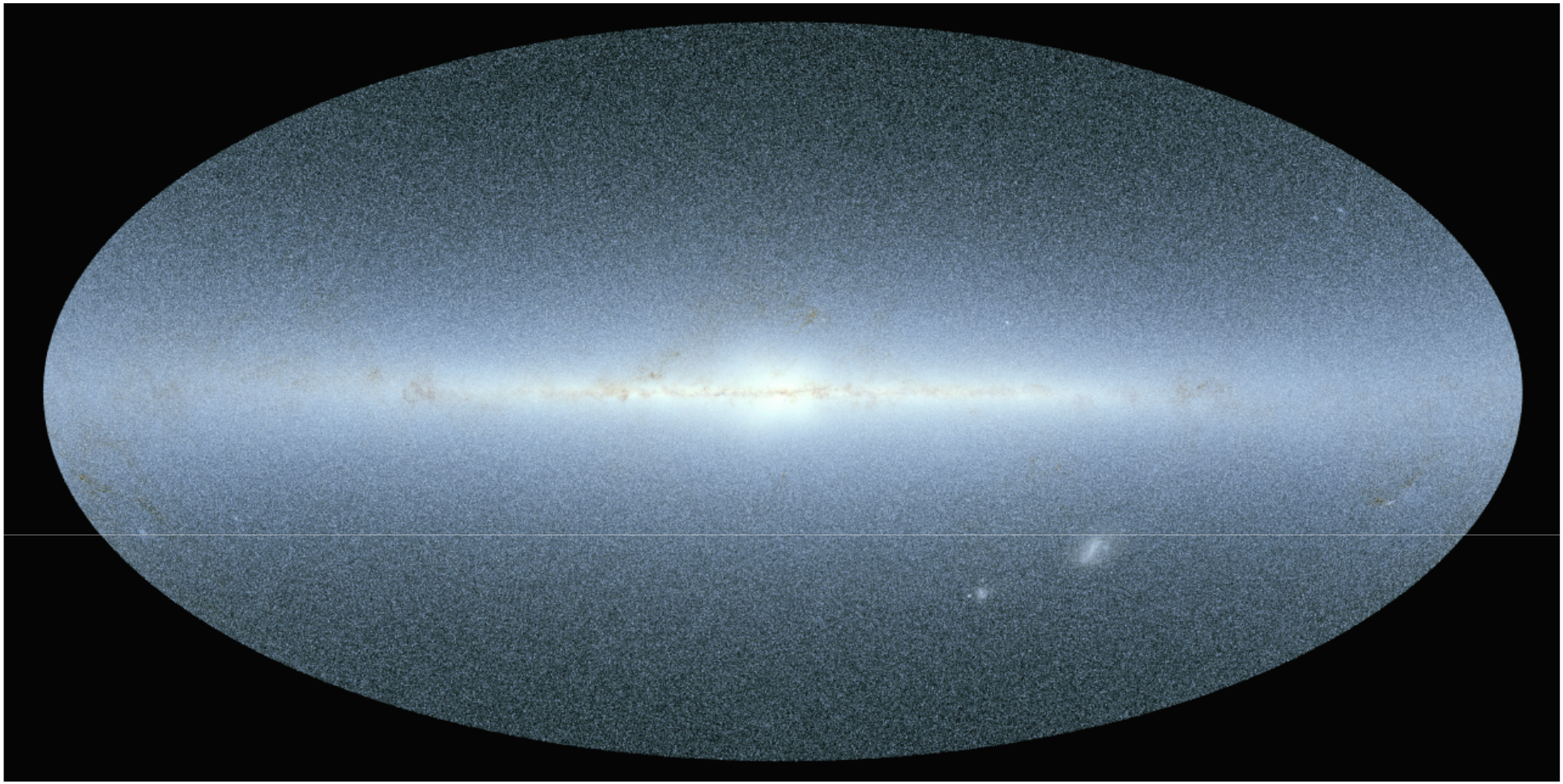


Map of the 2MASS Point Source Catalogue in Galactic coordinates.
http://www.ipac.caltech.edu/2mass/releases/allsky/

