# XP809: ELM Destabilization by RMP

- Reference discharge without RMP had a long ELM-free phase (up to 0.5s)

- ELMs follow the RMP timing
  - ELMs start ~20-50 ms after SPA switched on
  - 314: SPA and src C come on at same time
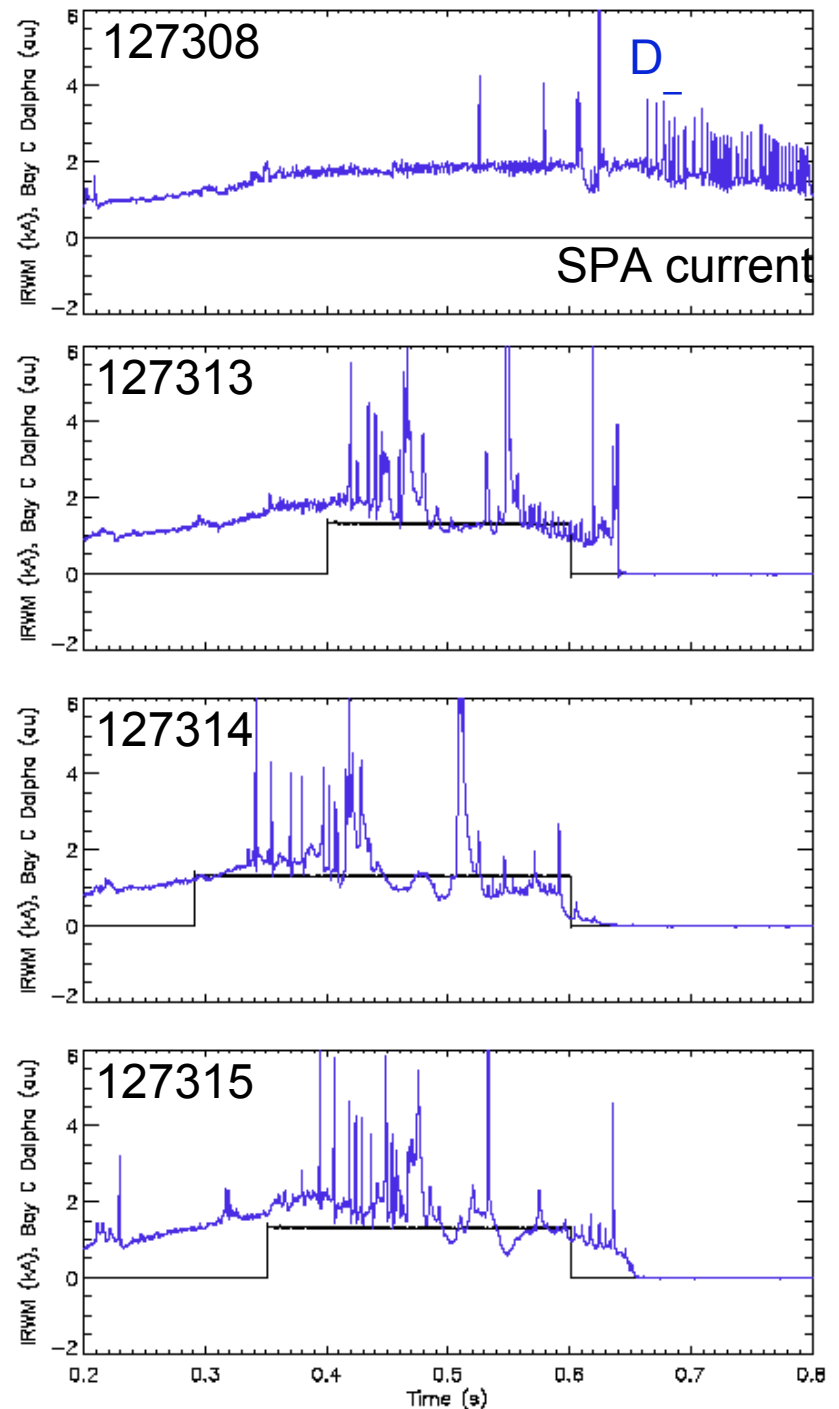
SPA switch-off during discharge

