

## Probing sterile neutrino dark matter in the PTOLEMY-like experiment

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We study the prospect to detect the cosmic background of sterile neutrinos in the tritium  $\beta$ -decay, such as the PTOLEMY-like experiments. The sterile neutrino with mass between 1 eV - 10 keV may contribute to the local density as warm or cold DM component. In this study, we investigate the possibility for searching them in the models with different production in the early Universe, without assuming sterile neutrino as full dark matter component. In these models, especially with low-reheating temperature and late-time phase transition, the capture rate per year can be greatly enhanced to be  $\mathcal{O}(10)$  around the mass range 10 – 100 eV without violating other astrophysical and cosmological observations.

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