

Opening: The Snowmass UHECR White Paper

Monday, October 3, 2022 9:20 AM (30 minutes)

This talk will provide an overview on the whitepaper ‘Ultra-High-Energy Cosmic Rays: The Intersection of the Cosmic and Energy Frontiers’ [arXiv:2205.05845] that has been prepared for the Snowmass survey in the USA. The paper discusses recent progress and open questions regarding the particle physics and astrophysics related to ultra-high-energy cosmic rays. The upgraded Pierre Auger Observatory and Telescope Array will be the workhorses at the highest energies in the current decade. A possible timeline for a few next-generation UHECR experiments is presented that will complement each other in the next decade. GRAND and POEMMA will provide maximum exposure for UHECR; IceCube-Gen2 with its surface array and GCOS aim at increased statistics with high accuracy for particle physics and rigidity-based galactic and extra-galactic astrophysics.

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