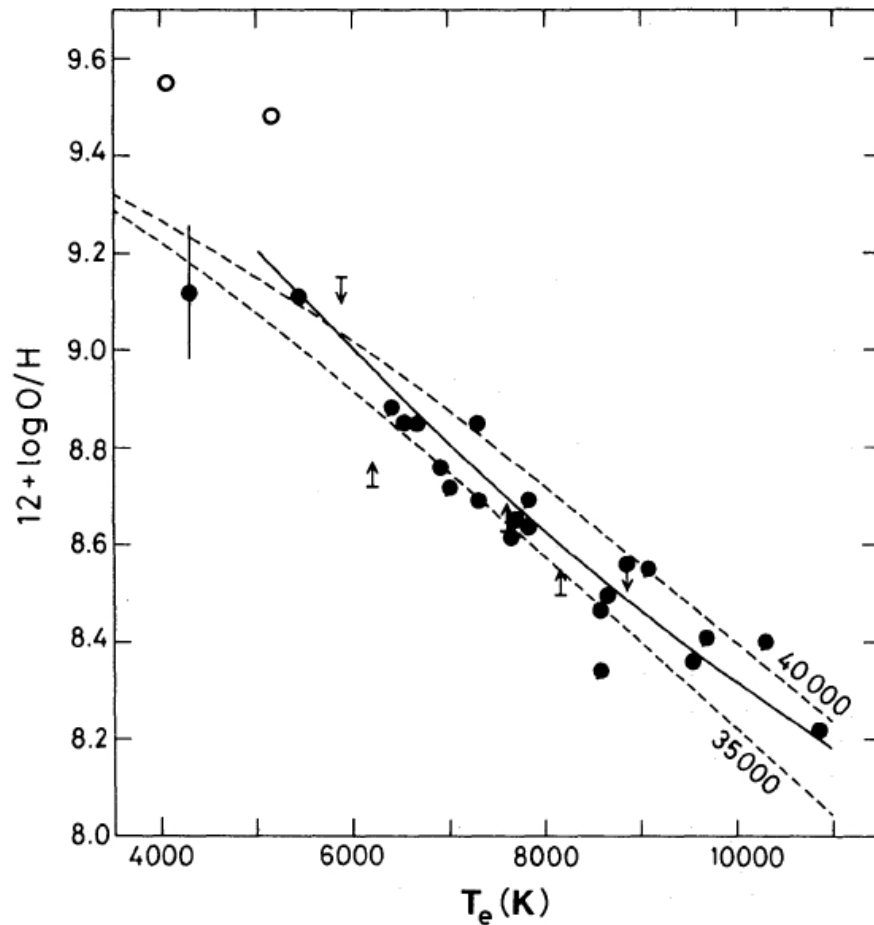
Metallicity Distribution in the Milky Way Disk

