



**The Spectrum of Primordial Sound.** The temperature variations in early universe seen in the BOOMERANG images are due to sound waves in the primordial plasma. The angular spectrum of these images shown here, reveals the characteristic size of the structures that dominate the image. A peak in this spectrum at scales of  $\sim 1$  degree, as is seen here in the BOOMERANG data, indicates that the Universe is nearly spatially flat. The data can be well fit by cosmological models that contain non-baryonic matter in addition to normal, baryonic matter. One such model is indicated by the solid blue curve. A generic feature of such models is the presence of a harmonic series of additional peaks beyond the fundamental peak at  $\sim 1$  degree. The relative height of the second peak at  $\sim 1/2$  degree on the sky varies with the balance of matter in the Universe contained in normal or baryonic matter and non-baryonic matter.