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Hot chemistry and physics in the planet-forming zones of disks

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Propositions accompanying the thesis

Hot chemistry and physics in the planet-forming zones of disks

1. High spectral resolution infrared observations are necessary to be able to extract detailed information about the physical and chemical structure of terrestrial planet-forming zones. (*Thesis*)
2. The spatial distribution of gas must be well defined in order to be able to estimate correct molecular abundances in protoplanetary disks. (*Chapter 2*)
3. Radiative pumping and non-local thermodynamical equilibrium conditions are important to include in future radiative transfer disk models. (*Chapter 4*)
4. High temperature gas phase chemistry dominates over grain surface chemistry in the inner regions of protoplanetary disks. (*Chapter 5*)
5. If astronomers would increase their collaboration with mathematicians and programmers the quality of their research would improve by far.
6. Most scientific questions will best be resolved within a co-located interdisciplinary research group.
7. The current university appointment systems in Sweden and Netherlands select against the bulk of hardworking and very skillful female scientists.
8. If Americans want to live the American dream they should go to Sweden.
(*adapted from talk by R. Wilkinson*)
9. We would have a more humble society if everybody would do social work for a few months during an early stage in their working life.
10. Fighting terrorism with violence instead of the cause to its existence, is like trying to put out a fire with petrol instead of depriving it of its oxygen.

Jeanette Bast,
Leiden, 10 January, 2013