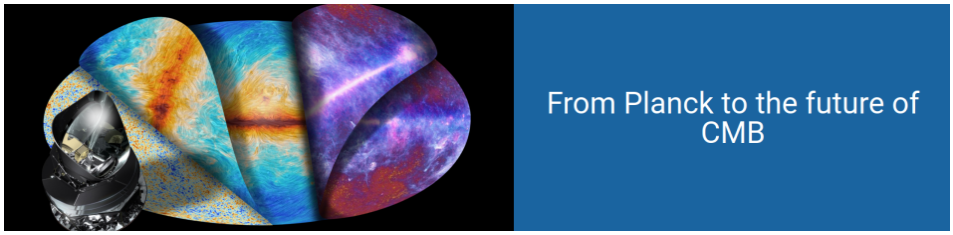

Contribution ID: **112** Type: **not specified**

Invited talk by Hannes Hubmayr (NIST Boulder) on "The shape of CMB focal planes to come"

Monday, 23 May 2022 16:40 (40 minutes)

The tantalizing science reach of CMB observations has driven remarkable innovation in superconducting detectors. Roughly two decades ago, CMB focal planes consisted of a few individually assembled detection channels. By use of modern micro-fabrication equipment and improved microwave design tools, today's imaging focal planes consist of multiple-tiled, large-format wafers. A wafer may contain hundreds of spatial pixels, each an integrated superconducting circuit capable of polarization diplexing and power sensing in multiple frequency channels. In this talk I will present the current CMB focal plane landscape, including the various optical coupling, sensing, and multiplexing techniques in use. Attention will be given to the formidable scaling challenge of near-term ground-based observations. Lastly, I will offer my opinion on what future focal plane developments would be most impactful for future ground and space-based CMB instruments.

Session Classification: Detectors and Beams