

# Making (quantum) sense of dark particle-waves

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Ultralight ( $10^{-22}$  eV  $< m < 20$  eV) bosonic particles are among prominent candidates for galactic dark matter. We will discuss the reason why such particles necessarily have to be bosons and various other properties that follow from their galactic association. It follows from the observed dark-matter density that the number density of the bosons is so high that their collective field could be a more convenient description. We will discuss the properties of this field, including its coherence time, coherence length, as well as its characteristic velocity with respect to the galactic frame [1]. These are important for the interpretation of dark-matter searches, including the recent results of the cosmic axion spin precession experiments (CASPEr) [2,3].

## References

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