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Dynamical modelling of stellar streams in a cosmological setting

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Propositions

accompanying the dissertation

Dynamical modelling of stellar streams in a cosmological setting

1. The time-evolution of dark matter haloes can be modelled with a simple analytic prescription that takes into account the haloes' inside-out growth as found in cosmological N-body simulations. (Chapter 2)
2. A time-dependent gravitational potential changes the stream-orbit misalignment, but this by itself is not conclusive evidence for the evolution of the potential. (Chapter 3)
3. For a sufficiently long stream, a clear signature that it has evolved in a time-dependent gravitational potential is a difference between the slopes of the straight lines fitted to the particle distributions in the true angle and frequency spaces. (Chapter 3)
4. When the present-day potential is not correctly modelled, streams are no longer on straight lines in angle space, but depict a wiggly appearance and an implausible energy gradient. (Chapter 3 and 4)
5. Incorrect nomenclature and blatantly incorrect ideas on astronomy have a long lifetime outside the professional astronomical literature.
6. An important factor for success in science is not only to be persistent in pursuing an idea, but also to know when it is time to move on.
7. Astronomy is the one science where humanity can realise how insignificant it is in space and time.
8. Fundamental research is almost impossible to be planned in detail, but one can plan a path along which to expect worthwhile discoveries.
9. It would benefit PhD-students if a larger portion of their training programme would be spent on preparation for life outside academia.
10. Every person has their own qualities, of which some are a blessing at one moment, and a curse at another. (*Ieder heeft zijn eigen-aardigheden*).
11. It is straightforward to translate text literally in another language, but it is often more difficult to reach the exact same meaning.
12. "Werken en feesten vormt schoone geesten."
– *Johanna Westerdijk (1883-1961), first female professor in the Netherlands*