Les Lumières: probing the cosmic Epoch of Reionization with high-redshift quasars

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Propositions

accompanying the thesis

Les Lumières

– Probing the cosmic Epoch of Reionization with high-redshift quasars –

1. Overly simplified but sill widely used models, not only of absorption in the intergalactic medium, can lead to a dramatic underestimation of the inferred parameter uncertainties. (*Chapter 2*)

2. When it comes to the construction of informative summary statistics, physical intuition remains a strong competitor for machine-learning based approaches. (*Chapters 3 and 4*)

3. In a field dominated by model-dependent probes, there is value in identifying the maximum amount of model-independent information that we can extract. (*Chapters 3 and 4*)

4. As of today, all we can robustly say about reionisation at redshift $z = 7.5$ is that the process was well underway. More conclusive statements can *and will* follow soon with the availability of the first statistical quasar samples at these redshifts. (*Chapter 5*)

5. Scientifically and/or institutionally holding up the illusion of Astronomy as a discipline different from Physics only gives false justification to outdated historical conventions and hand-wavy scaling relations.

6. Hardly any paper is written by more than a handful of authors, even if excessively long author lists often suggest otherwise. A true distinction between authors and contributors would be appropriate.

7. Natural units are the only reasonable non-SI units.

8. Woldemar Voigt suffers the tragic fate of being the namesake of the convolution of a Gaussian and a Lorentzian profile only on paper, but not in spoken word.

9. *Pecunia non olet* is a common misconception, also in astrophysics. We have to be careful who we ask to fund our science or to launch our space missions.

10. Plotting is a form of arts and crafts, but not many scientists are artists.

11. When living abroad, attempting to learn the local language is not only a fun and highly rewarding activity but also common courtesy towards the host society – which should not be discouraged by exorbitant course fees.

12. Given the scientific community's widespread awareness about anthropogenic climate change, researchers spend a surprising amount of their time in the air.

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Leiden, 3 July 2026