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Photo: Harry Morton

HII Region Electron Temperature and Metallicity

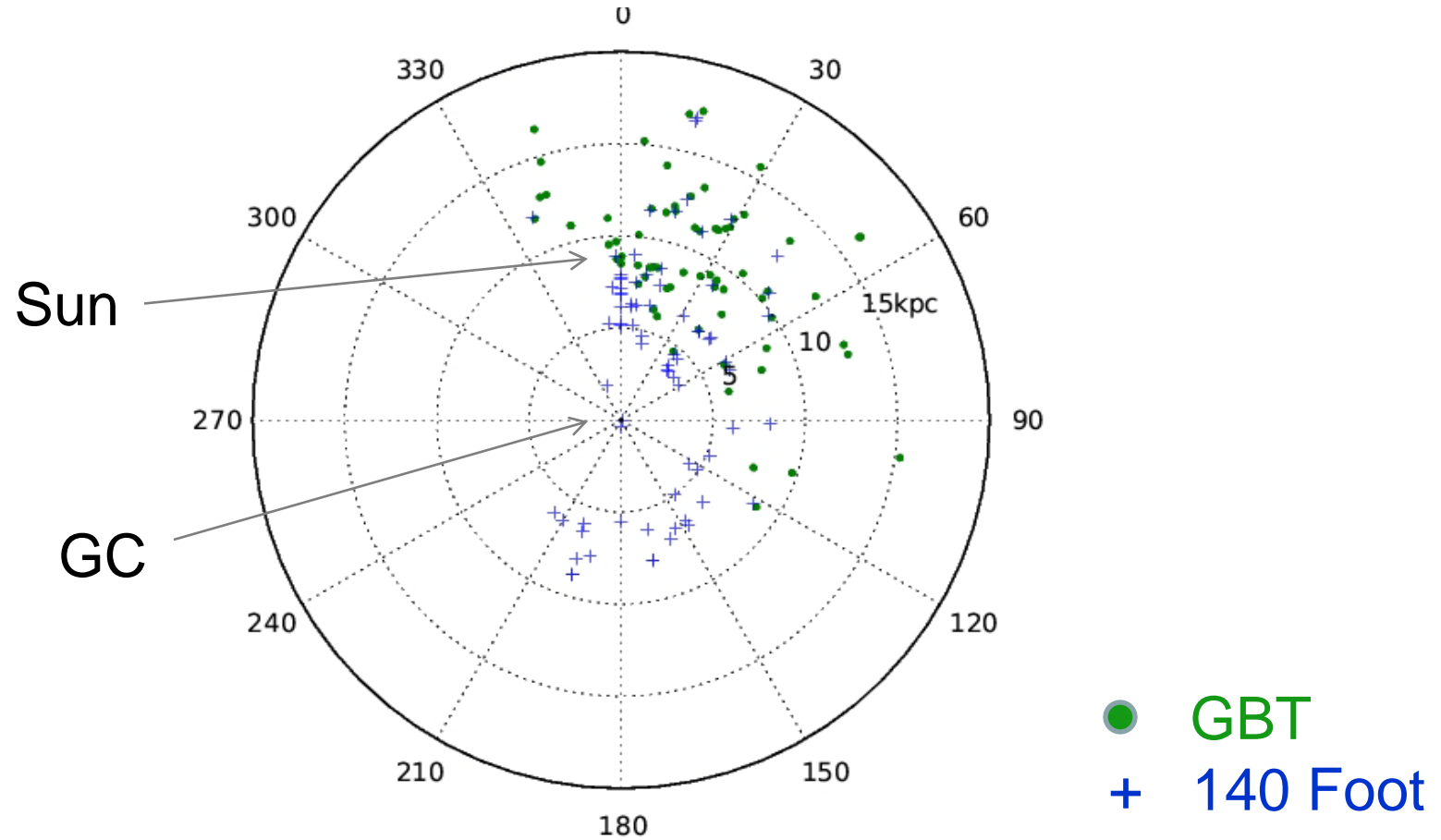


$$\frac{T_L}{T_C} \propto T_e^{-1.15}$$

RRL and free-free
continuum emission
in LTE at 3 cm.

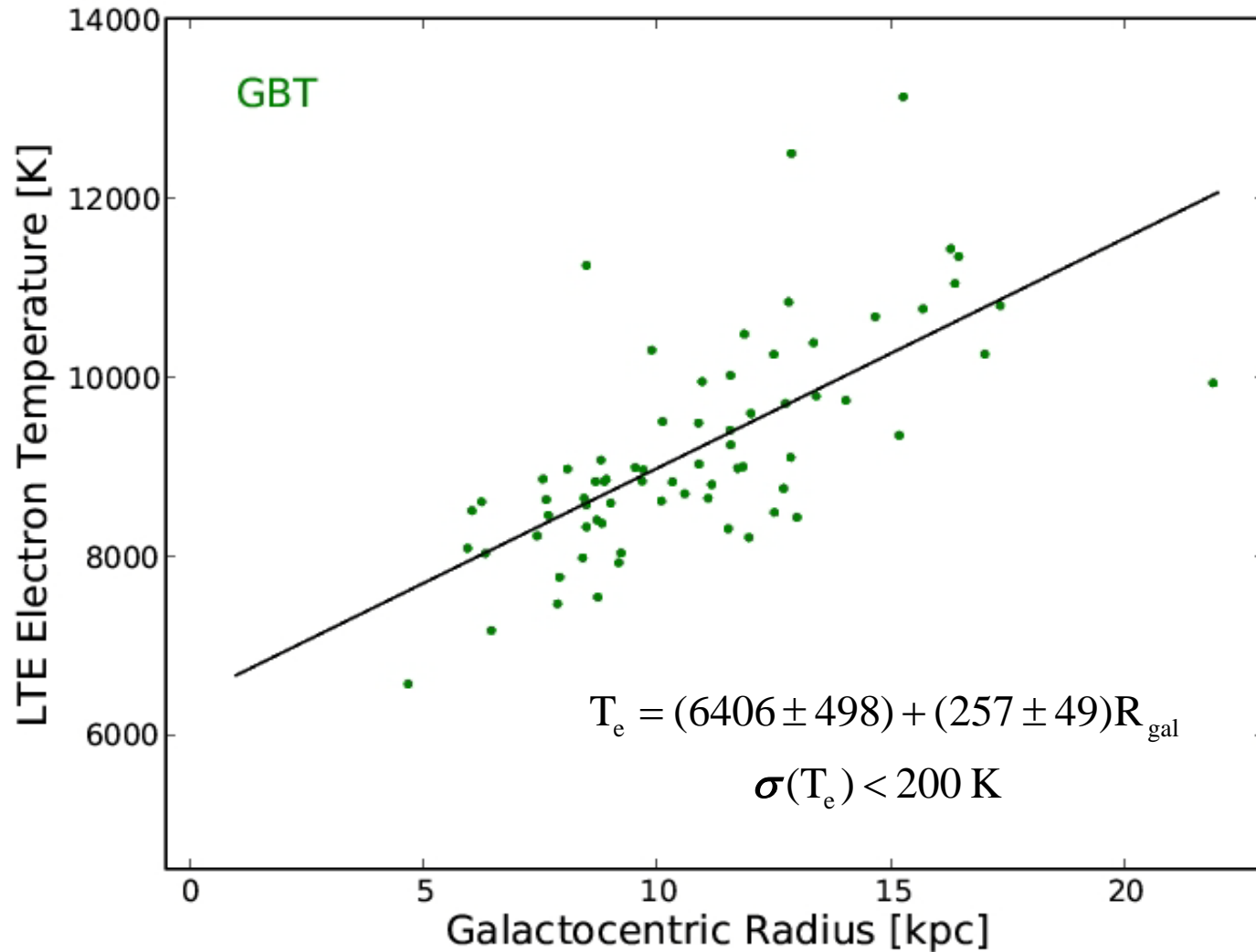
Shaver et al. (1983)

