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**Observation and analysis of intrinsic rotation for Ohmic L-mode plasma in KSTAR?**. SANGGON LEE, KWAN CHUL LEE, National Fusion Research Institute, KSTAR TEAM — Toroidal rotation from pure ohmic discharges without any external momentum sources is one of the most fundamental types of self-generated intrinsic rotation for magnetic fusion researches. There have been reported wide ranges of magnitude, direction and abrupt rotation reversal for ohmic toroidal rotation studies, no clear physical mechanisms are concluded to explain these intrinsic ohmic rotation behaviors. The core ohmic toroidal rotation at the early plasma current ramp-up phase has been measured mostly in the counter-current direction from KSTAR. The possible explanation for the counter-current rotation is speculated from the momentum transfer between neutrals and plasma particles. The calculated toroidal rotation based on the momentum transfer agrees well with the experimental measurements. The core ohmic toroidal rotation at the plasma current flat-top phase is well fitted with the ion temperature divided by plasma current from KSTAR. Recently, we expanded the ohmic rotation scaling to the co-current direction utilizing lower electron density regimes. In this presentation, we will report the extended scaling and analysis results for ohmic L-mode plasmas in KSTAR. This work was supported by the Korea Ministry of Science and ICT under the KSTAR project contracts.

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