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Next Generation Instrumentation for Ultra-High-Energy Cosmic Rays (UHECR)

Thursday, 23 March 2023 14:00 (5 minutes)

As solicited by the Snowmass Cosmic Frontier 7 and as a major effort of the international UHECR community, we have produced a whitepaper about the status and future of ultra-high-energy cosmic rays (UHECR) physics [Astropart. Phys. 149 (2023) 102819 - arXiv:2205.05845] with about 100 authors and many additional endorsers. Part of the whitepaper is an instrumentation roadmap of the large-scale experiments needed for both the particle and astrophysics goals of UHECR during the next two decades. The currently upgraded Pierre Auger Observatory and also the Telescope Array will drive UHECR physics during this decade, preparations for the next generation of complementary experiments is mandatory. This short presentation will give an overview of the science cases and the instrumentation roadmap concluding the whitepaper, which includes next generation experiments such as POEMMA as a space-borne detector, and the GCOS as a ground-based observatory.

Please select if remarks will be in person or on zoom

On zoom

Do you describe your self as early career?

Please add details of experiment/project that this abstract corresponds to?

Overview on next-generation UHECR including POEMMA, GRAND, GCOS

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Session Classification: Open Session for remarks