Two Views of Astronomy

1. **To develop a mathematical account of the motions of celestial bodies that yields calculated (geocentric) longitudes and latitudes that at all times, into the indefinite past and future, agree with observation to within the limits of precision of the observations, invoking considerations from physics where helpful, but with the hope that ultimately the details of the motions will shed light on the underlying physics.**

The standard: no residual discrepancies

2. **To develop an account of the physics of the celestial realm – a cosmology, as it were – fully anticipating that this physics will imply that the actual celestial motions are inordinately complicated in ways making any detailed regularities that happen to be discerned in these motions nothing more than transitory happenstance occurrences – i.e. epochal coincidences – and hence of limited significance.**

The standard: comprehensive unified physics

Astrophysical Questions

1. **What is the physics of stars, why do they give off light, and what gives rise to new stars?**

2. **What are sunspots, how do they form, propagate, and evolve?**

3. **What are comets, where do they come from, and where do they go?**

4. **What are planets, how do they form, and why do they persist in orbit?**

5. **What is the general structure of the universe and how does our Sun and its system relate to other nearby stars and their systems?**

6. **What is light, how does it propagate from a source, and what can it tell us about that source?**