

The View from the Stratosphere: Systematics and calibration challenges of CMB ballooning

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Balloon-borne instruments have long played an important role in CMB observation. Their unique vantage point provides a nearly unobstructed view of the sky at millimeter wavelengths, largely free of the atmospheric fluctuations and absorption that constrain terrestrial observations. By deploying modern instruments to a space-like environment, they also provide a critical technological proving ground for future satellite missions. Alongside these advantages, balloon-borne instruments also provide a number of unique challenges. I will discuss some of the systematic and calibration challenges that face current and future balloon-borne experiments, with a particular focus on SPIDER: a targeted B-mode payload currently awaiting its second long-duration balloon flight from Antarctica.

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