

## **WENDELSTEIN 7-X, OVERVIEW AND STATUS OF CONSTRUCTION**

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The line of the WENDELSTEIN stellarators developed in IPP will be continued with the superconducting device, Wendelstein 7-X. W7-X, which is presently under construction in Greifswald, is a fully optimised stellarator. Its optimisation is based on the concept of quasi-isodynamicity.

Manufacturing of the W7-X components has progressed well over the last years, and delivery of many components for the basic device started in 2004. The first two out of 10 half-modules of the plasma vessel have been delivered, and the first segments of the Thermal Insulation have already been mounted on them. During the detail design of these components still some development effort was necessary. In this paper we will describe recent progress and the actual status of the most important components of Wendelstein 7-X, their relevant technical issues and solutions implemented.

The concept for assembly of the stellarator has been developed further and the first assembly stage has been prepared fully, i.e. the technologies have been developed and elaborated, the necessary tools are ready as are the detailed work instructions. Those steps lying further in the future are being developed at present, but have not yet been fully elaborated. After delivery of the first non-planar coil early in 2005, this coil now has been prepared for assembly and has been threaded onto the first sector of the plasma vessel on 7 April. With this, the first important step in the assembly sequence has been taken. The second coil is presently being prepared for assembly while the first parts of the plasma vessel are welded and further segments of the Thermal Insulation are mounted.

We will also give in this paper an overview on the assembly sequence, describe the major steps in this process and solutions implemented to speed up the assembly process which presently is scheduled to require about almost six years.