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Measurements of HHFW profile in UTST TAKUMA WAKATSUKI, TAKUYA OOSAKO, HIROAKI KOBAYASHI, TAKUMA YAMADA, BYUNG IL AN, RYOTA IMAZAWA, KEITA ABE, AKIRA EJIRI, KENTARO HANASHIMA, HIROYUKI HAYASHI, RYUMA HIHARA, JUNICHI HIRATSUKA, MICHIAKI INOMOTO, HIDETOSHI KAKUDA, SHUJI KAMIO, HIROKI KURASHINA, YOSHIHIKO NAGASHIMA, YASUSHI ONO, TAKUYA SAKAMOTO, MORIO SAKUMURA, QINGHONG CAO, YUICHI TAKASE, OSAMU WATANABE, TAKASHI YAMAGUCHI, KOTARO YAMADA, University of Tokyo — HHFW (high-harmonic fast wave, f = 21 MHz) experiments were performed on the UTST spherical tokamak (R= 0.38 m, a = 0.25 m, B_t = 0.1 T, I_p = 0.1 MA) [T. Yamada, this session]. The HHFW antenna consists of two poloidal current straps separated in the toroidal direction. The spatial profile of the HHFW field was measured by a 2-dimensional array of magnetic probes inserted into the plasma 45 $^\circ$ away from the antenna toroidally. 40 channels of RF data can be acquired simultaneously by fast digitizers (1 GHz sampling frequency) out of 81 probes. A comparison of wave fields measured with out-of-phase two-strap excitation (high parallel wavenumbers) and with single strap excitation (low parallel wavenumbers) indicate higher RF fields inside the plasma for the same input power. The experimental data will be compared with results of wave field calculation.

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