HII Region Sample

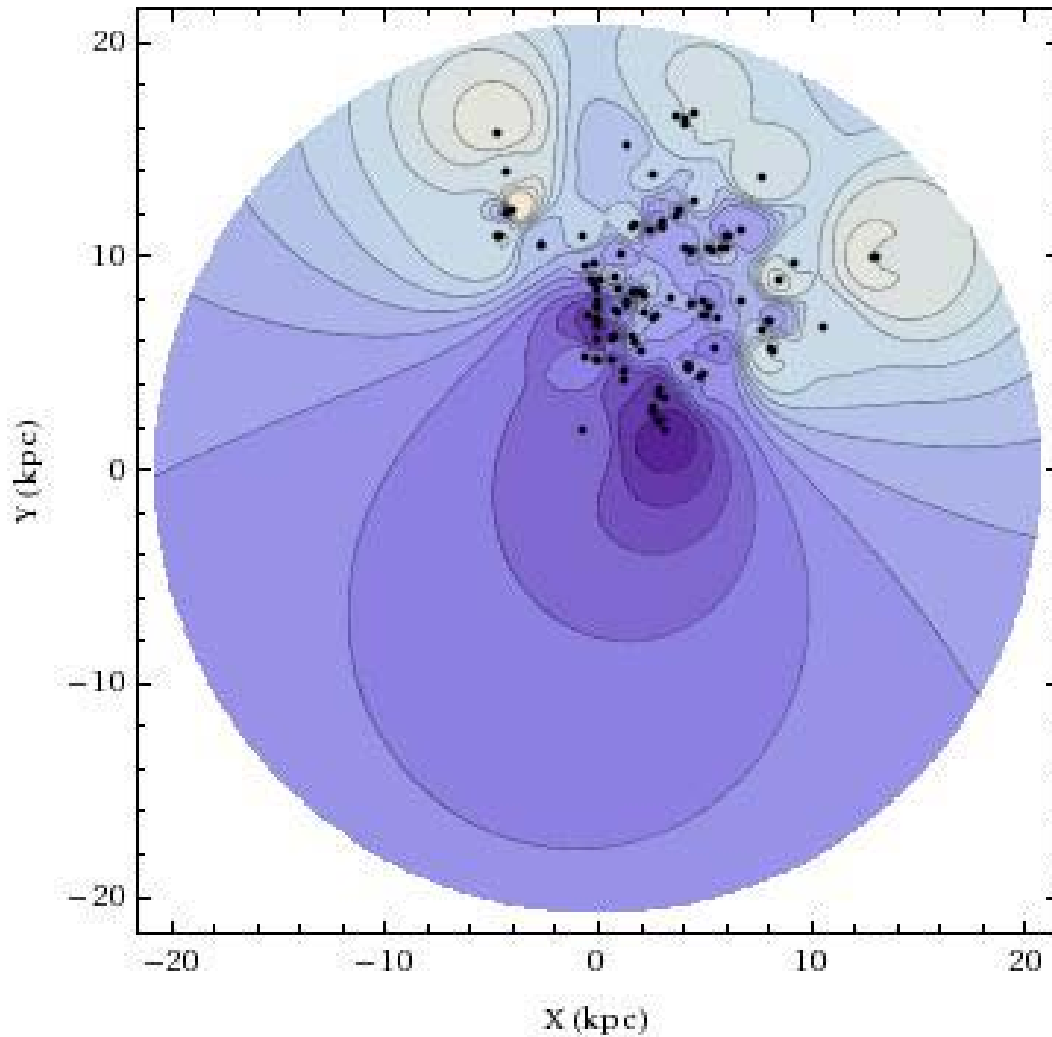


Quireza et al. (2006)

