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Gravitational Probes of Dark Matter

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Dark matter makes up 25% of the matter–energy density of the Universe but is not composed of any particle known to the Standard Model. To date, the only robust empirical evidence for the existence of dark matter comes from astrophysical and cosmological observations. These observations can probe the fundamental nature of dark matter through gravity, the only force to which dark matter is known to couple. I will discuss some recent advances in the study of dark matter with large cosmic survey experiments.