EXPLORE 2025 Summer School and Conference



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Dark Matter, First Light

Dark matter forms the foundation for all cosmic structure, and its fundamental nature is one of science's most pressing enigmas. As we search for the most distant galaxies in the universe with radio and infrared observations, we are in a position to explore the particle physics of dark matter —the possibility of annihilation, decay, or other particle interactions —through its effects on early stars and galaxies. I will give an update on the quest to identify dark matter both in the lab and in the sky, major unsolved problems in dark matter theory, and how upcoming observations of the epoch of the first cosmic structures can be used to open a new window on the dark universe.

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