Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

MAPES Plans at EAST GUANG-NAN LUO, Institute of Plasma Physics, Chinese Academy of Sciences, China — The Material and Plasma Evaluation System (MAPES) has been successfully built up at the H section of EAST tokamak, consisting of a mid-plane material probe with both active cooling and heating, and multiple diagnostics of sample and boundary plasma. Samples or PFC mock-ups with a weight less than 20 kg and a diameter less than 500 mm can be inserted into the main scrape-off layer plasma from the low field side of EAST. Local background plasma could be characterized by Langmuir probes and thermocouples embedded in the samples, visible and infrared cameras are set at M and D sections. During the 2012 EAST campaign, MAPES has been used to address a variety of PMI issues relevant to ITER. In 2014, several new optical systems will be constructed. A WI emission spectroscopy system and an IR imaging system are being developed and dedicated to the monitoring of the W influx profile and temperature distribution. A set of lens will also be set at H upper port to collect the visible emission light from the lower divertor. The laser induced breakdown spectroscopy (LIBS) is planned to be installed to detect the first wall surface composition at the high field side. In the next EAST campaign, more experiment proposals have been accepted and are being prepared. EAST-MAPES is oriented towards a bridge for international collaborations and is playing an active role in supporting PWI-related researches under tokamak plasma environment.

Guang-Nan Luo
Institute of Plasma Physics, Chinese Academy of Sciences, China

Date submitted: 25 Jul 2013 Electronic form version 1.4