Abstract Submitted
for the DPP13 Meeting of
The American Physical Society

Plans for first plasma operation and overview of diagnostic development on W7-X THOMAS SUNN PEDERSEN, Max Planck Institute of Plasma Physics, Greifswald, Germany, WENDELSTEIN 7-X TEAM — We will give a status report on the construction of the Wendelstein 7-X (W7-X) stellarator and the plans for first physics operation. All five modules have been placed on the machine base and have been welded together. The installation of ports is completed. The present challenges lie to a large degree in the assembly of the in-vessel components, and the completion of the peripheral components. In response to slower than expected progress on the installation of the in-vessel components, a new plan for commissioning and first plasma operation has been developed. This plan calls for a first plasma operation phase entirely without a divertor. Instead, short-pulse plasmas in a limiter configuration will be created. These will primarily serve to commission the diagnostics and the ECRH heating system, but important results can be achieved in a few cases. We will present the expected plasma parameters for this very first phase, and give examples of physics questions that can be addressed already in this early phase. We will also give a few highlights on diagnostic progress with a focus on diagnostics of particular importance to the first operation phase.

Thomas Sunn Pedersen
Max Planck Institute of Plasma Physics, Greifswald, Germany

Date submitted: 12 Jul 2013 Electronic form version 1.4