



EFI Particle Physics Seminar
Monday November 29, 2021
Time: 3:30 PM
Location: MCP 201

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The Next Generation CMB Experiment, CMB-S4

The next generation cosmic microwave background experiment CMB-S4 was conceived by the community as the path forward to realizing the enormous potential of CMB measurements for understanding the origin and evolution of the Universe, from the highest energies at the dawn of time through the growth of structure to the present day. Its science case includes the search for primordial gravitational waves as predicted from inflation, constraints on relic particles, setting the neutrino mass scale, unique and complementary insights into dark energy and tests of gravity on large scales, elucidating the role of baryonic feedback on galaxy formation and evolution, opening up a window on the transient Universe at millimeter wavelengths, and even the exploration of the outer solar system. CMB-S4 has been endorsed numerous national reports and committees, notably the 2014 P5 report and most recently the Astro2020 decadal survey report.

In this informal talk and discussion with local CMB-S4ers, we will briefly outline the transformative science goals focusing primarily on those of interest to the HEP community, the key aspects of the instrument design to achieve the science goals, as well as a very brief overview of the project plan.