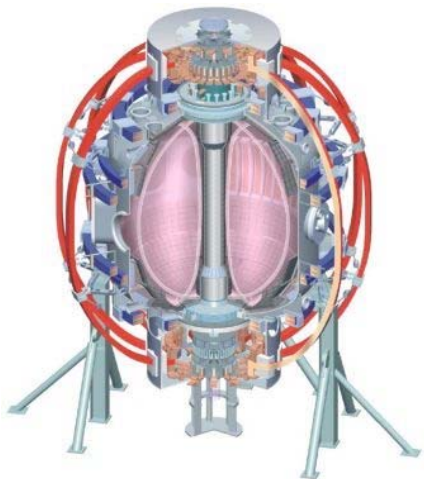


Assess pedestal/SOL fluctuations and poloidal flow fluctuations across LH transitions and ELMs

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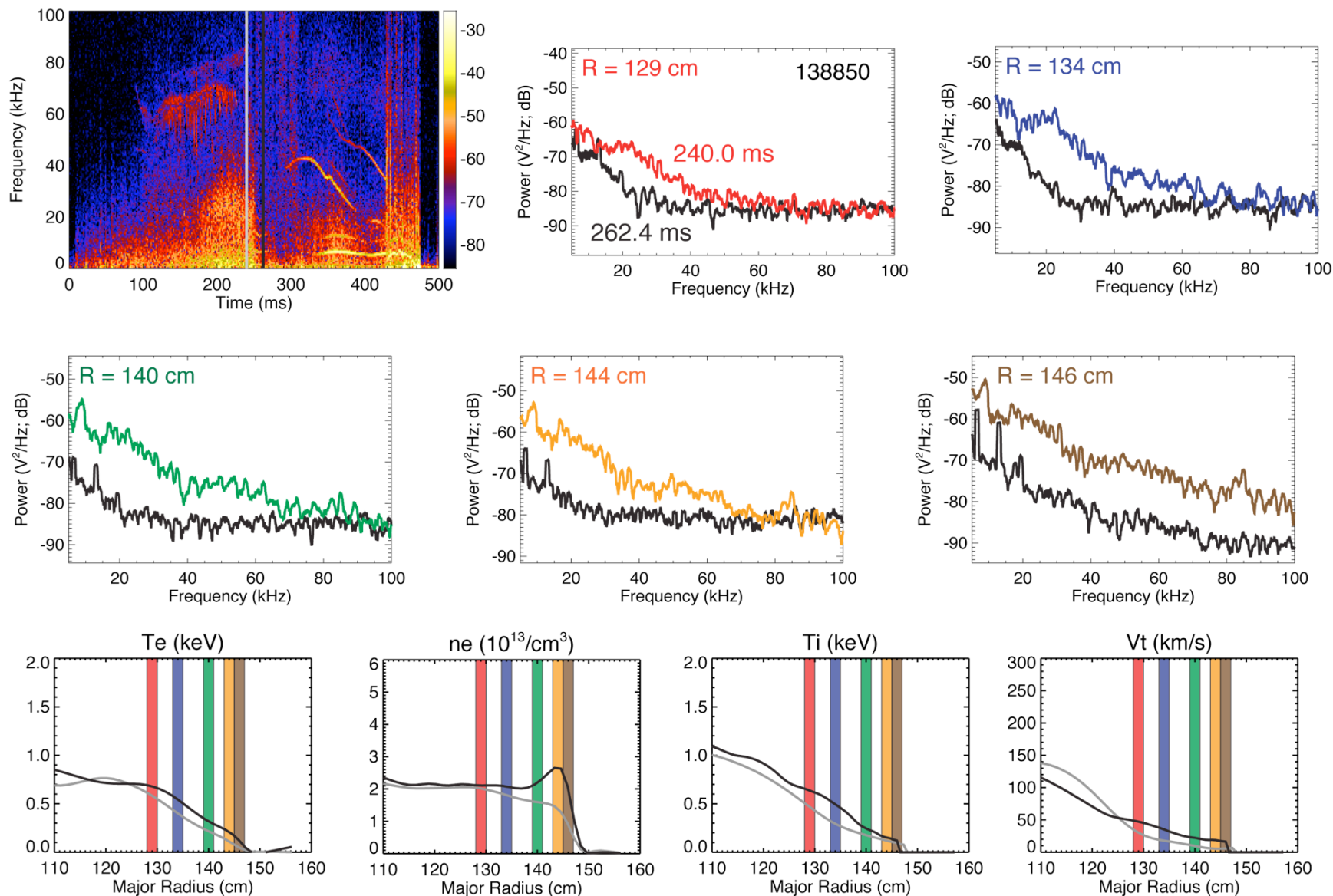
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Assess pedestal/SOL fluctuations and poloidal flow fluctuations across LH transitions and ELMs

