

A combined search for dark matter with COSINE-100 and ANAIS-112

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The evidence for the existence of dark matter from astrophysical observations is strong. However, there has not been a conclusive direct detection of dark matter that does not rely on gravitational interaction with visible matter. One experiment, DAMA, claims to have observed an annual modulation signal in a sodium-iodide-based detector consistent with that expected from dark matter. COSINE-100 and ANAIS-112, two leading sodium-iodide dark matter experiments, were designed to test DAMA's claim directly using the same target material. COSINE-100, located at Yangyang Underground Laboratory in South Korea, and ANAIS-112, located at Canfranc Underground Laboratory, have been taking data since 2016 and 2017, respectively. The two experiments have similar sensitivity and have thus far published results independently. In this talk, I will discuss our efforts to combine the data from the two experiments for increased search sensitivity and share its current status.

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