Stellar Populations of the Sextans Dwarf Spheroidal Galaxy

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Dwarf spheroidal(dSph) galaxies around the Milky Way Galaxy provide important clues for understanding of formation and evolution of not only the Milky Way Galaxy but also low mass galaxies. Among the known Milky Way dSphs, the Sextans dSph galaxy remains as the only galaxy for which a main sequence turnoff has not yet studied. We present a study of the Sextans dSph, based on the deep photometry that reaches below V~~~~25 mag. Our photometry were obtained with the wide-field mosaic CFH12K CCD with 42'x28' field coverage and BVI filters at CFHT ~(3.6m telescope). Our color-magnitude diagram for the first time reveals the main-sequence turnoff of the Sextans at V~~23.5 mag, showing that the bulk of the stars in this galaxy are quite old. There are also found to be a prominent population of blue stragglers, a broad red giant branch, and a combination of predominantly red horizontal branch and weak blue horizontal branch. Star formation history of the Sextans is also derived from this photometry.