IWM-EC 2021

Impact parameter determination using Machine learning algorithms

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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 132Sn + 124Sn system at 270 MeV/u using charged particles detected by the SpiRIT 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.

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Classification de Session: New Experimental Tools, Detection Techniques and Facilities

Classification de thématique: New Experimental Tools, Detection Techniques and Facilities: Impact parameter determination using Machine learning algorithms