

Abstract Submitted
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Development of a 3-D Nuclear Event Visualization Program Using Unity¹ VICTORIA KUHN², Loyola University Chicago — Simulations have become increasingly important for science and there is an increasing emphasis on the visualization of simulations within a Virtual Reality (VR) environment. Our group is exploring this capability as a visualization tool not just for those curious about science, but also for educational purposes for K-12 students. Using data collected in 3-D by a Time Projection Chamber (TPC), we are able to visualize nuclear and cosmic events. The Unity game engine [1] was used to recreate the TPC to visualize these events and construct a VR application. The methods used to create these simulations will be presented along with an example of a simulation. I will also present on the development and testing of this program, which I carried out this past summer at MSU as part of an REU program. We used data from the S π RIT TPC [2], but the software can be applied to other 3-D detectors. This work is supported by the U.S. Department of Energy under Grant Nos. DE-SC0014530, DE-NA0002923 and US NSF under Grant No. PHY-1565546. Sources: [1] "Unity - Game Engine": <https://unity3d.com/> accessed 7/25/2017 [2] R. Shane et al.: Nucl. Instr. Meth. A 784, 513 (2015).

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