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Particle Physics Beyond-the-Standard-Model with Cosmic Accelerators

Wednesday, 22 March 2023 17:10 (5 minutes)

High-energy gamma-ray observations have the potential to probe fundamental physics at energy scales and distances not accessible to earthbound accelerators. With the long distances to astrophysical sources, TeV gamma-ray observations can constrain violations of Lorentz Invariance to beyond the Planck scale. Axion-like particles can be produced in the magnetic fields surrounding astrophysical objects and modify their high-energy spectra. With TeV gamma-ray observations, we can push our understanding of particle physics processes, including those beyond the Standard Model, into regimes that cannot be reached on earth. With several upcoming experiments able to push our observations of cosmic gamma rays to the hundreds of TeV and PeV energies, now is the time to push our understanding of these processes into the unknown.

Please select if remarks will be in person or on zoom

In person

Do you describe your self as early career?

no

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

SWG0, CTA

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Session Classification: Open Session for remarks