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Universiteit Leiden



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Title: Broadband polarimetry of exoplanets : modelling signals of surfaces, hazes and clouds

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Propositions accompanying the thesis

Broadband polarimetry of exoplanets

Modelling signals of surfaces, hazes and clouds

- α . The rainbow created by the water clouds of exoplanets is a mighty ally on our search for water on exoplanets.
- β . The use of polarisation can help us characterise exoplanetary atmospheres and surfaces (*Chapter 2*).
- γ . Using weighted averages of homogeneous models can lead to large errors on our interpretation of an exoplanetary signal (*Chapter 3*).
- δ . Looking for the rainbow of water clouds on exoplanets allows us to detect water on exoplanetary atmospheres, even when the latter contain lots of ice clouds (*Chapter 4*).
- ϵ . Spots, belts and polar hazes leave a distinctive trace on the disk-integrated exoplanetary signal (*Chapter 5*).
- F . An instrument like LOUPE on the Moon will allow us to control our models and create benchmark observations for future characterization of Earth-like exoplanets (*Chapter 6*).
- ζ . Missions like JUICE, selected to fly to Jupiter and its moons, are very important, also for the field of exoplanetary research.
- η . Polarization is a powerful means to decipher many of Nature's hidden messages.
- θ . Every scientist should be the most critical referee of his work.
- ι . A free-access and yet peer-reviewed way to publish research papers should be among the highest priority targets of the scientific community for the next decade.
- $\iota\alpha$. Modern day democracy is a smartly disguised oligarchy.
- $\iota\beta$. Relating the amount of funds a University receives to the number of students graduating every year, can only lead to a degradation of the quality of the provided education.
- $\iota\gamma$. Feminism is a social movement that is being misused nowadays.