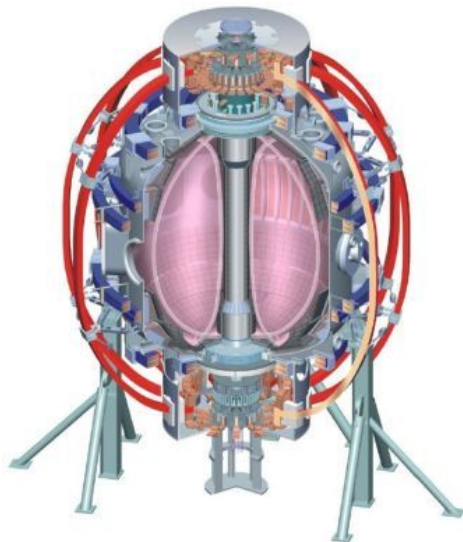


XMP for β_N Controller

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Two Changes Are Envisioned for the Controller

- Integral Windup Correction
 - When the controller is turned on early in shot, larger integral error accumulates.
 - Caused problems for Sabbagh, Canik XPs, in that controller didn't modulate as much as expected.
 - Elementary control mistake.
 - Modifying code to NOT accumulate integral error when actuators are saturated.
- Median Filter
 - β_N from rtEFIT often has unwelcome transients.
 - Present causal LP filter tends to smooth, but not eliminate, these spikes.
 - Add a median filter...very good for de-spiking.
 - More complicated than box-car filtering, as it requires sorted data.
 - Have an implementation that uses the $O(n)$ efficiency of insertion sort algorithm for nearly sorted data...should not drag down the PCS.
- Request: Brief 1-2 hour XMP.