

## [구GC-07] New Galaxy Catalog of the Virgo Cluster

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We present a new catalog of galaxies in the wider region of the Virgo cluster, based on the Sloan Digital Sky Survey (SDSS) Data Release 7. The Extended Virgo Cluster Catalog (EVCC) covers an area of 725 deg<sup>2</sup> or 60.1 Mpc<sup>2</sup>. It is 5.2 times larger than the footprint of the classical Virgo Cluster Catalog (VCC) and reaches out to 3.5 times the virial radius of the Virgo cluster. We selected 1324 spectroscopically targeted galaxies with radial velocities less than 3000 km s<sup>-1</sup>. In addition, 265 galaxies that have been missed in the SDSS spectroscopic survey but have available redshifts in the NASA Extragalactic Database are also included. Our selection process secured a total of 1589 galaxies of which 676 galaxies are not included in the VCC. The certain and possible cluster members are defined by means of redshift comparison with a cluster infall model. We employed two independent and complementary galaxy classification schemes: the traditional morphological classification based on the visual inspection of optical images and a characterization of galaxies from their spectroscopic features. SDSS u, g, r, i, and z passband photometry of all EVCC galaxies was performed using Source Extractor. We compare the EVCC galaxies with the VCC in terms of morphology, spatial distribution, and luminosity function. The EVCC defines a comprehensive galaxy sample covering a wider range in galaxy density that is significantly different from the inner region of the Virgo cluster. It will be the foundation for forthcoming galaxy evolution studies in the extended Virgo cluster region, complementing ongoing and planned Virgo cluster surveys at various wavelengths.