C-Mod GPI shots for XGC-1 Comparison

sz 9/15/17

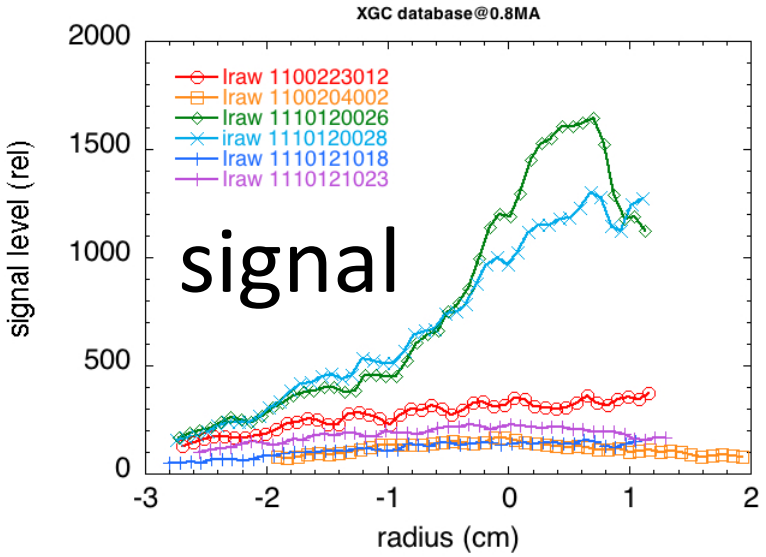
- Found in GPI camera database as shots closest to 1100223012
- Several other shots of 1110120 and 1110121 are very similar
- Analysis code at /zweben/phantom/phantom_XGC_15.pro

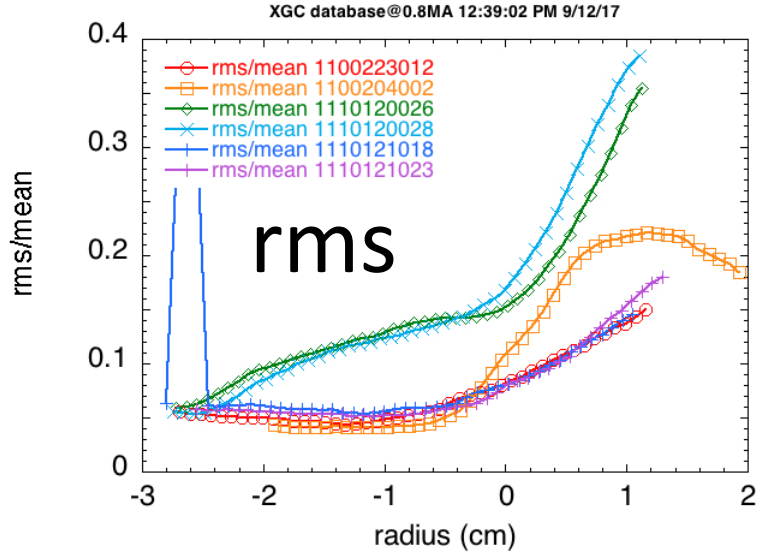
shot	analysis nshot	Ip (MA)	Bt (T)	GPI start (s)	isep	Sig@sep	nl_04	outer gap (cm)	RF (MW)	GPI gas
1100223012	XGC	0.80	5.4	1.40	41	320.0	1.7	1.1	3.0	D
1100204002	39	0.81	5.4	0.798	32	169.0	0.70	1.5	3.5	D
1110120026	180	0.80	5.5	1.22	41	1201	1.4	1.1	2.8	D
1110120028	182	0.81	5.5	1.22	42	966.0	1.4	1.0	2.8	D
1110121018	185	0.81	5.5	1.15	42	132.0	1.4	1.1	4.0	D
1110121023	190	0.81	5.5	1.15	39	220.0	0.80	1.2	1.6	D

