

Title: How Dark Matter Might Evade Direct Detection

Abstract

Gravitational evidences for Dark Matter (DM) can be found amply in the literature. A brief overview on the evidences will be given in the talk. However, a nagging question in modern physics today is about the nature of DM. One appealing search for deciphering the identity of the dark matter is Direct Detection (DD) of DM via its interaction with ordinary matter. In this talk we will consider weakly interacting massive particle (WIMP) dark matter candidates. In light of the null results from DD experiments such as LUX and XENON1t, we ask what if Wimpy DM can escape the current direct detection experiments? We then discuss phenomenology of DM models with the potential to explain the null results from the current DD experiments, and at the same time being within reach of the future DD experiments.