Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Impact parameter determination using Machine learning algorithms[1] C.Y. TSANG, M.B. TSANG, Michigan State University, YONGJIA WANG, Huzhou University, SPIRIT COLLABORATION — Determination of impact parameter is a challenge for experimentalists because it cannot be measured directly. Using transport model simulations, it has been demonstrated that machine learning algorithms can infer impact parameter from experimental observables. However, unlike simulations, detection limitations such as geometric efficiencies and energy thresholds of the detector may affect the ability of machine learning to infer impact parameters. In this talk, we will discuss the impact parameter determination using machine learning in the collisions of ^{132}Sn+^{124}Sn system at 270 MeV/u using charged particles detected by the SπRIT Time Projection Chamber. We will also discuss how we validate that the impact parameters determined from machine learning is indeed more accurate than that obtained by various experimental observables.

[1]This work was supported by the U.S. Department of Energy,USA under Grant No DE-NA0002923, U.S. National Sci-ence Foundation Grant No. PHY-1565546. Replace DE-NA0002923 with DE-SC0021235 for the SpiRIT experiment.

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Date submitted: 11 Jan 2021 Electronic form version 1.4