

Theory of Elementary Particles, Astroparticle Physics, and Phenomenology (TEPAPP) Seminar

Wednesday, October 13th @ 9:00am PT

Held Virtually

“Mesogenesis”

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Abstract: I will introduce a class of new mechanisms for low-scale baryogenesis and dark matter production that utilize the CP violation within Standard Model meson systems. Mesogenesis mechanisms operate at MeV scales and such, remarkably, are experimentally testable. I will first give an overview of neutral B -Mesogenesis; in which baryogenesis proceeds through the oscillation and subsequent decay into a dark sector of neutral B mesons. Neutral B -Mesogenesis is testable at current hadron colliders and B -factories, and I will present results of recent studies that pave the way towards constraining (or discovering) this mechanism. Finally, I will present some recent proposals for charged Mesogenesis which relies on the CP violation of charged D and B mesons.