



- The research program of the new **JT-60SA** tokamak, being built jointly by Europe and Japan, is approaching its final elaboration. One of the main JT-60SA **goals** is to qualify **high beta** regimes for **ITER** and future reactors like **DEMO**.
- Strong **joint efforts** are ongoing to secure a **wide operational space** at high β_N by modeling **MHD stability** and its **active control** in relevant scenarios.

➔ **NTM** stability and control by EC have been modeled in a full current, inductive H-mode scenario. Tools are part of the EU **integrated modeling effort**. This study opens the way to self consistent studies on NTM evolution, including effects on transport, in **ITER relevant conditions**.

➔ **RWM** stability and control modeling is being developed in a **fully 3D environment**, including realistic description of passive boundaries, real time diagnostics, active coils and control software. Final aim is the identification of **robust** non-inductive scenarios for **DEMO** studies.

