

Abstract Submitted  
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**Plasma current ramp-up by waves in the lower hybrid frequency range on TST-2** YUICHI TAKASE, AKIRA EJIRI, HIROKAZU FURUI, HIDETOSHI KAKUDA, TAKUMA WAKATSUKI, The University of Tokyo, CHARLES MOELLER, General Atomics, YOSHIHIKO NAGASHIMA, Kyushu University, TAKANORI AMBO, TAKAHIRO HASHIMOTO, JUNICHI HIRATSUKA, KUNIIHIKO KATO, TAKUYA SAKAMOTO, RYOTA SHINO, TAKAHIRO SHINYA, MASATERU SONEHARA, TAKUYA OOSAKO, OSAMU WATANABE, TAKASHI YAMAGUCHI, The University of Tokyo, HIROSHI KASAHARA, RYUHEI KUMAZAWA, TAKASHI MUTOH, KENJI SAITO, TETSUO SEKI, FUJIO SHIMPO, National Institute for Fusion Science — Noninductive plasma current ( $I_p$ ) ramp-up by RF power is being studied on TST-2. A tokamak configuration with  $I_p \simeq 1$  kA is formed spontaneously by injecting RF power (2.45 GHz, 200 MHz or 21 MHz). Subsequent  $I_p$  ramp-up is achieved by gradual increases of RF power and vertical field. As  $I_p$  is ramped up, the fraction of RF driven current becomes larger, and a clear dependence on wave directionality becomes observable. Up to 12 kA of  $I_p$  has been achieved by launching a traveling wave in the co current drive direction. X-ray measurements indicate gradual increases of electron temperature and superthermal electron population. An attempt is being made to obtain information on superthermal electrons from directional Langmuir probe measurements.

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