Electron Temperature Radial Gradient



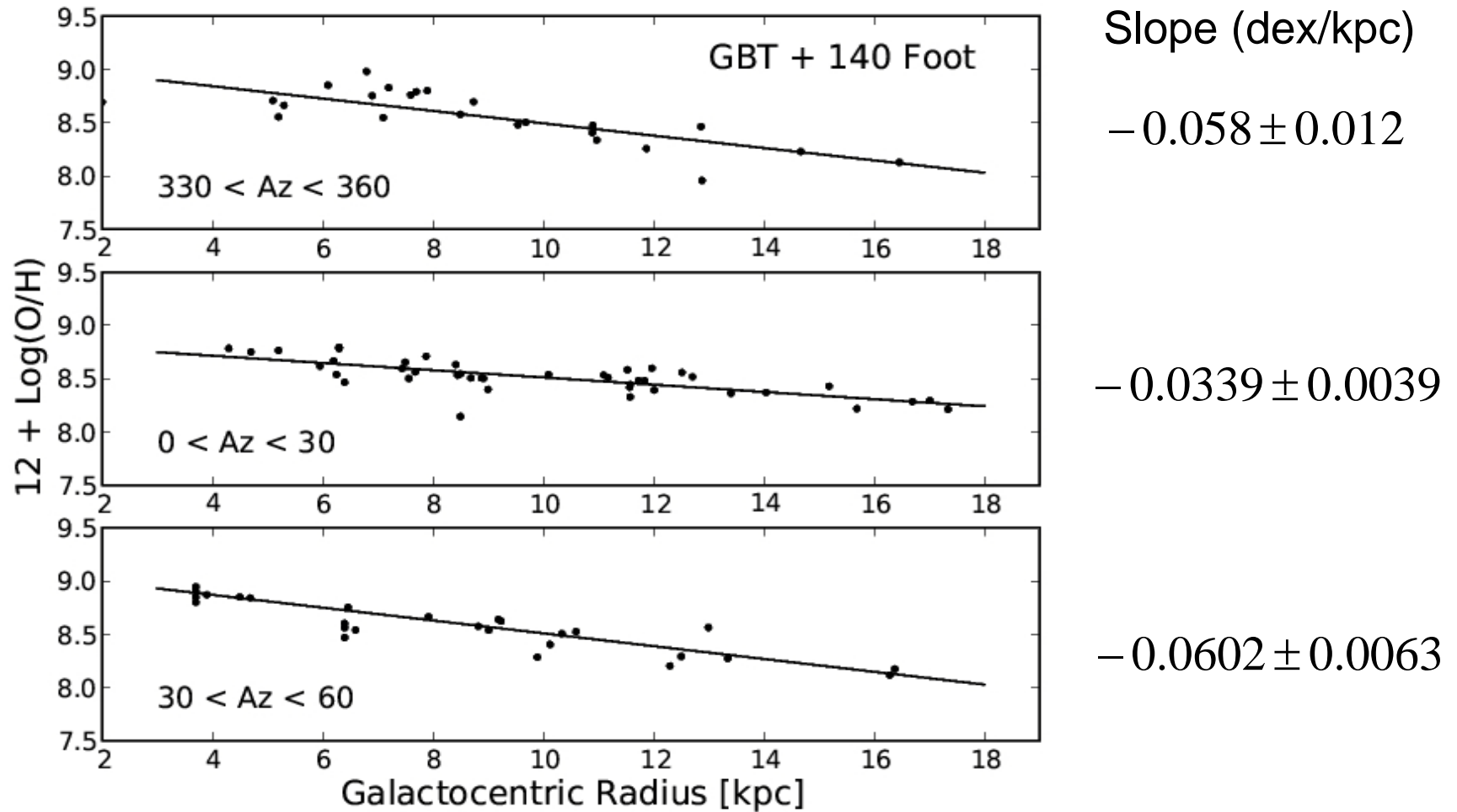
Electron Temperature Azimuthal Structure



