

Abstract Submitted
for the APR21 Meeting of
The American Physical Society

${}^3_{\Lambda}\text{H}$ and ${}^4_{\Lambda}\text{H}$ Lifetime Measurements in Au+Au collisions at $\sqrt{s_{\text{NN}}} = 3$ GeV with the STAR detector YUE HANG LEUNG, Lawrence Berkeley National Laboratory, STAR COLLABORATION — The study of hyperon-nucleon(Y-N) interaction is of great interest in recent years because of its relation to high-density matter systems such as neutron stars. The presence of hyperons inside neutron stars would soften the equation of state, inhibiting the formation of large mass neutron stars. Hypernuclei, bound states of nucleons and hyperons, serve as a probe to study the Y-N interaction. Precise measurements of the lifetime can provide direct information on the Y-N interaction. The data from fixed target Au+Au collisions at $\sqrt{s_{\text{NN}}} = 3$ GeV, taken in 2018 by the STAR detector, is ideal for studying the properties of light hypernuclei, such as ${}^3_{\Lambda}\text{H}$ and ${}^4_{\Lambda}\text{H}$, due to the large statistics and high production yield. In this talk, lifetime measurements of ${}^3_{\Lambda}\text{H}$ and ${}^4_{\Lambda}\text{H}$ in Au+Au collisions at $\sqrt{s_{\text{NN}}} = 3$ GeV will be presented. The new results will be compared to previous measurements, and physics implications will be discussed.

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Date submitted: 08 Jan 2021

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