
Double-peaked features in stellar population: a case study of counter-rotating galaxy PGC 066551

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Abstract

Galactic discs are composed of different substructures generally rotating in the same direction. However, there are known cases where galaxies hosting two prominent stellar counter-rotating (CR) discs. The formation of such substructures as well as their influence on galaxy evolution is still not fully understood. Using publicly available data of the MaNGA survey we identified a sample of ~ 30 counter-rotating stellar disc galaxies. Here we present a detailed investigation of one galaxy from the sample - PGC 066551 which also has been followed up with deep long-slit spectroscopy at 11m SALT telescope (South Africa). Applying full-spectral fitting as well as non-parametrical stellar LOSVD recovery technique we found that secondary counter-rotating disc contributes $\sim 35\%$ in the integral light. The stellar population properties and ionized gas metallicity suggest that the CR component most likely formed due to a merger event with a gas-rich companion galaxy.

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