Sample : GBT + 140 Foot
 $330^\circ \leq Az \leq 60^\circ$

Contours :
Range : 6400 – 11200 K
Interval : 400 K

O/H Radial Gradient

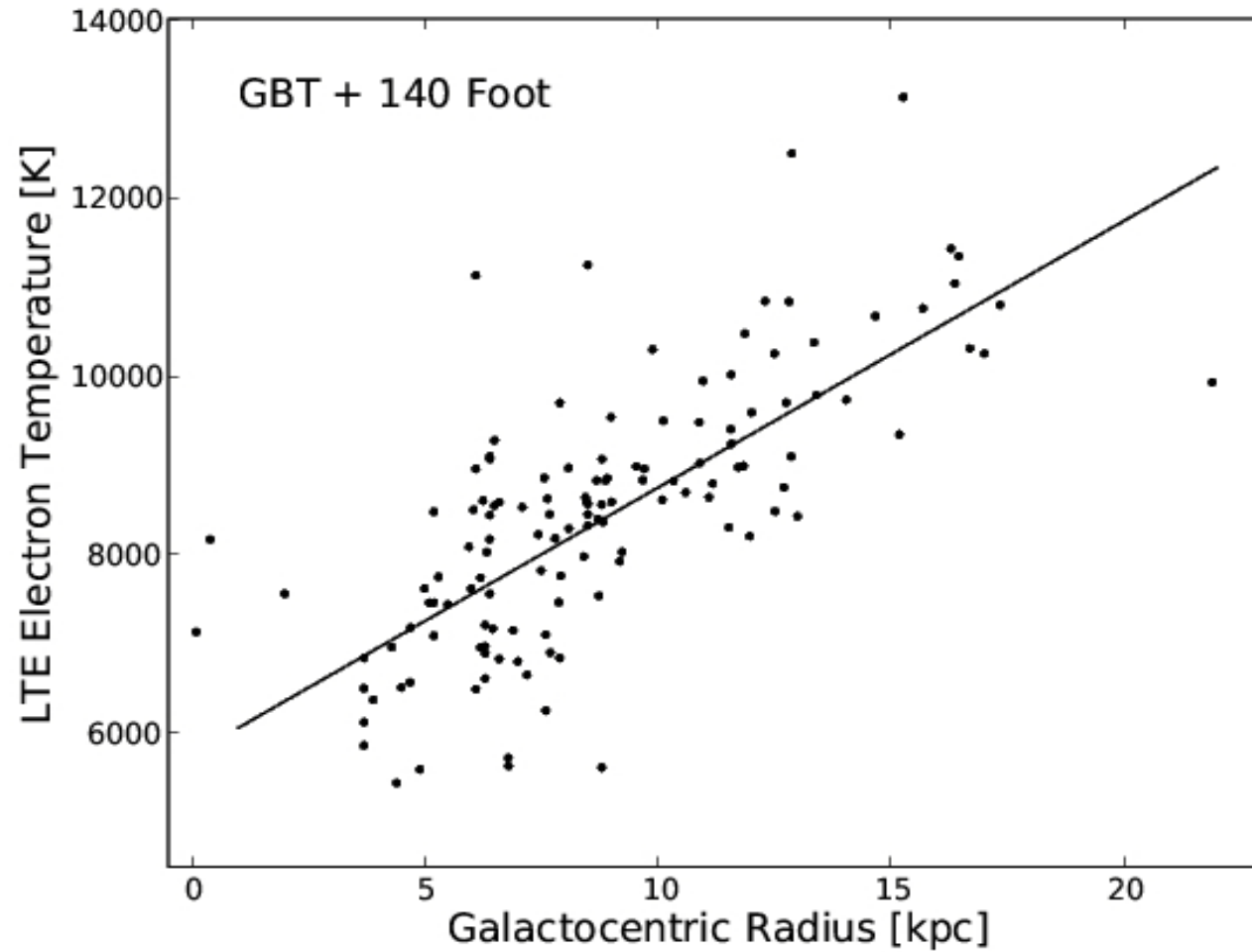