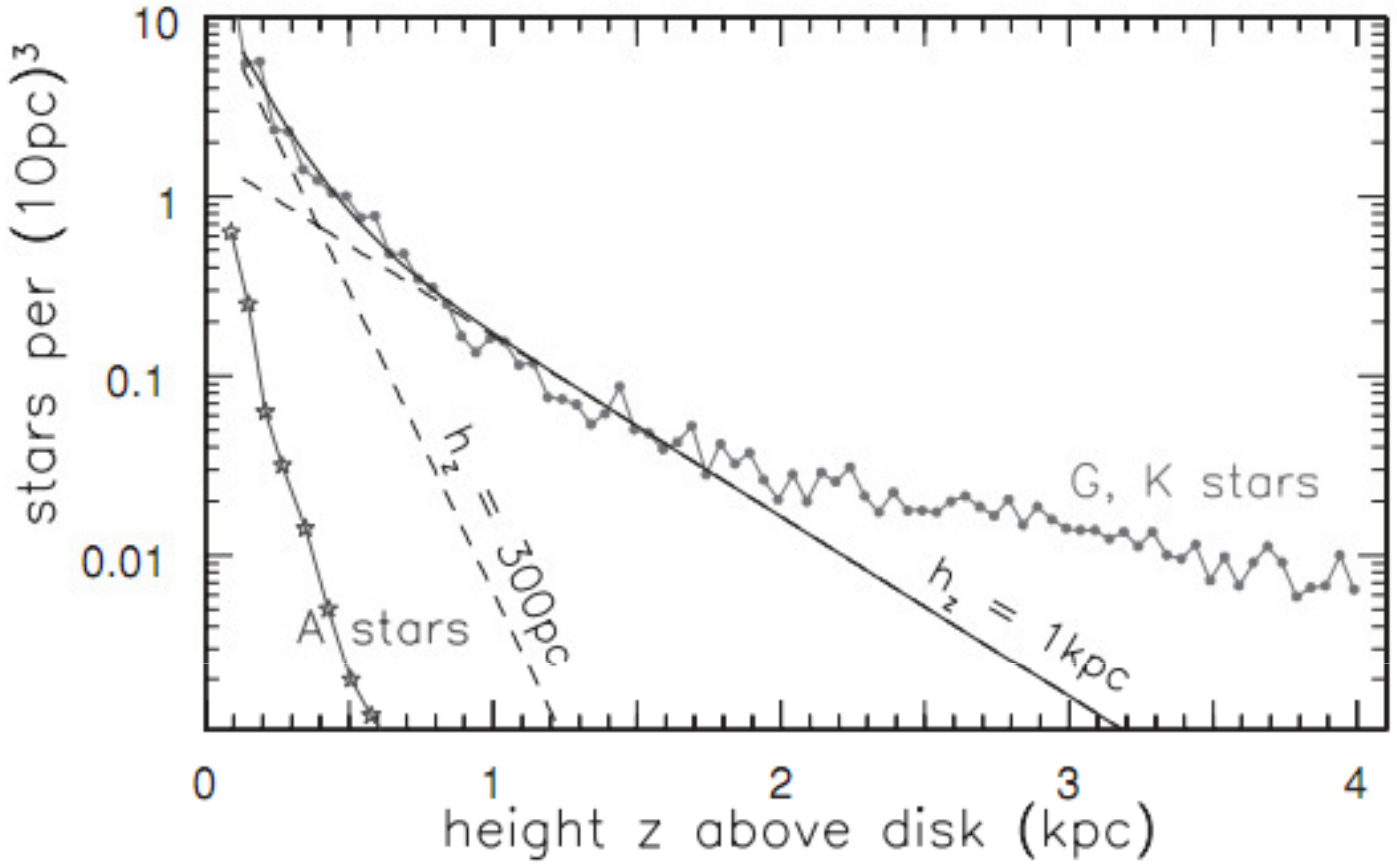