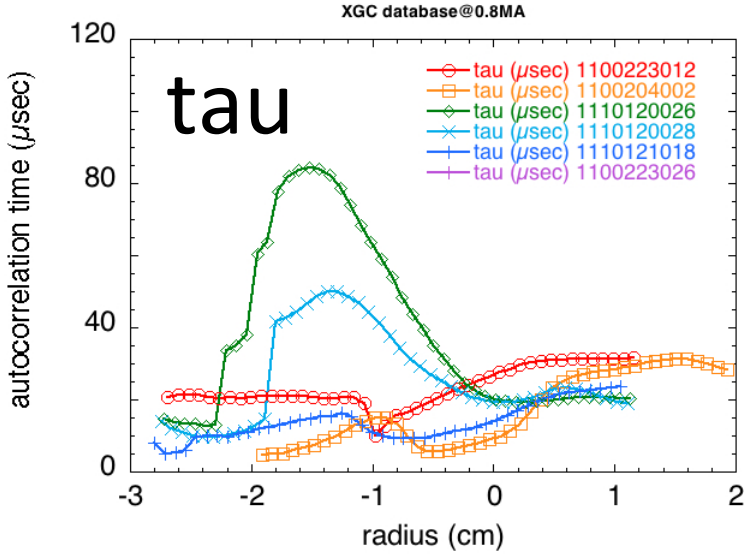
Turbulence Analysis Results 1

- analysis done in columns #10-55, converted to radius using sz's usual GPI alignment algorithm
- results in KaleidaGraph database "XGC database 0.8 MA.qda"
- movies for these six 0.8 MA shots

