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The role of neutral hydrogen in the life of galaxies and AGN

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Propositions

accompanying the dissertation

The Role of Neutral Hydrogen in the Life of Galaxies and AGN

A Spectral Stacking Analysis

1. Stacking is a promising technique to lower the detection limit and study the relatively unexplored $< 10^7 M_{\odot}$ HI mass regime of galaxies in the high- z Universe. (*Chapter 2, 3*)
2. The large-scale HI content of galaxies is more dependent on the star formation history, and less on the presence of an AGN. (*Chapter 3*)
3. The detection rate of HI does not depend on the apparent flux of a source, suggesting that HI absorption studies of even fainter radio sources will bring a large number of detections. (*Chapter 4*)
4. Young radio AGN are rich in unsettled HI gas. (*Chapter 4, 5*)
5. Broad ($\text{FW20} > 500 \text{ km s}^{-1}$) HI absorption profiles are tracing unsettled gas. (*Chapter 5*)
6. The presence of cold gas in restarted radio sources suggests that HI is (part of) the main fuel for triggering or even rejuvenating the nuclear activity. (*Chapter 6*)
7. It is the mark of an educated mind to be able to entertain a thought without accepting it. (*Aristotle*)
8. Often not just detections, but also our understanding of the absence of things can lead to interesting conclusions.
9. Always double-check your results. Then triple-check them.
10. Men and women should have equal rights, but neither of the genders can help the fact that they are not the same.
11. It is true that stereotypes work to some extent, but just the simple fact of coming from Transilvania doesn't make you a vampire.
12. If a task is challenging, then you should definitely do it.

Katinka Geréb, September 2014