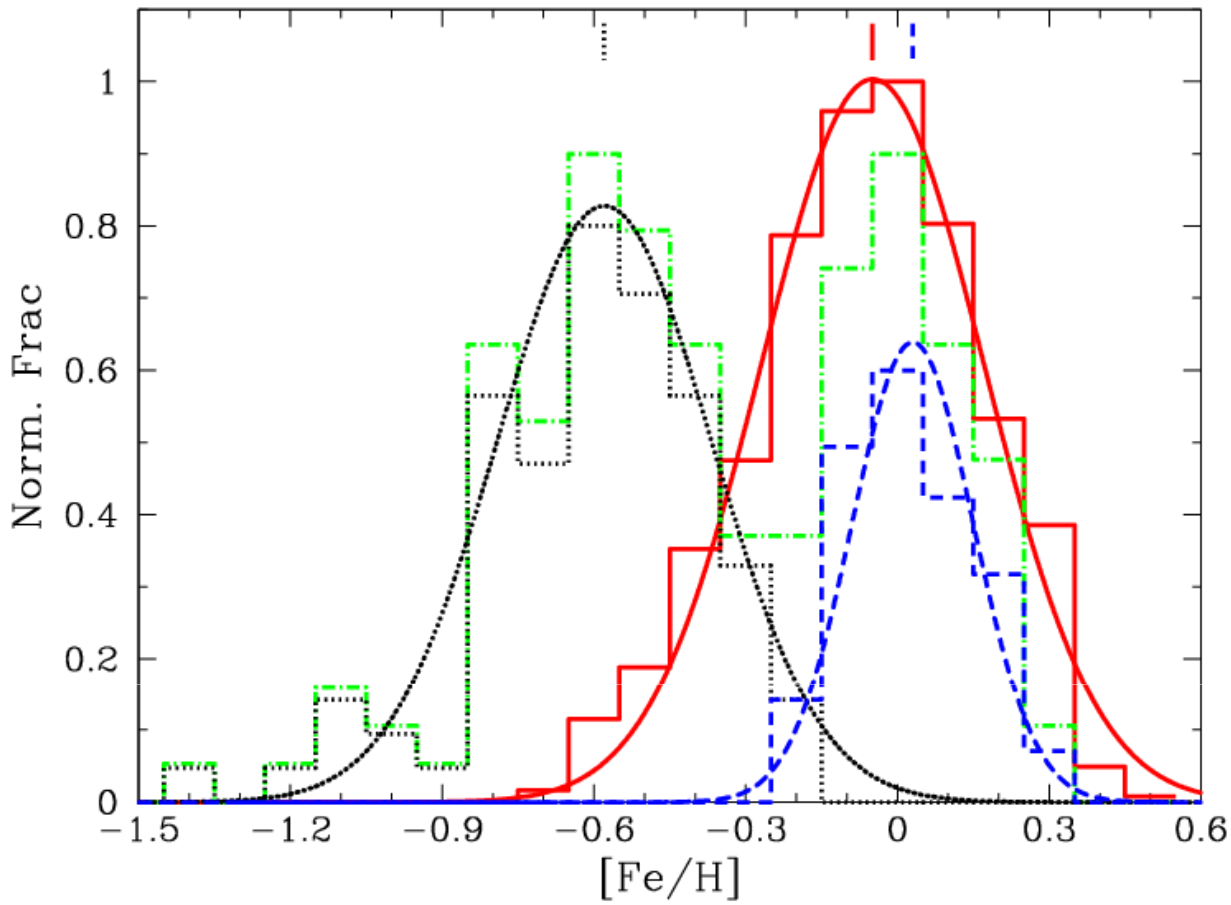


