1 Radio Telescopes

After two weeks of introduction to some basics, we will look at one of the most important aspects of radio astronomy - telescopes. Shorter wavelengths typically allow us to use the particle nature of light in the form of photon counting to efficiently study astronomical objects. In the radio band however, we have to deploy its wave nature since radio photons are many orders of magnitude less energetic in comparison. Luckily, transmitting and receiving radio waves had been in place much before the birth of radio astronomy. That said, observing radio waves from the sky and making images out of them is still quite the task.

Chapter 3 (3.1 and 3.3) will be our focus this week to understand the basics of radio telescopes. The other sections are a bit more advanced, and you are encouraged to go through them only if you have the time and interest to do so. A quick look at section 3.6.4 is recommended, as it briefly describes radio frequency interference (RFI), one of the major things that affect our radio observations. The aim of learning about radio telescopes and the way they collect data goes far beyond just their instrumentation aspects. We have to take all of it into consideration when we process data and make it ready for science - hence the necessity to understand it. This chapter although introductory will give you a much needed glimpse.

2 Activities

We won't be having any activities for this week as there is not enough time for that before our next meeting on Saturday.