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Waves in 3D Magnetic Nulls: some preliminary results in the PPT device and in situ Measurements in the Magnetosphere CHIJIE XIAO, XIAOYI YANG, YANGAO CHEN, YIHANG CHEN, School of Physics, Peking University, Beijing 100871, China, XIAOGANG WANG, Department of Physics, Harbin Institute of Technology — Plasma waves and the particle dynamics in the magnetic null are very important to understand the three-dimensional (3D) magnetic reconnection process. A small plasma device, which named PPT device (abbreviated form of PKU Plasma Test device), has setup recently to study the waves and particle dynamics around a magnetic null. Here we will report the first preliminary results, such as the waves along the spines and the fan surfaces, as well as the particle dynamics around it. Furthermore, some wave modes around 3D nulls detected by Cluster mission in the magnetosphere will also be reported to compare. These preliminary results will give more clues to understanding of the magnetic nulls and 3D magnetic reconnection.

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