

Interpretation of modulating amplitude and phase from the DAMA/LIBRA analysis method

Wednesday 29 March 2023 19:04 (1 minute)

The COSINE-100 collaboration recently released a study suggesting possible cause of the annual modulation from an analysis method adopted by the DAMA/LIBRA experiment in which the observed modulating signal could be attributed to a slowly varying time-dependent background. The DAMA/LIBRA collaboration's claim for a dark matter signal has been debated over the last two decades. However, despite many collaborations' attempts to reproduce DAMA's results, no definitive evidence has been observed. COSINE-100's model-independent, annual modulation search adopting the analysis procedure as close as possible to the DAMA/LIBRA method with COSINE-100 data finds a strong modulation, but with opposite phase. Here, I will summarize the results of this study and possible scenarios that suggest causes for DAMA's signal phase.

Primary author: HOLLICK, Sophia (Ya)

Co-authors: ADHIKARI, Govinda (Yale University); MARUYAMA, Reina

Presenter: HOLLICK, Sophia (Ya)

Session Classification: Reception and Poster Session in the same room

Track Classification: Non-directional direct dark matter detection