Summary

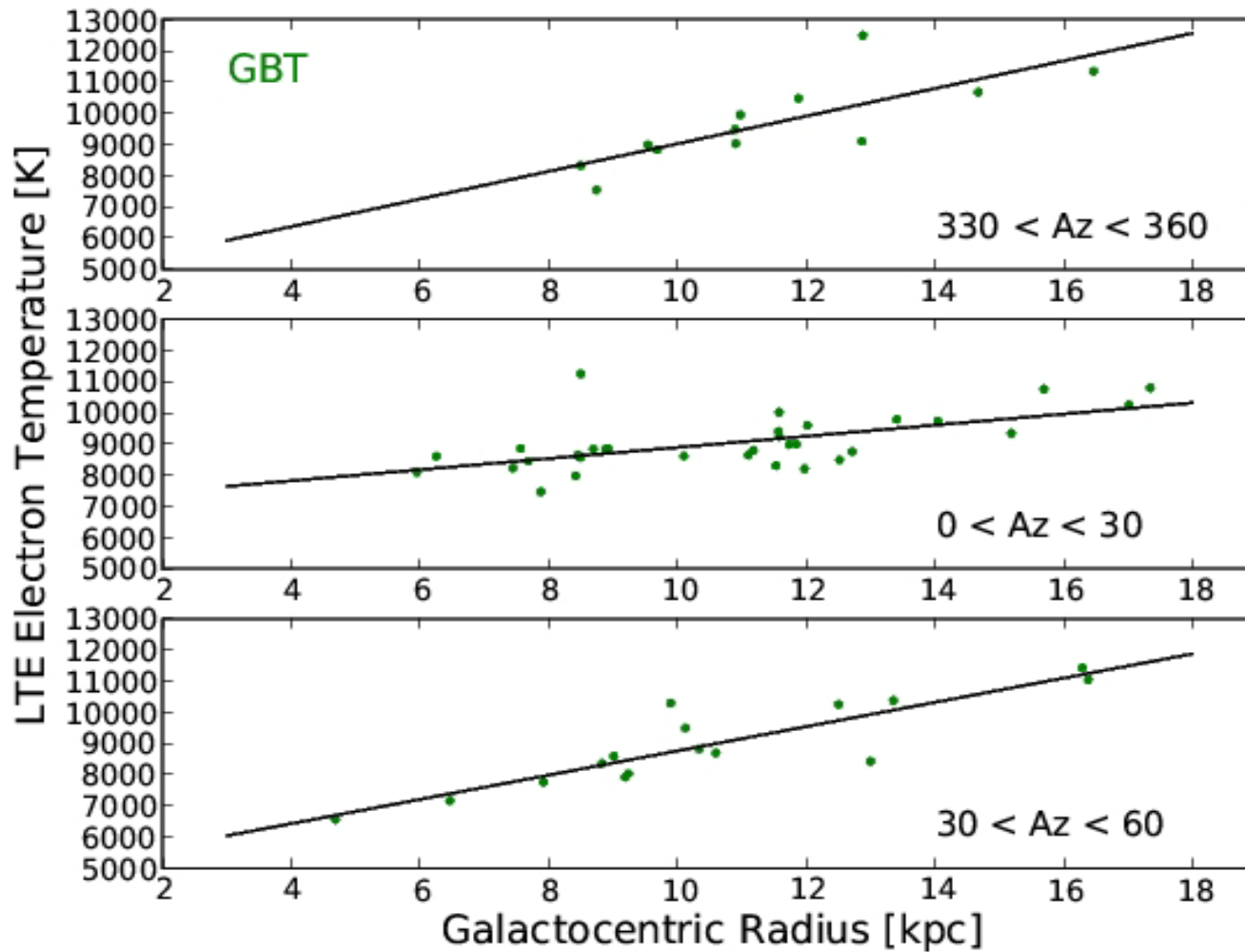
- O/H radial gradients: -0.03 to -0.06 dex/kpc
- No radial discontinuities
- Azimuthal structure