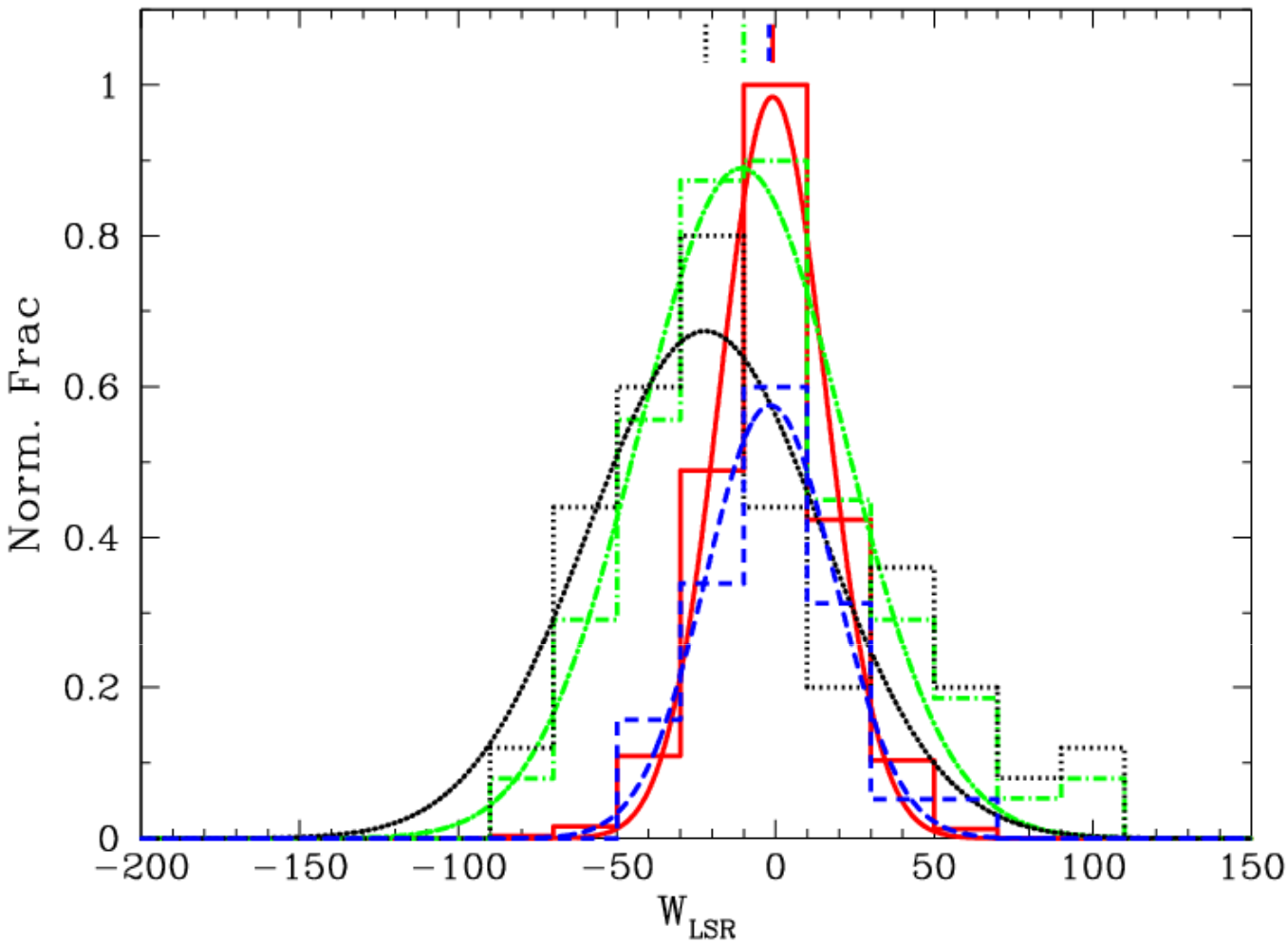
Fig. 2.8. Looking toward the south Galactic pole, filled circles show the density of stars with $5 < M_V < 6$; these are late G and early K dwarfs. Sloping dashed lines show $n(z) \propto \exp(-z/300\,\mathrm{pc})$ (thin disk) and $n(z) \propto \exp(-z/1\,\mathrm{kpc})$ (thick disk); the solid curve is their sum. At $z \gtrsim 2\,\mathrm{kpc}$, most stars belong to the metal-poor halo. A dwarfs (star symbols) lie in a very thin layer – N. Reid and J. Knude.

Stellar number density as a function of vertical height from disk

From Sparke & Gallagher



Distributions of metallicity of nearly 850 F, G, K stars from the thick disk (black dotted), thin disk (red solid), stars with high alpha-process elements (blue) and the thick disk + alpha-process population (green dotted-dashed). Gaussian fits of the data are also presented. The mean of Gaussian fits is also pictured by vertical lines on the top of each distribution. The take away messages from this plot are: (a) on average the metallicity of thick disk stars is less compared to thin disk stars (b) the stars with metallicity enriched by Type II SNe (blue) have metallicity distribution comparable to thin disk stars. Figure from Adibekyan et al. (2013) A&A



Plot shows the distribution of the vertical component of velocity for nearly 850 F, G, K stars. The black dotted histogram are for stars that possibly belong to the thick disk, the red are for thin disk stars. As can be seen, the thick disk stars have a large spread in velocity in directions perpendicular to the mid-plane of the Galaxy. For thin disk stars, the velocity dispersion is tighter.

Figure from Adibekyan et al. (2013) A&A