Chaotic Dynamics in N-body systems

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Propositions

associated with the thesis

Chaotic Dynamics in N-body Systems

1. The N-body problem can be considered solved, if one uses arbitrary-precision arithmetic and sufficiently small time steps. (Chapter 2)

2. A general N-body problem can be solved by solving the two-body problem for every pair of particles in the system. (Chapter 3)

3. An ensemble of accurate solutions is equivalent to an ensemble of approximate solutions, in the case of three-body dissolution. (Chapter 4)

4. Gravity has the property of Nagh-Hoch, which implies that numerically diverged solutions behave quasi-ergodic. (Chapter 5)

5. The orbit of comet Halley has a Liapounov time scale of order 300 years, and not 70 years or lower. (Chapter 6)

6. We can always simulate reality, but it will always remain an approximation.

7. Pure N-body dynamics is crucial for the understanding of planetary systems, star clusters and galaxies.

8. Triple stars behave very similar to humans.

9. A super blood moon has absolutely nothing to do with the fate of human kind.

10. If a phone call is not answered, it does not mean nobody is home.

11. It is recommended that the United Nations develop an integration program for aliens.

12. Science is underrated on daily television.

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