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Directional detection of galactic Dark Matter

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Directional detection of galactic Dark Matter is a promising
search strategy for discriminating geniune WIMP events from
background ones.
I will first review technical progress on directional detectors and present a comprehensive analysis method.
The goal is to identify
galactic Dark Matter by proving its correlation
with the solar motion.

Summary

Directional detection of galactic Dark Matter is a promising
search strategy for discriminating geniune WIMP events from
background ones.
I will first review technical progress on directional detectors
(DRIFT, NEWAGE, DMTPC, MIMAC) based on white paper recently
published (arXiv:0911.0323).
I will then present a comprehensive formalism (arXiv:0911.4086),
using a map-based likelihood method. The goal is to show how to
exploit upcoming directional data in order to discover
galactic Dark Matter by proving its correlation
with the solar motion.

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