

Abstract Submitted
for the DPP10 Meeting of
The American Physical Society

Application of Virtual Reality Technology to Research of Plasma Physics and Fusion Plasmas H. OHTANI, NIFS, Jpn, N. OHNO, D. MATSUOKA, JAMSTEC, Jpn, R. HORIUCHI, NIFS, Jpn, Y. TAMURA, Konan U., Jpn, A. KAGEYAMA, Kobe U., Jpn, S. ISHIGURO, NIFS, Jpn — Virtual Reality (VR) technology is a very powerful tool in analysis of simulation data and development of experimental devices, because it is possible to analyze the complex structures in three-dimensional space with a deep absorption into the VR world by scientific visualization technology. National Institute for Fusion Science (NIFS), Japan, installed VR System “CompleXcope” based on CAVE system in 1997, it has been developed continuously. In this paper, we introduce software for analysis of time-dependent simulation data and approach for contribution of simulation to experiment by VR technology. In the software with an animation function, we can visualize the objects of time-dependent fields and the particle trajectories in the time-dependent electromagnetic field in the VR space. By using this software, we analyze the relationship between the kinetic effects and the mechanism of magnetic reconnection. In the approach for contribution of simulation to experiment, both of simulation results and experimental device data are visualized simultaneously by the VR system to analyze directly the simulation results in the device. We show a pressure isosurface, magnetic field line and particle trajectory in the virtual Large Helical Device.

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Date submitted: 17 Jul 2010

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