Extra Slides

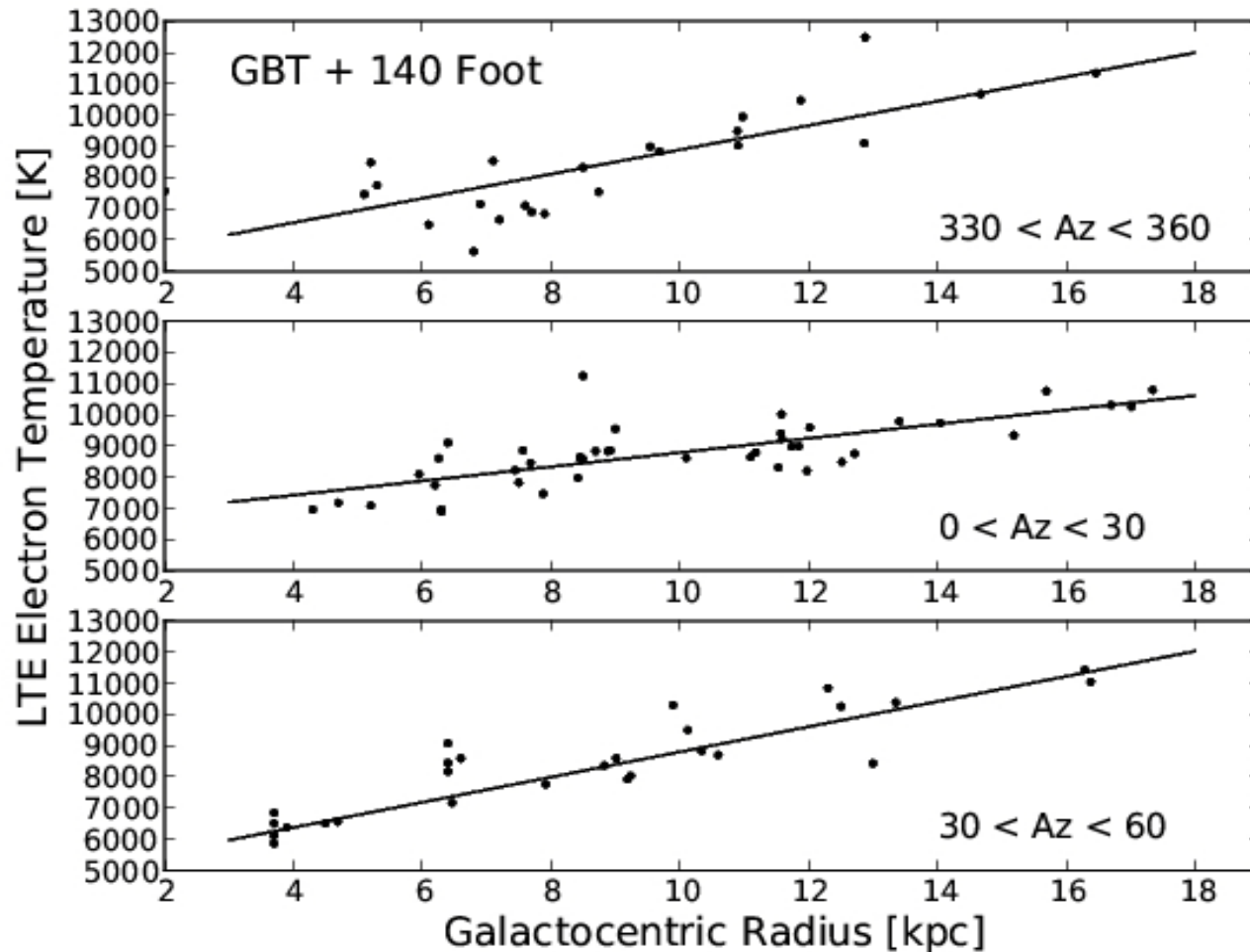
Electron Temperature Radial Gradient



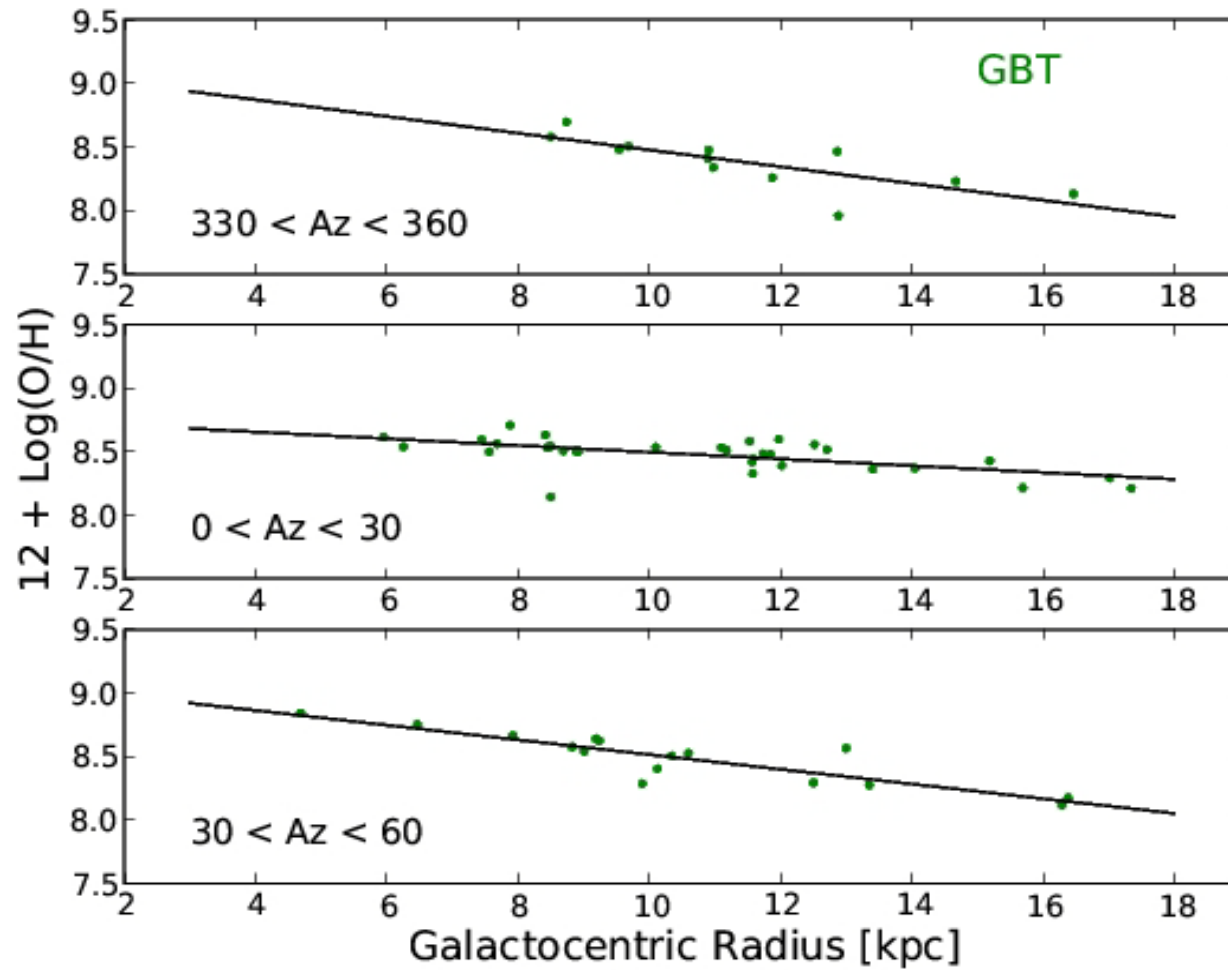
Electron Temperature Radial Gradient (Composite)



