

**[7GC-05] A New Perspective on the Blue Tilt Phenomenon of  
Extragalactic Globular Cluster Systems**

Sang-Yoon Lee<sup>1</sup>, Suk-Jin Yoon<sup>1</sup>  
<sup>1</sup>*Department of Astronomy, Yonsei University*

Recent observations reveal that some early-type galaxies show a color-magnitude relation of blue globular clusters (GCs) in the color-magnitude diagrams, which is referred to as 'blue tilt'. This phenomenon is interpreted as a mass-metallicity relation -- metallicities of blue GCs increase with increasing mass, and thus provides a crucial clue to the chemical enrichment processes of GCs as a function of their mass. However, some galaxies show 'non-tilt' or even 'reverse blue tilt' on the blue GC sequence, and thus the origin of blue tilt still remains a puzzle. In this study, we put forward the theoretical explanation for the phenomenon and discuss its implications towards galaxy formation scenarios.

**[8GC-06] Nitrogen self-enrichment in the starburst galaxies under the  
metal poor environments.**

Jiwon Chung<sup>1,2</sup>, Eon-Chang Sung<sup>2</sup>, Soo Chang Rey<sup>1</sup>, Jae mann Kyeong<sup>2</sup>  
<sup>1</sup> *Dept. of Astronomy and Space science, Chungnam National University, KOREA*  
<sup>2</sup> *Korea Astronomy and Space Science Institute (KASI), KOREA*

We present elemental abundances of 412 blue compact dwarf galaxies (BCDs) at  $z=0.2\sim 0.5$  using the Sloan Digital Sky Survey (SDSS) DR7. The gas-phase nitrogen to oxygen abundance ratios (N/O) of sample galaxies increase as the oxygen to hydrogen abundance ratios (O/H) decrease. This indicates that the nitrogen is more enriched than the oxygen. We found that there is a noticeable distinction between the merger candidates and the isolated galaxies. Merging candidates show more enrichment of nitrogen abundance compared to isolated galaxies. On the other hand, neon and oxygen abundances for merging candidates are slightly lower than the isolated systems. We discuss the main cause of these trends with internal mixing and mass loss by fast rotation of young massive stars. We also discuss the environmental effect to the relation between specific star formation rate and galaxy mass.