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Asteroid-mass Dark Matter

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Massive astrophysical compact halo objects have been proposed as possible constituents of dark matter today. The mass range of massive compact object DM candidates is quite extensive. Within the broad mass spectrum, the asteroid-mass window has recently received much attention, especially in relation to primordial black holes (PBHs). In this talk, I will first discuss the searches for asteroid-mass PBHs and what we can learn about the dark sector through their Hawking radiation. In the second part, I will introduce a novel dynamic approach to search for massive compact object DM. I will show the gravitational interaction between PBHs and sub-solar mass DM with binary systems presents a potential strategy for probing unexplored parameter spaces.

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