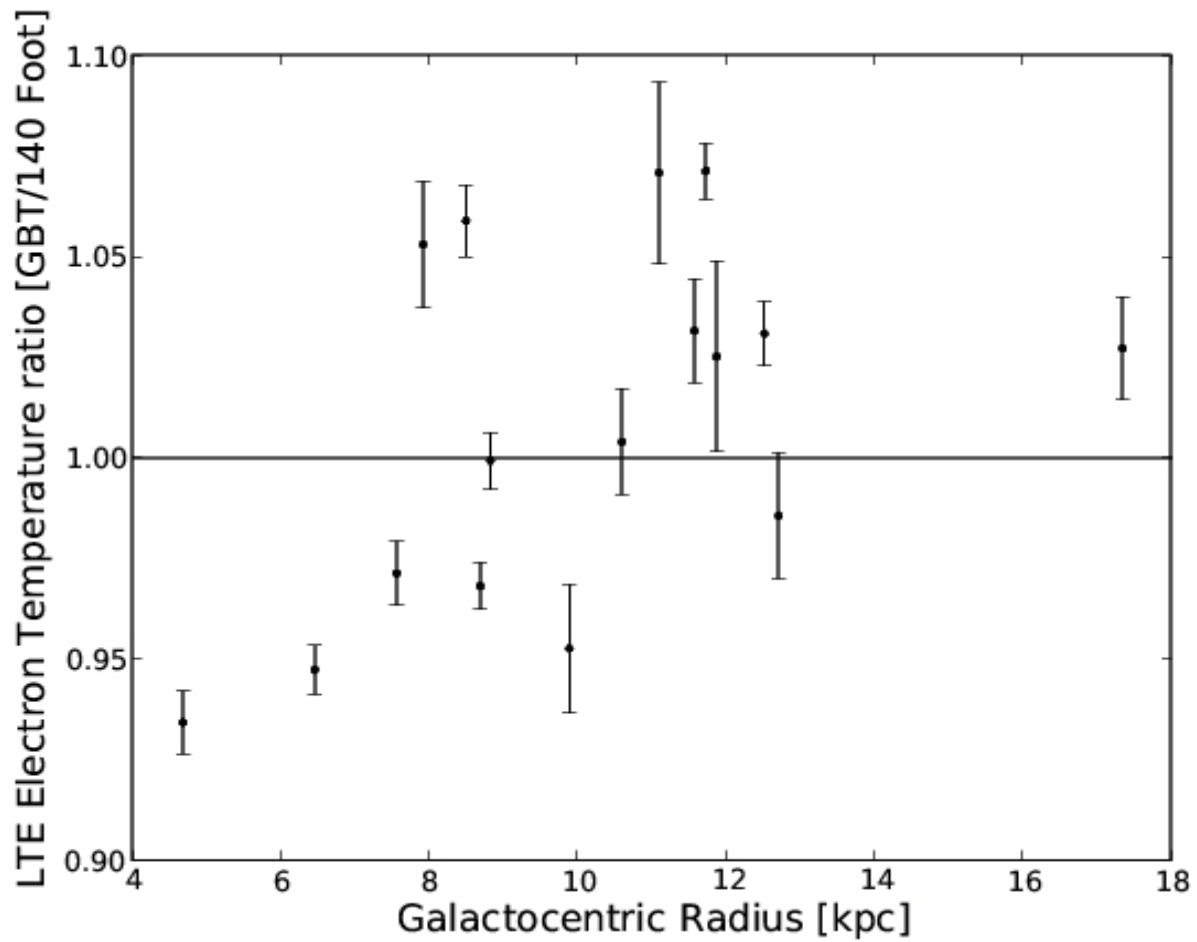
Electron Temperature Radial Gradient (Composite)



O/H Radial Gradient



GBT/140 Foot Cross Calibration



Open Clusters

