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## From intracluster medium dynamics to particle acceleration

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Propositions accompanying the thesis

## **From intracluster medium dynamics to particle acceleration**

1. Confirming a shock front in a low density region is challenging and requires detailed modeling of the background. (**Chapters 1 & 2**)
2. Both X-ray and radio observations are powerful to unveil the massive galaxy clusters hidden behind the Milky Way. (**Chapter 3**)
3. The connection between the nonthermal and thermal components in the ICM is tight. (**Chapters 2 & 4**)
4. The systematic uncertainty of the measured ICM temperature is high, and should be considered when interpreting the results. (**Chapters 1, 2, 3 & 4**)
5. Though space telescopes are free from the Earth atmosphere, observations are affected by chaotic space weather.
6. Case studies and sample studies are both important to understand the Universe.
7. Documentation, manual and user handbooks of X-ray telescopes are useful for beginners, but are limited for advanced users.
8. The power law is the fiducial mathematical expression of the Universe.
9. Media should report science discoveries together with confidence intervals.
10. Experience helps you but can also mislead you.
11. The motivation for astronomical studies is curiosity rather than absurd interstellar emigration.
12. Chinese restaurants in the Netherlands are polarized.

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Leiden, May 2022