Supergiant Stars in Nearby Galaxies

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It has long been appreciated that blue and red supergiant stars provide a potentially powerful means of measuring distances over cosmological interesting scales. They also provide a means of probing the star forming histories and massive star evolution of external systems. We use VRI CCD images obtained with the CFHT to investigate the bright stellar contents of four nearby spiral galaxies, NGC628, NGC 672, NGC 925, and NGC 1637. We discuss the photometric properties and evolutionary status of supergiants in the galaxies on their color-color and color-magnitude diagrams. The slope of bright stars luminosity functions are also discussed. Applying the absolute magnitudes of the brightest stars, we estimate the distances of the galaxies considering the blending effects which can introduce a spurious population of bright objects.