Observational Cosmology

The Way

1. We only see photons
   — Excluding sun and cosmic wind, neutrinos, gravitons
2. Light is emitted by an accelerating charge
   — Larmor equation 1897
   — Emission orthogonal to the acceleration vector, it is all about retarded fields interferences
   — The light goes straight, bounces isoangularly on the mirrors
3. Stars are not born alone
   — Viriel's theorem
4. The development of a star is a function of its mass and its initial metallicity
   — It is a point which emits a spectrum of black body
5. The existing solar wind and cosmic rays
   — Terrestrial planets
   — The first large stars (blue) scatter the formation cloud
6. The more massive a star, the shorter its lifespan
   — The sun is rather massive (10 Gyears)

The Virtue

7. Blue light has a more difficulties to cross matter than red
   — The sky is blue, the sunset is red
   — Radio waves pass through us better than X-rays
   — Deviated water drops of light (rainbow)
   — Telescopes look for the minimum amount of water in the line of sight
8. UV light traces stellar formation and IR, mass
9. Remember where you come from
   — The path is long
   — Report what you see, not your beliefs
10. The professional measures his errors
    — This is why he redoes all the calculations propagating errors
11. The observing cosmologist counts points
    — Luminosity function

The Peace

21. A differential equation of order 2 or with several variables is complicated
22. Read the good documentation
23. The frequency of an event is inversely proportional to its amplitude
24. Use redshift
25. What is not explicitly prohibited is allowed
26. To know the influence of a parameter, push it aside and observe the new result
27. Any equation must be *homogeneous* : we do not compare galaxies and euros when the galaxies are not for sale
28. Criticise your work without admiring it blissfully
29. Beware of SI units, use those of Planck, yours, by the way ...
30. Do it your way