Sample for Abstract:

All information needed for the short abstract must be typed into text boxes:

IAEA-CN-151
ABSTRACT

Paper Title

The Spherical Tokamak Programme at Culham

Author(s): Family Name, Initials

Sykes, A.

Affiliation (s) (including city and country)

Euratom-UKAEA Fusion Association, Culham, United Kingdom

E-mail Address of Main Author

alan.sykes@ukaea.org.uk

Abstract Text. Enter the abstract in one continuous paragraph (maximum of 150 words or 2400 characters including spaces); text exceeding the space limit will be truncated.

The spherical tokamak (ST) is the low aspect ratio limit of the conventional tokamak and appears to offer attractive physics properties in a simpler device. The START (Small Tight Aspect Ratio Tokamak) experiment provided the world's first demonstration of the properties of hot plasmas in an ST configuration and was operational at Culham from January 1991 to March 1998, obtaining plasma currents of up to 300 kA and pulse durations of ~50 ms. Its successor, MAST, is nearing completion and is a purpose built, high vacuum machine designed to have a tenfold increase in plasma volume with plasma currents of up to 2 MA. Current drive and heating will be by a combination of induction-compression as on START, a high performance central solenoid, with 1.5 MW ECRH and 5 MW of NBI. The promising results from START are reviewed and the many challenges posed for the next generation of purpose built STs (such as MAST) are described.