- Goal: Document pedestal & SOL density and flow fluctuations across LH transitions and ELMs
- Comprehensive BES coverage with core-to-SOL radial array and extended poloidal arrays in pedestal and SOL
 - Measure radial and poloidal correlation lengths and poloidal flow fluctuations
- LH transition
 - Design target discharge from 2010 BES data showing crisp LH transitions
 - Scan drsep and tribot \rightarrow both impact P_{LH}
 - Scan Rmidout \rightarrow move pedestal & SOL across BES poloidal arrays
 - Adjust LH transition timing with NB timing, CS limiting, or fueling location
- ELMs
 - Design target discharge from 2010 BES data
 - Li + n=3 RMP pulses at high kappa for ELM control
 - Scan ELM severity by scanning RMP rep rate
- 2 days
- R11-4, FY11 JRT

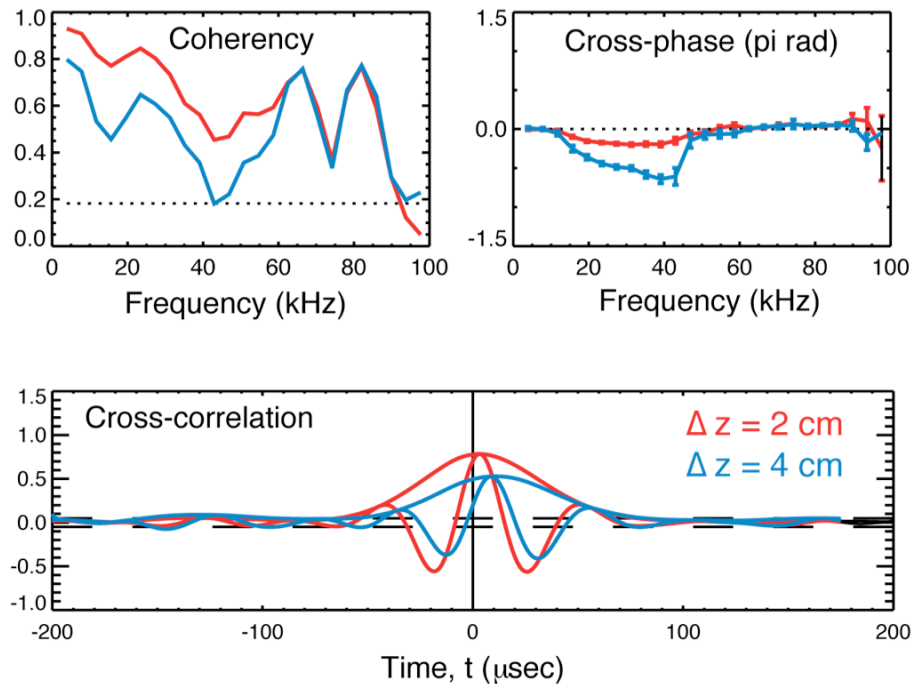
BES measurements show “crisp” LH transitions in some discharges



Poloidal correlation analysis indicates the apparent motion of eddies changes from up to down at the LH transition

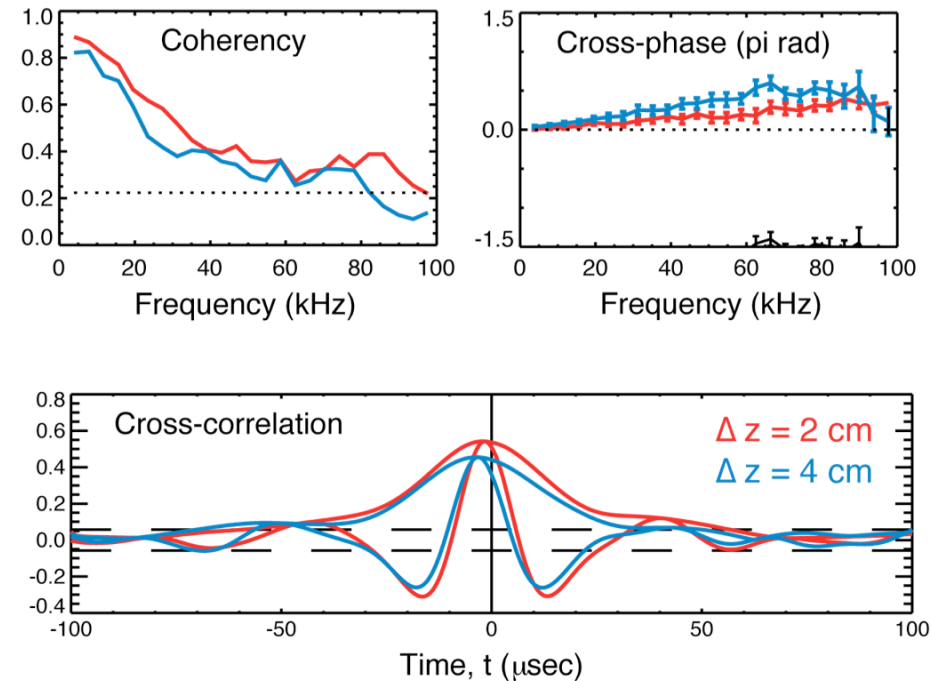
Poloidal coherency/correlation in 138850 at $R = 140$ cm

L-mode phase: 219-249 ms



Time lag indicates upward motion

H-mode phase: 266-287 ms



Time lag indicates downward motion