Mapping the Milky Way with LSST

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Recent results from large-area surveys have drastically altered our view of the Galaxy, revealing a complex, dynamical structure that is still being shaped by the infall of smaller systems. The multicolor, multi-epoch photometric map created by the LSST will provide an unprecedented means to extend our exploration of the Galaxy’s structure, star formation, chemical enrichment, and accretion history on a panoramic scale. Strategic time and space sampling of each field over ten years will allow variability, proper motion and parallax measurements for objects brighter than V=24, and will permit both photometric parallaxes and chemical abundance estimates for over a billion main sequence stars to 100 kpc. New dwarf galaxies in the Local Group and other nearby groups will be revealed via overdensities in resolved stars and provide important constraints on the nature of the Dwarf Satellite problem faced by CDM cosmologies.