The Low-Energy Frontier of Particle Physics



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Probing the electron's EDM using cold and slow molecules

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Precision measurements on molecular quantum systems have developed into a powerful way to explore new physics. Such measurements are currently the most sensitive way to probe an effective asymmetry in the charge distribution of the electron - its electric dipole moment. Through a measurement of this property, limits can be set on possible extensions of the Standard model of particle physics. In this talk we will present the context, methods and latest developments in this field where the precision techniques of atomic and molecular physics are used to probe the frontiers of particle physics. A particular focus is put on our work to produce slow beams and trapped samples of suitable molecules.

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