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Developing asymmetries in AGB stars : occurrence, morphology and polarization of circumstellar Masers

Amiri, N.

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Propositions

associated with the thesis

Developing Asymmetries in AGB Stars: Occurrence, Morphology and Polarization of Circumstellar Masers

1. Magnetic fields can produce asymmetries on many scales in the outflows from evolved stars.
Chapters 2,3 and 6
2. Current polarimetric observations cannot distinguish between the Zeeman and non-Zeeman mechanisms in the SiO maser region of evolved stars.
Chapter 6
3. The occurrence of water masers in the circumstellar envelopes of OH/IR stars correlates well with their stellar pulsation cycle, despite the much longer variability timescales than in Mira variables.
Chapter 5
4. OH/IR stars can exhibit strong magnetic fields.
Chapter 4
5. The mechanism for SiO maser emission is identical in OH/IR stars and Mira variables.
Chapter 6
6. The search for stimulated emission from the atmosphere of extrasolar planets provides a direct way to understand the physical conditions in the planetary atmospheres.
7. Historical archival data can reveal valuable scientific results, in particular when combined with modern observations.
8. The analysis of polarimetric Very Long Baseline Interferometry spectral line observations requires not only skill, but also perseverance.
9. Baking is a science, cooking is an art.
10. Having a passion in photography will result in better pictures than having many gadgets.
11. The production cost of big cars (SUVs, Trucks) is not necessarily higher than that of small cars.

Leiden, 26 October 2011
Nikta Amiri