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Current status and future plans for HELIX

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HELIX is a balloon-borne experiment aiming to make mass-resolved measurements of the cosmic ray isotopes from 0.1 GeV/n up to 10 GeV/n to study the propagation of Galactic cosmic rays. The HELIX collaboration has adopted a staged approach and will modify the payload configurations over multiple flights to cover the wide energy range. The first stage of the HELIX detector is designed to measure from 0.1 GeV/n up to 3 GeV/n for particles lighter than neon ($Z=10$). This first stage of HELIX was successfully flown from Kiruna, Sweden, in 2024 spring for just over six days. While refurbishing the payload and performing data analysis is ongoing, the HELIX collaboration is optimizing the detector configuration for future flights, aiming to extend the measurements to a higher energy range. This talk will overview the current status of HELIX data analysis and detector developments for future flights.

Eligibility for "Best presentation for young researcher" or "Best poster for young researcher" prize

No

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