



Contribution ID: 115

Type: **Talk**

Burkhant Suerfu (Princeton U.): Status of the SABRE NaI(Tl) Dark Matter Experiment

Friday 23 February 2018 12:15 (15 minutes)

SABRE is an experiment that is being developed to search for dark matter with an array of NaI(Tl) scintillating crystals. A primary goal is to test the DAMA-LIBRA modulation signal claimed to be evidence for dark matter. The experiment will employ NaI(Tl) crystals with low levels of internal radioactivity in an active shield of liquid scintillator and water. In the past two years SABRE has produced large NaI(Tl) crystals with radio-purity levels comparable to that of DAMA-LIBRA, and research toward higher radio-purity is ongoing. One detector will be deployed in the LNGS underground laboratory in Italy. A second detector will be located in Australia in the Stawell Underground Physics Laboratory, 240 km west of Melbourne. An overview of the detector design will be presented, together with reports on development of low radioactivity NaI(Tl) crystals, SABRE DAQ systems, and status of commissioning the North detector.

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Session Classification: Session 13