



Review of Recent FOM Results obtained at TEXTOR

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Abstract:

After the closure of the in-house tokamak RTP Rijnhuizen in 1998 Rijnhuizen focussed the main part of the research efforts in high temperature plasma physics on experiments with the TEXTOR tokamak at Forschungszentrum Jülich in the framework of the tripartite TEC agreement. From March 2000 onwards the available FOM hardware at Jülich reached a level that made a real impact on the scientific programme of TEC. It turned out that a few hundred kW of Electron Cyclotron Resonant Heating with its very localised deposition could very well compete with the already present multi-MW other heating methods. High-resolution diagnostics yielded new essential information. Amongst the scientific feats that will be described are:

- the confirmation that turbulent self-organised structures, like filaments and thin isolating barriers are not just an artefact of the small RTP tokamak but are relevant for confinement of fusion reactor-grade plasmas;
- the influence of the magnetic topology on plasma turbulence;
- the influence of plasma rotation on plasma stability.