- Reduced duration of SPA pulse to avoid locking
  - Plasma recovers (rotation, stored energy) between
  - ELMs go away, then return with 2nd pulse
- Plasma returns to ELM-free state when RMP is removed
  - After both SPA pulses in 317, and also with no RMP in 318
  - Effect not due to changing wall conditions – too fast
  - Dalpha does rise before 1st ELM when RMP is applied

Line-averaged ne (cm^{-3})

Stored energy (kJ)

127318

127317
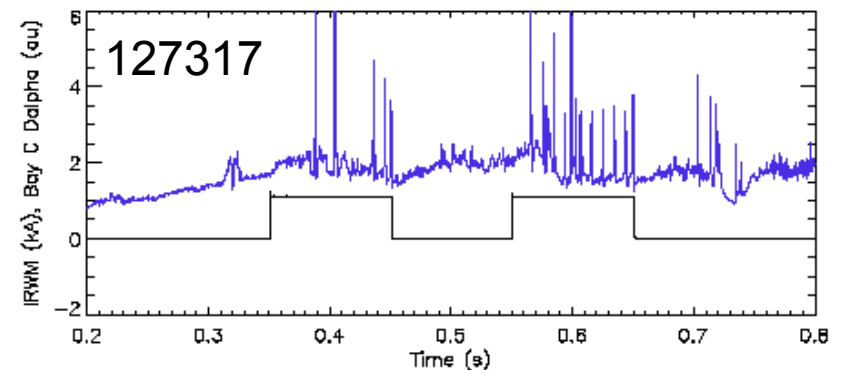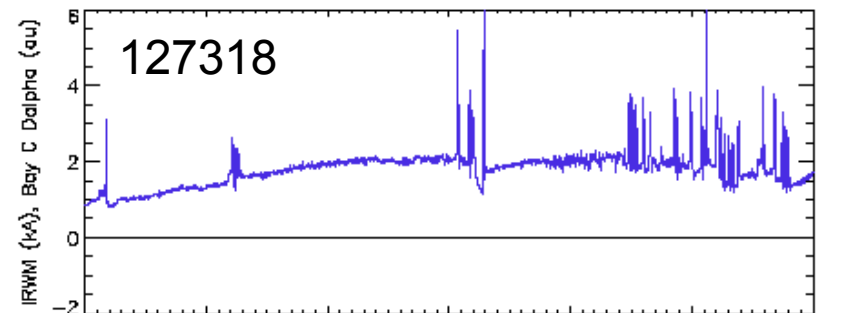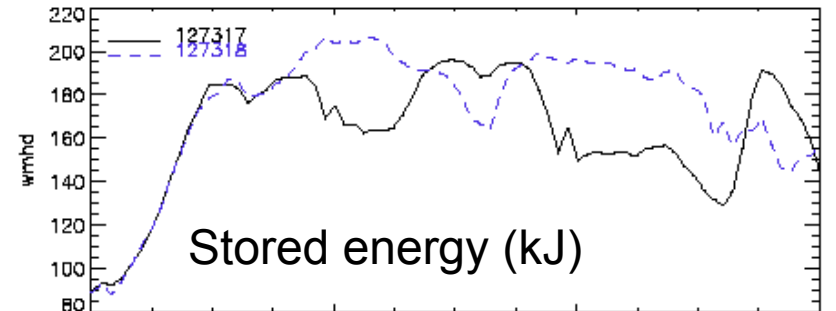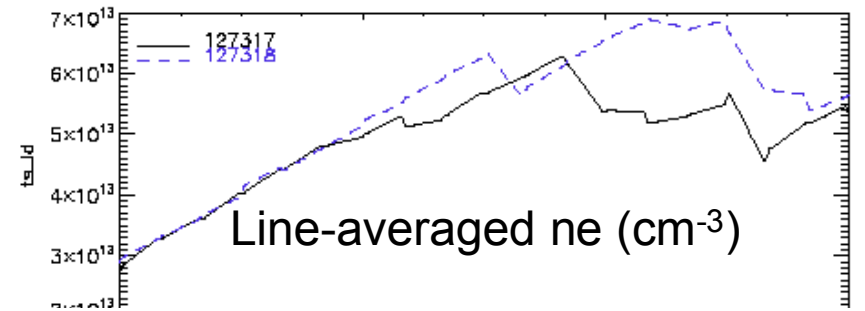
RMP Current Scan

- Threshold SPA current is ~950 A

- ELM frequency increases with RMP current