Thermal properties of solar coronal holes

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The solar corona is seen in soft X-rays: active regions are bright, and the quiet Sun is faint. Coronal holes are so dark in soft X-rays to be observed. It is, however, important to understand the thermal properties of coronal holes, because they are thought to be a source of solar winds.

We used the data of solar eclipses observed with the Hinode X-ray telescope, and studied the thermal properties of faint targets like coronal holes. For the study on faint target, it is important to evaluate the effect of scattered X-rays in the telescope. Because in an area occulted by the Moon we can actually observe a scattered X-ray component itself, the data of solar eclipses are very useful.

In this presentation, we will discuss the properties of both polar and equatorial coronal holes, and also discuss the vertical temperature structure up to 0.2 solar radii above solar limbs in the quiet Sun.