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**Three-dimensional pattern recognition of particle trajectories in hexagonal geometry drift detectors** JOHN VAN ATTA, Cal Poly - San Luis Obispo — Nuclear fission events in the NIFFTE experiment's Time Projection Chamber emit multiple particles of varying type and momenta that leave ionization trails in the drift volume. Hexagonal charge sensors on the detector's pad planes record signals from the daughter particles. We present a program that employs a 3-dimensional gradient edge finder to reconstruct distinct particle trajectories from the raw sensor data of these fission events. The program calculates and displays the individual particle paths and reports the track-finding efficiency. Several possible upgrade features will also be discussed.

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