

# Ballooning stability integration interval (responses from Andrew Ware, Raul Sanchez)

- Integration interval used in solving the ballooning equation for QPS:

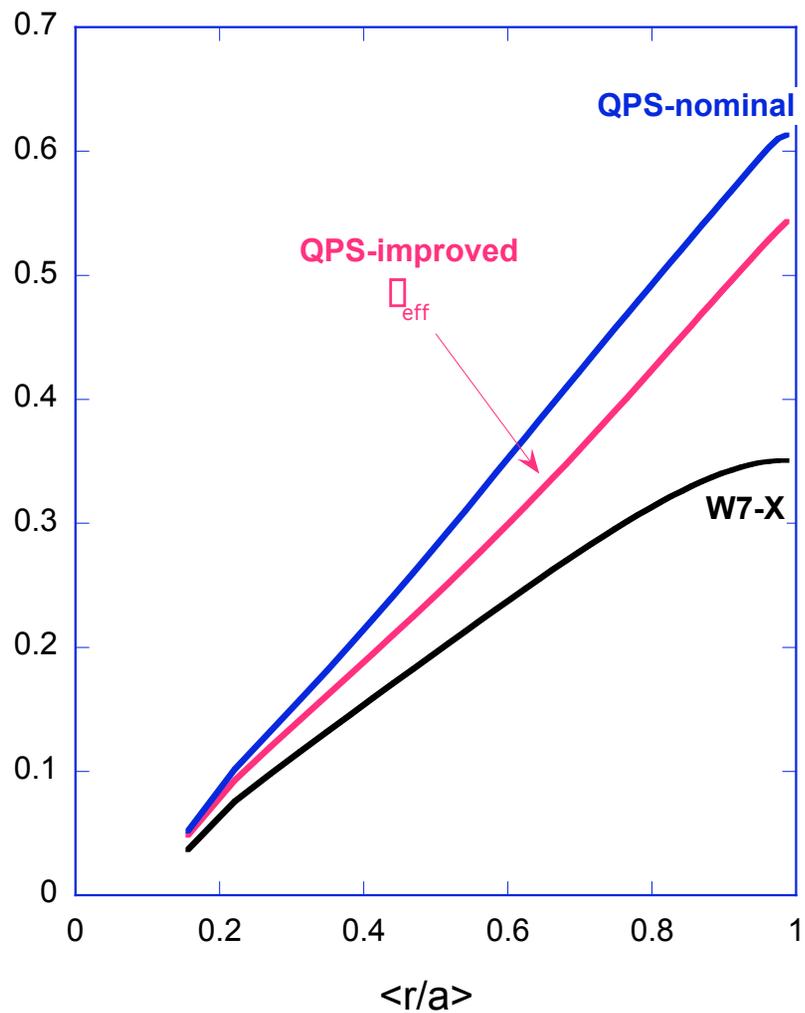
$$\Delta_{\max} = \frac{\Delta(2k_w - 1)}{2N_{fp}i}$$

where  $k_w$  = number of potential wells along field line

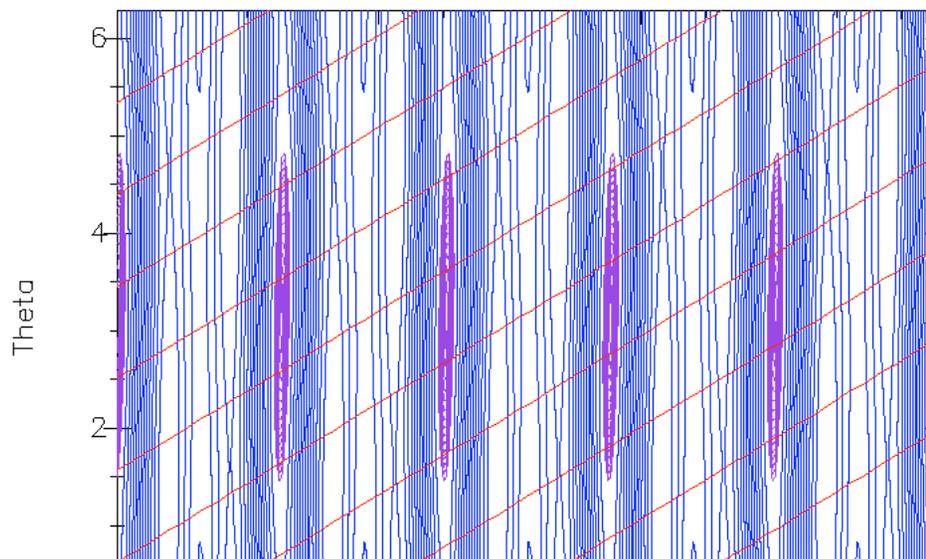
- **$k_w = 7$  and  $14$**  were used. As long as the number of grid points was scaled with the interval length (i.e., to keep the grid spacing roughly constant), there was no impact on either which surfaces were unstable nor the magnitudes of the growth rates.
- Difficult to translate directly into  $n$ 's - R. Sanchez estimates  $n > 6-10$

$$\sqrt{\frac{\sum_{m \neq 0} B_{mn}^2}{\sum_{m=0, n \neq 0} B_{mn}^2}}$$

RMS poloidal  
asymmetry



$|B|$  at  $r/a = 0.10$  (blue:  $B < 1T$ , purple:  $B > 1T$ )



$|B|$  at  $r/a = 0.50$  (blue:  $B < 1T$ , purple:  $B > 1T$ )

