

Near-IR Photometry of the Arches Cluster close to the Galactic Center

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We present near-IR photometry of the Arches cluster, a massive and young stellar cluster close to the Galactic center. Earlier HST/NICMOS observation showed that the initial mass function (IMF) slope is significantly flatter than the average for other clusters in the Galaxy ($\Gamma \sim -1.35$). (Figer et al. 1999, ApJ, 525, 750). We have analyzed the high resolution(FWHM $\sim 0.2''$) H and Ks band images obtained with the Gemini/Hokupa'a adaptive optics (AO) system, as part of the Galactic Center Demonstration Science Data Set. We have obtained the color-magnitude diagram and luminosity functions of the cluster in good agreements with the former HST/NICMOS results. We show that the power of the Gemini telescope is comparable to the HST in the range of $K < 19$. Initial mass functions also will be discussed.