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Annual modulation from COSINE-100 data using DAMA/LIBRA's analysis technique

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DAMA/LIBRA has consistently reported an observation of annual modulation in residual event rate over 20 years but no definite evidence from other experiments. Apart from the dark matter hypothesis, recent studies reported the possibility of the annual modulation of DAMA/LIBRA due to the slowly varying time-dependent background after subtracting the average background each year. Here, we present the COSINE-100 annual modulation using a similar method of the DAMA/LIBRA. We also generated a simulated pseudo data for the DAMA/LIBRA at 2-6 keV without dark matter signal by assuming the same background compositions. We observe annual modulation with similar amplitude but opposite phase.

In-person participation

Yes

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