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## **Estella Barbosa de Souza (Yale U.): COSINE-100 simulation and background assessment**

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The COSINE-100 experiment is a NaI(Tl) dark matter direct detection experiment, with the goal of testing DAMA's claim for dark matter detection by looking for an annual modulation signal. It has 8 NaI(Tl) crystals, adding to a total of 106 kg, and 2000 liters of a liquid scintillator veto. Located at the Yangyang Underground Laboratory, South Korea, COSINE-100 has been running since September 2016. The search for the annual modulation signal requires a complete understanding of the background signal and their time dependence. This can be achieved by conducting a complete simulation and modeling of detector's background, in addition to a study of the cosmogenic activation history of the crystals. In this poster, I will present details of the COSINE-100 simulation and background assessment, and the study of cosmogenic activated backgrounds.

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