

# The Copernicus Experiments

## Testing Earth's Shape Through Direct Measurement

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## Part I

# INTRODUCTION

# Chapter 1

## Why This Book Exists

If you have not run into anyone who questions the shape of the Earth, consider yourself lucky. Speaking for myself, I think I was a lot happier as a kid watching NASA do its magic on TV. Throughout adolescence I wanted nothing else but to be an astronaut. As an adult, I’ve become jilted. I believe little (if anything) that NASA has “accomplished,” and I can’t honestly tell you whether we live on a spinning ball or a flat disc.

This book is not a debate club. It is an attempt to assemble claims, predictions, and experiments in one place so that the question can be approached with measurement rather than ridicule.

### 1.1 Heliocentric vs. Geocentric

Most of us were taught a heliocentric worldview: the Sun is the center of our solar system. Our Sun is a star—the closest star to Earth. When we look into the night sky, we see countless other stars. In the modern picture, each is associated with its own system of planets. Taken together, it can make a person feel insignificant: a speck on a speck among millions of specks.

The geocentric model claims that Earth is the center of our solar system and that the Sun, stars, and planets orbit the Earth. Today this is a rare view of cosmology. I mention it only because the movement exists and seems to be growing; in modern internet discourse, it sometimes functions as a “baby step” toward flat-Earth cosmology.

### 1.2 Globe Earth Cosmology (Standard Model)

In the mainstream model:

- Earth is approximately an oblate spheroid with an equatorial radius of about 6,378 km and a polar radius of about 6,357 km.
- The mean Earth–Sun distance is about 149.6 million km (1 astronomical unit).
- The Sun’s radius is about 696,000 km; Earth’s is about 6,371 km (mean).
- The Moon’s mean distance is about 384,400 km, and its radius is about 1,737 km.
- Earth rotates once per sidereal day (about 23 hours 56 minutes), which corresponds to roughly 465 m/s at the equator.
- Earth orbits the Sun once per year at about 29.8 km/s.

- The Sun orbits the center of the Milky Way, and the Milky Way is moving relative to other galaxies; on larger scales, the universe is expanding.

This model fits an enormous body of quantitative prediction: celestial mechanics, navigation, satellite communications, eclipses, tides, and much more.

### 1.3 Flat Earth Cosmology (As Commonly Presented)

Very few people take the time to understand even the basics of a flat-Earth cosmology. Before dismissing it as medieval nonsense, one should at least understand what is being claimed.

In a common flat-Earth model, Earth is described as an inverted frisbee:

- The North Pole is at the center, with Polaris (the North Star) above it.
- Antarctica is not a continent at the bottom of a globe, but an “ice wall” around the perimeter.
- There is no South Pole in the usual sense; “south” is said to mean “toward the outer ring.”
- The Earth is fixed, while the Sun and Moon are smaller, closer, and travel above the surface in paths (often described as circular or elliptical).

Flat-Earth cosmologies vary widely, and many details differ between proponents. For the purposes of experimentation, the important point is not whether any one narrative is aesthetically pleasing, but whether the model makes distinct, testable predictions.

## **Part II**

# **OBSERVABLE PHENOMENA**

## Chapter 2

# Placeholder

Content to be folded in later.

**Part III**

**CURVATURE PROOFS**

## Chapter 3

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## Part IV

# SOUTH POLE PROOFS

## Chapter 4

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