

## Contributed Talk

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**Title:** Particle physics models for ultralight bosons

**Abstract:** I will discuss a family of simple extensions of the Standard Model and the main principles behind such a construction that can yield ultralight complex vectors or scalars with potential astrophysical relevance. Specifically, the preferred mass range for these putative fundamental bosons ( $\sim 10^{-10}$  to  $10^{-20}$  eV) can lead dynamically to, e.g., compact objects such as bosonic stars or new non-Kerr black holes with a stellar to supermassive mass range. For each model, I will discuss the properties of the mass spectrum and interactions, its theoretical viability as well as some of its potential and most relevant phenomenological implications.