

## **The Benefits of Different Options for a European DEMO**

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### **Abstract**

In preparation for the EU DEMO study which is now underway, a wide range of options have been explored with a systems code, PROCESS. These included the possibility of pulsed or steady-state devices, with different blankets and coolants, and a range of other detailed assumptions, for instance about magnets and current drive efficiency. These studies, amongst others, were used to narrow down the choices to the parameters that are now being assumed for the DEMO technology studies, although they are likely to evolve further as the studies progress. This presentation is concerned with the benefits and trade-offs inherent in the range of options that were studied, and highlights the way that the present parameter set was chosen. Of particular interest is the way that a pulsed concept, more conservative than a steady-state device in many parameters, can be improved by the addition of increasing amounts of current drive power, as it is gradually evolved towards a steady-state device. The talk will also highlight some likely errors that can arise from overly simplistic calculations of options for DEMO.