

## 2.7 Further Reading

The only textbook devoted to CMB science is:

R. Bruce Partridge: [3K: The Cosmic Microwave Background Radiation](#). This is a graduate-level textbook, although parts of it are at a similar level to this course. I have borrowed heavily from Partridge in places.

The best introductory-level textbook on cosmology in general is:

Edward R. Harrison: [Cosmology: the Science of the Universe](#). This does not cover recent developments in the CMB, but is very strong on the basics and great fun to browse. An added bonus is that it includes probably the most painless introduction to the concepts of relativity theory available.

There are some excellent articles in [Scientific American](#) which can be downloaded (for a price) from their web site. In particular see

- "The Self-Reproducing Inflationary Universe", by Andrei Linde (November 1994). Discusses inflation and what may have come before.
- "Is Space Finite?" by Luminet, Starkman and Weeks (April 1999). Description of compact topologies, with some very helpful illustrations.

There are two very helpful web sites on the physics of CMB fluctuations:

Wayne Hu's [Ringing in the New Cosmology](#) features lots of beautiful diagrams and animations which end up giving a very complete picture of why and how we can learn so much about cosmology from the CMB. The only drawback is that some of the prose is literally purple, and some pages may take a while to download!

Max Tegmark's notorious [Power Spectrum Movies](#) illustrate exactly how the  $C_1$  spectrum and the local galaxy power spectrum changes as the various cosmological parameters are adjusted.