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Cosmic magnetic monopole search experiment SCEP

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The existence of magnetic monopoles (MMs) remains one of the most enduring questions in particle physics. They are theorized to play a crucial role in explaining the quantization of electric charge. According to the Grand Unified Theory (GUT), MMs were produced during the separation of the strong and electroweak forces, an event that occurred shortly after the Big Bang. Previous efforts to detect these GUT-MMs relied on superconducting coils or large low-background detectors, which require ultra-low temperatures or underground environments. In this talk, I will introduce the SCEP experiment, which aims to detect coincidental signals of MMs using high-precision magnetometers and plastic scintillators simultaneously. I will also present the latest progress of the experiment R&D effort.

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