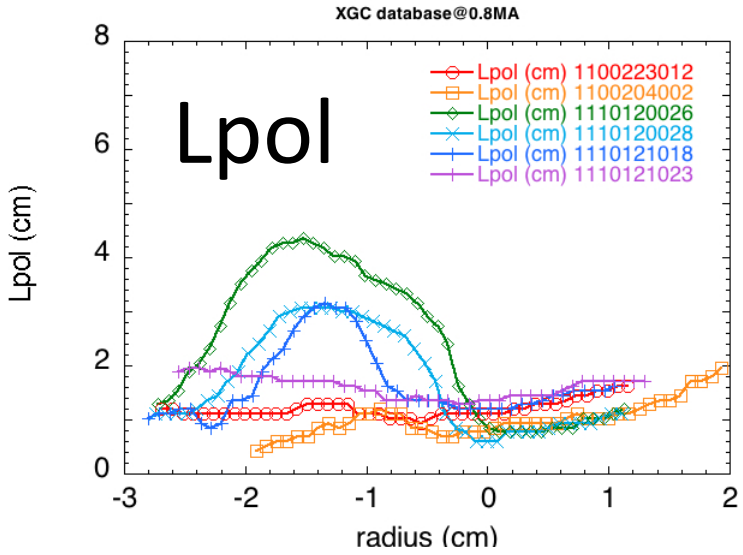
http://w3.pppl.gov/~szweben/CMod2017/

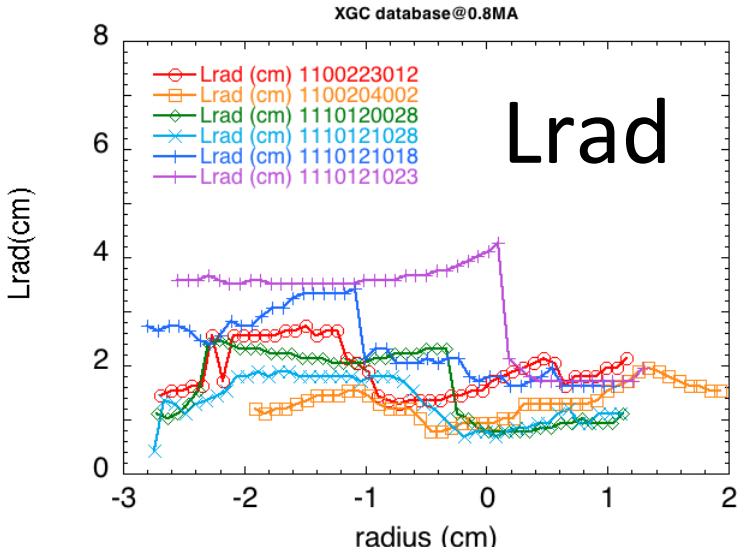


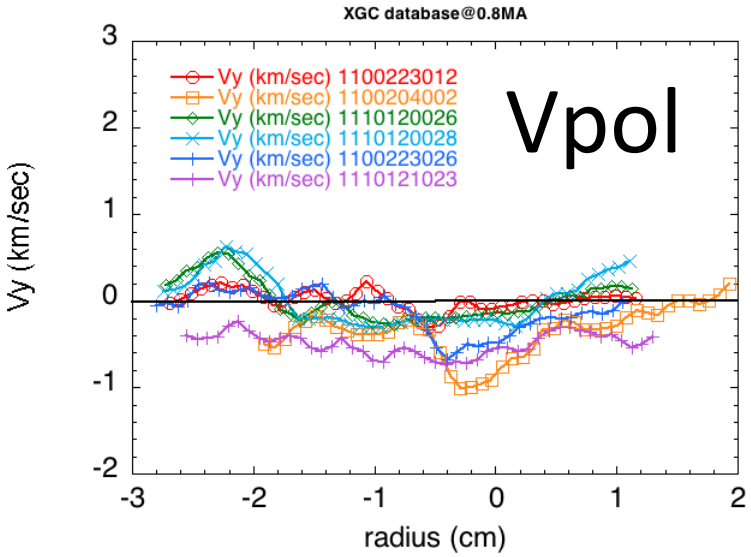


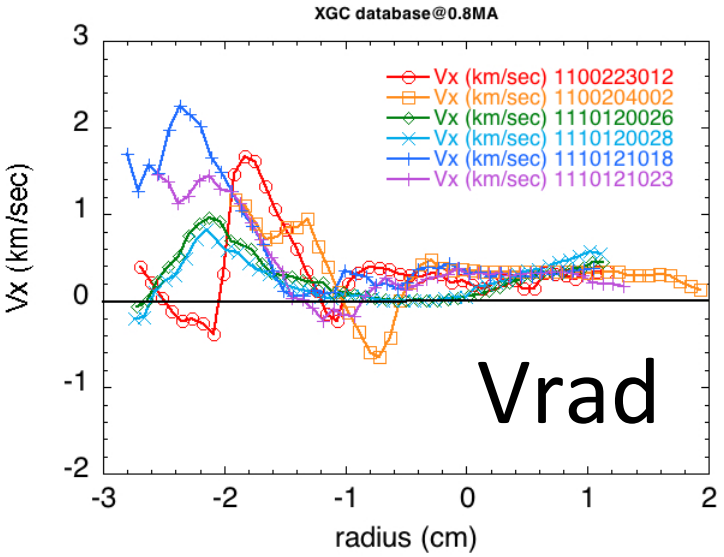


Turbulence Analysis Results 2









Tentative Summary for 0.8 MA Shots

- Average results within ±1 cm of separatrix for these shots

  rms/mean = 0.13±0.07
  tau-auto = 21±9 μsec
  Lpol = 1.3±0.6 cm
  Lrad = 1.7±0.8 cm
  Vpol = -0.26±0.27 km/sec
  Vrad = 0.22±0.19 km/sec

- Some results need further checking before finalization
  - separatrix location with latest JT registration
  - long tau inside separatrix for 1110120 shots
  - high Lpol inside separatrix for 1110120 shots
  - sudden increase in Lrad for 1110121 shots

- Should put these shots into context of larger database