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NaI(Tl) crystal encapsulation with liquid scintillator

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Because of hygroscopic property of NaI(Tl) crystal, meticulous care should be taken when handling and encapsulating the crystal. Encapsulation with little surface radioactive background is critical in building low-background rare search experiment.

One of possible method for the background reduction is encapsulation with active veto counter, such as liquid scintillator. Alpha events from surface of NaI(Tl) crystal and gamma events from external backgrounds are tagged in the liquid scintillator and then such background events can be rejected.

In this poster, we will present the performance a of NaI(Tl) crystal detector encapsulated with liquid scintillator.

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