

Building database for HELIX

Monday, August 19, 2024 11:10 AM (10 minutes)

The High Energy Light Isotope eXperiment (HELIX), is a balloon borne experiment that is on measuring the flux of different cosmic ray isotopes. Objective of HELIX is primarily to measure the ratio of Be₁₀ and Be₉ fluxes to study the propagation of cosmic rays. HELIX had around 6 days of flight in 2024 from Kiruna, Sweden, collecting 200M instances of cosmic ray events. Raw data collected from the multi-part detector includes about 13k channels of digitized particle detector signals, and a few thousand housekeeping sensors that are collected through independent systems. To study the environment dependent performance changes of the detector, it is important to combine these two data streams. This presentation will talk about a software developed to parse the flight data, including the detector and housekeeping data. The software will match detector data to corresponding housekeeping and detector calibration files. The presentation will also feature a model made to estimate the direction of the sun during the flight, using the key housekeeping data.

What area of study best describes your talk?

Other (specify below)

If you answered 'Other', please provide the study area.

Physics / Computer Science

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Session Classification: Presentations