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## Time-Projection Chamber for Investigating the Spontaneous Fission of Superheavy Nuclei

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The study of spontaneous fission processes in heavy and superheavy nuclei remains an important task in nuclear physics. A Time-Projection Chamber (TPC) is a reliable tool for such investigations, enabling the detection of fission fragment trajectories, fragment energy measurements, and mass distributions of fission fragments. As part of our project, a TPC-based detector is being developed for application at the focal plane of the GRAND separator (SHE Factory). The focus is on the chamber configuration, the use of 3He neutron counters, and evaluating the system's efficiency. This presentation will cover the operational principles of TPCs and their potential applications for studying the spontaneous fission of short-lived superheavy nuclei.

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