

STELLARATOR RESEARCH AT THE IPP IN GARCHING

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Stellarator experiments at the IPP Garching started in 1965 with small devices until in 1976 the first large device Wendelstein 7-A (major radius 2 m, av. plasma radius 10 cm, magnetic field 3,4 T) went into operation. In 1980 this experiment produced the first plasma without toroidal current. Its successor, Wendelstein 7-AS, abandoned the concept of helical windings and generated the stellarator field by a set of modular coils. The same concept is applied to Wendelstein 7-X, (major radius 5,5 m, av. plasma radius 0,5 m, magnetic field 2,5 T), which in addition will be equipped with superconducting modular coils. The paper describes the main experimental results of the Garching stellarators, its future planning and the reactor prospects of the advanced stellarator [1].