Neutral gas in isolated early-type galaxies

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Abstract

The population of double-peak emission line galaxies appears to be biased toward galaxies of earlier type, with a preference towards S0 and Sa galaxies. The evolution of particularly early-type galaxies is hence at least partly linked to the formation of double-peak emission lines in galaxies. The formation of two distinct lines indicates the presence of at least two distinct kinematical systems, which might be the consequence of a past accretion through mergers or accretion from the IGM. The properties of the neutral gas in early-type galaxies, being (re-)accreted, and/or losing angular momentum, and ultimately fueling either AGN or star formation, are hence an important ingredient in the understanding of double-peak emission line systems. Neutral gas in early type galaxies in a denser environment is mostly characterized by being debris from a recent interaction. The neutral gas component in isolated early type galaxies, however, is often exhibiting ordered motion, and therefore dynamically older. I will try to summarize the current findings about neutral gas in those systems.

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