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Narrowing the mass range of ultra-light dark matter

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In this talk, I will discuss the latest efforts to constrain the mass of the ultra-light dark matter models, focusing on the current bounds of the fuzzy dark matter (FDM) model. I will show how we can use the different predictions of this model and different astrophysical systems to put the strongest bounds to date on the mass of this ultra-light axion, showing also the incompatibilities that are currently present in these bounds. I will also discuss the current developments in using interference patterns and vortices as a way to probe the FDM model and give the example of strong lensing as a powerful probe to measure this wave behavior.

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