

Cosmic Microwave Background Fact Sheet

- ❖ Expansion happened in 10^{-43} seconds
- ❖ 3 pieces of evidence that support the Big Bang Theory
 - Constant Expansion of the Universe
 - Primordial Abundance of elements in the universe
 - The CMB
- ❖ The Cosmic Microwave Background was actually discovered by accident in 1965
- ❖ CMB is a fossil of the beginning of the universe
- ❖ Anisotropy is used to determine the shape of the universe
- ❖ Anisotropy is based solely on the direction of the light scattering and the axis it is observed on
- ❖ Primordial light penetrates today's galaxies and clusters
- ❖ Ripples observed by satellites in the CMB are the main factors in determining the shape of the universe
- ❖ The goal of the WMAP is to map out the minute temperature differences in the CMB's radiation to help test the theories of the universe
- ❖ WMAP also allows us to guesstimate with extreme accuracy the age of the universe, which is 12.7 ± 0.2 billion years
- ❖ The Planck Satellite, launching in 2008, will be the next step in the ongoing investigations of the CMB
- ❖ New experiments give us new evidence regarding inflation, universal expansion, age of the universe and explain the theory of dark matter and dark energy