

Section II

Technical Aspects on Observing Galaxies

In the last section, we talked about the physical nature of galaxies and clusters, including the relevant information on data sources and their quality. This section presents the technical aspects of observing, both instrumental and physiological [102]. Descriptions of telescope types, like the standard instrument for visual observations, the Dobsonian, are omitted. You can find enough informations in the published literature or the internet. But we will focus on necessary tools like finders, eyepieces, or filters here. Beside the many instrumental aspects, galaxy observing is also a matter of vision techniques. A bit of theory is necessary to discuss questions like: What are the essential optical quantities? How to use averted vision? What is the relevance of aperture and magnification?

OK, let's talk a little about "aperture-fever." Independent of the telescope size, you will always find objects looking similar to those observed in a binocular. Sure, it is a benefit of a large aperture to delve deeply into the structure of bright galaxies (see, e.g., the observations of Ron Buta [103]). But under the right conditions even a small telescope can discern considerable detail. It can be quite fascinating to discover a certain Messier or even NGC galaxy in a small instrument. And sometimes, in case of large, low surface brightness galaxies, a small aperture can be even better! There are challenging cases for every size and no serious visual observer would joke about small telescopes. It needs the same (or even more) degree of experience and observing technique to detect a 13-mag galaxy in a 4 in., than a 16-mag galaxy in a 20 in. In fact, there can be a "minimum-aperture-fever" too!