Status of RF Heating and Current Drive Systems for KSTAR
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KIM, Korea Atomic Energy Research Institute — The heating and current drive sys-
tems consisting of neutral beam injection (NBI) and radio frequency (RF) systems
will be used for the KSTAR whose construction will be completed by August, 2007.
The KSTAR RF heating and current drive systems are composed of ion cyclotron
range of frequencies (ICRF), lower hybrid current drive (LHCD) system, and electron
cyclotron heating (ECH) system. The KSTAR adopts the ECH-assisted start-up for
the flexibility and reliability of the operation regime using 84 GHz, 500 kW gyrotron.
For the KSTAR first plasma scheduled at June, 2008, two RF heating systems, 84
GHz ECH and 25-60 MHz ICRF systems, will be used for the pre-ionization to
reduce the loop voltage and the wall discharge cleaning, respectively. This paper
describes the status of the KSTAR RF heating and current drive systems and the
initial test results using dummy load. Also, the upgrade plan of the KSTAR RF
heating and current drive systems will be presented as well as the key features and
the relevant technological issues for the long pulse operation.