

Propositions accompanying the dissertation

## **Unveiling the planet formation and evolution with dynamics**

1. Mean-motion resonances encode the dynamical history of planetary systems rather than merely describing their present orbital configuration (Chapter 2).
2. The presence of a well-ordered multiplanet system does not imply simultaneous formation. Planets often form sequentially (Chapter 3).
3. The Solar System's origin is best understood as a natural outcome of planet formation, not as the special product of artificial design (Chapter 4).
4. Background stars are bullies to baby planets (Chapter 5).
5. You may be disappointed when you peer into a gap and find nothing, so let's put something in there... say, planets (Chapter 6).
6. The decisive factor in examining a speculative idea is the willingness to take the first exploratory step.
7. When the answer is hidden, look beyond the narrow path and see the vast landscape.
8. Meaningful scientific progress often emerges from linking ideas that initially appear unrelated.
9. The ease with which a paper can be criticized without being read serves as a reminder that scientific judgment is not always grounded in evidence, but is sometimes dominated by strong priors without any evaluation of the likelihood.
10. I remain in a superposed state of both having had COVID-19 and not.
11. Artificial intelligence is weakening authentic intelligence.
12. Hotpot activities enhance research productivity by strengthening social cohesion within research groups.

Shuo Huang  
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