Progress report on the spectroscopy of globular clusters in the Virgo giant elliptical galaxy M60

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We present a report of progress on our spectroscopic study of globular clusters (GCs) in the giant elliptical galaxy M60 (NGC 4649) of the Virgo cluster. M60 is a non-cD galaxy which has several thousands of globular clusters. The color distribution of the GCs in M60 is remarkably bimodal, being a proto example among the known giant elliptical galaxies. However, nothing is known about spectroscopic properties of the globular clusters in M60.

We started spectroscopic observations of bright globular clusters in M60 using the Multi Object Spectrograph (MOS) on the Canada-France-Hawaii Telescope (CFHT) in 2002. The target globular clusters were selected from deep wide-field (16'×16') Washington CCD images of the galaxy. We have secured spectra of 85 globular cluster candidates. Primary goals of our study are 1) to find genuine globular clusters, 2) to investigate the kinematics of the globular clusters, especially, to find any systematic difference between the metal-poor and metal-rich globular cluster systems, and 3) to estimate the metallicity of globular clusters. These will provide strong constraints on modelling the origin of globular clusters and the formation of giant elliptical galaxies.