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Measurement of the transport characteristic using modulation ECH in high ion temperature plasma on LHD HAYATO TSUCHIYA, MASAKI OSAKABE, HIROMI TAKAHASHI, National Institute for fusion Science, LHD EXPERIMENTAL GROUP TEAM — It is important issue to make realize the high temperature plasma in fusion oriented plasma devices including Large Helical Device (LHD), to demonstrate the ability of realizing reactor relevant plasmas. On LHD, the high ion temperature discharge is achieved after a carbon pellet injection into the plasma which is maintained by subsequent radial Neutral Beam Injection (NBI). At the high ion temperature discharge, the ion temperature radial profile often shows the flatting shape at the central region. The flatting profile is considered to be a factor that suppresses the value of the ion temperature at center. The experiment results using modulation electron cyclotron heating (ECH) to investigate the mechanism of central flatting, will be reported at DPP12. Although the ion temperature profile and the electron temperature profile are not necessarily similar at the time of high ion electron discharge, the structure of magnetic field line, which could determine the temperature profile and transport, can be investigated using propagation of electron heat pulse. As primary result, there is a possibility that the ion temperature flatting is caused by generation of the magnetic islands in core region.

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