

DPP17-2017-000093

Abstract for an Invited Paper  
for the DPP17 Meeting of  
the American Physical Society

**Thomas H. Stix Award for Outstanding Early Career Contributions to Plasma Physics Research:**  
**MHD Stability and control in tokamak plasmas**  
IAN CHAPMAN, UKAEA

Highly energetic magnetised plasmas are subject to various magnetohydrodynamic instabilities, which often limit the global fusion performance, and in many cases have the potential to damage the reactor vessel. Consequently, understanding these performance limits and establishing ways to control the instabilities is vital to the success of ITER and fusion reactors which follow it. This talk will summarise understanding of the stability limits governing sawtooth instabilities, Resistive Wall Modes and Edge Localised Modes, and discuss ways to control each of these.