## Phenomenology 2025 Symposium



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## **New Directions in Dark Matter Detection**

Monday 19 May 2025 18:15 (15 minutes)

Experiments with directional sensitivity are ideal for discovering a dark matter signal even in the presence of irreducible backgrounds. Crystalline trans-stilbene ( $C_{14}H_{14}$ ) is an excellent first example, with O(10%) amplitudes in its daily modulation signals. In this talk, I present a simple, universal measure for quantifying the statistical power of a directionally sensitive counting experiment, to guide the search for target materials that are even more effective than trans-stilbene. I also provide an update on the multi-gram-scale prototype experiment currently being assembled at Fermilab.

Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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Track Classification: Dark Matter Theory and Detection