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Atomic hydrogen discs as tracers of galaxy transformation in Abell 2626 and beyond

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Propositions accompanying the thesis

“Atomic hydrogen discs as tracers of galaxy transformations in A2626 and beyond”

1. Finding astronomical sources in a datacube is a major challenge. Balancing the trade off between completeness and reliability of the detected source population benefits from the availability of ancillary data such as optical images and redshifts. (Chapter 2)
2. The perceived morphology of the outer HI disc depends on the resolution and sensitivity of the observation, limiting the identification of the processes acting on the outer disc. (Chapter 3)
3. Substructure galaxies tend to be more asymmetric than non-substructure galaxies in A2626 plausibly due to more efficient tidal interactions with nearby substructure galaxies. (Chapter 3)
4. Galaxies with disturbed or unsettled HI discs are found in all three environments that we surveyed, implying that pre-processing of the HI discs outside the cluster environment plays an important role. Hence wide-area, unbiased, HI imaging surveys of galaxy clusters are indispensable. (Chapter 3)
5. ‘Jellyfish’ is a particular evolutionary phase of a late-type galaxy undergoing ram-pressure stripping in a dense cluster core during which the galaxy, in spite of having lost most of its gas reservoir, continues to form stars efficiently. (Chapter 4)
6. The ram-pressure stripped tail of a jellyfish galaxy often consists of a highly turbulent medium, resulting in the *in situ* formation of molecular clumps and the formation of young stars that ionise the atomic gas. (Chapter 4 & 5)
7. Besides hiring minorities in the name of diversity, actually diversifying one's view to make them comfortable is imperative to retain them on their career paths.
8. The university should better promote their mental health and personal development support opportunities.
9. Empathy is one of the most underrated human qualities necessary for building a healthy personal and professional relationship.
10. To commit injustice or to forbear it are equal offences.
11. “Life is a tragedy when seen in close-up, but a comedy in long-shot.” -Charlie Chaplin