First phase-contrast imaging measurements up to 5 MHz

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Outline:

- **Old and new PCI setup**
- **1040122 analysis**
- **1040123 analysis**

Alcator C-Mod Monday Meeting, 26th of January 2004

Old and new PCI setup

Alcator C-Mod

	Old setup	New setup
# channels	12	32
chord spacing ΔR	4 mm	4 mm
R coverage	5 cm	15 cm
k_{min}	$2\pi/11\Delta R = 1.4\ cm^{-1}$	$2\pi/31\Delta R = 0.5\ cm^{-1}$
k_{max}	$2\pi/\Delta R = 16\ cm^{-1}$	$2\pi/\Delta R = 16\ cm^{-1}$
k_R $[-k_{max}/2, k_{max}/2]$	$[-8,8]\ cm^{-1}$	$[-8,8]\ cm^{-1}$
sampling frequency	1 MHz, 12 bit	10 MHz, 16 bit
time window	0.5 s	up to 2 s
detector bias current	max 10 mA	max 35 mA
preamps	3 dB points at 5 kHz and 3 MHz	3 dB points at 5 kHz and 15 MHz

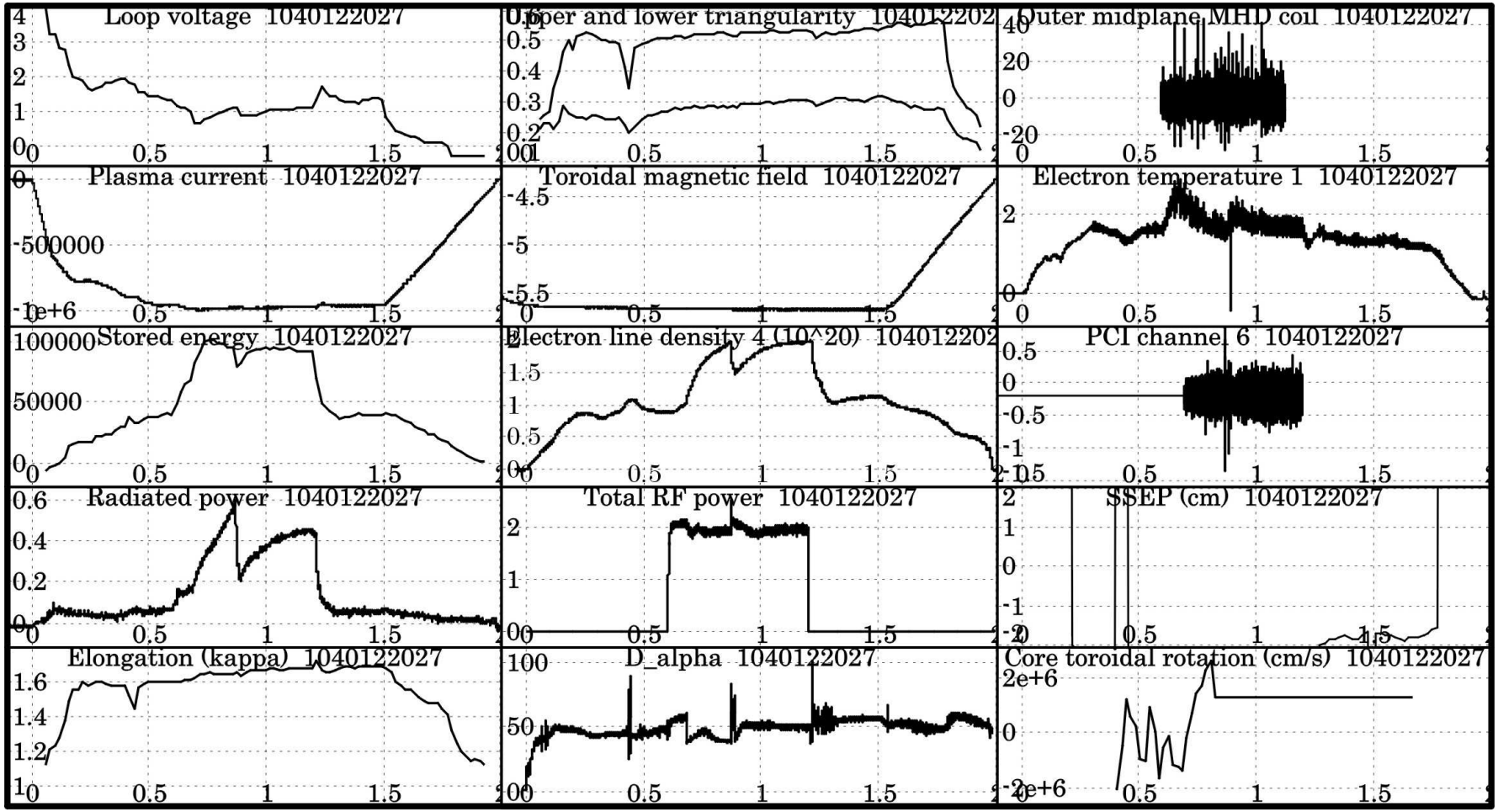
Transitional PCI setup

Alcator C-Mod

Runs Thursday (1040122) and Friday (1040123) last week:

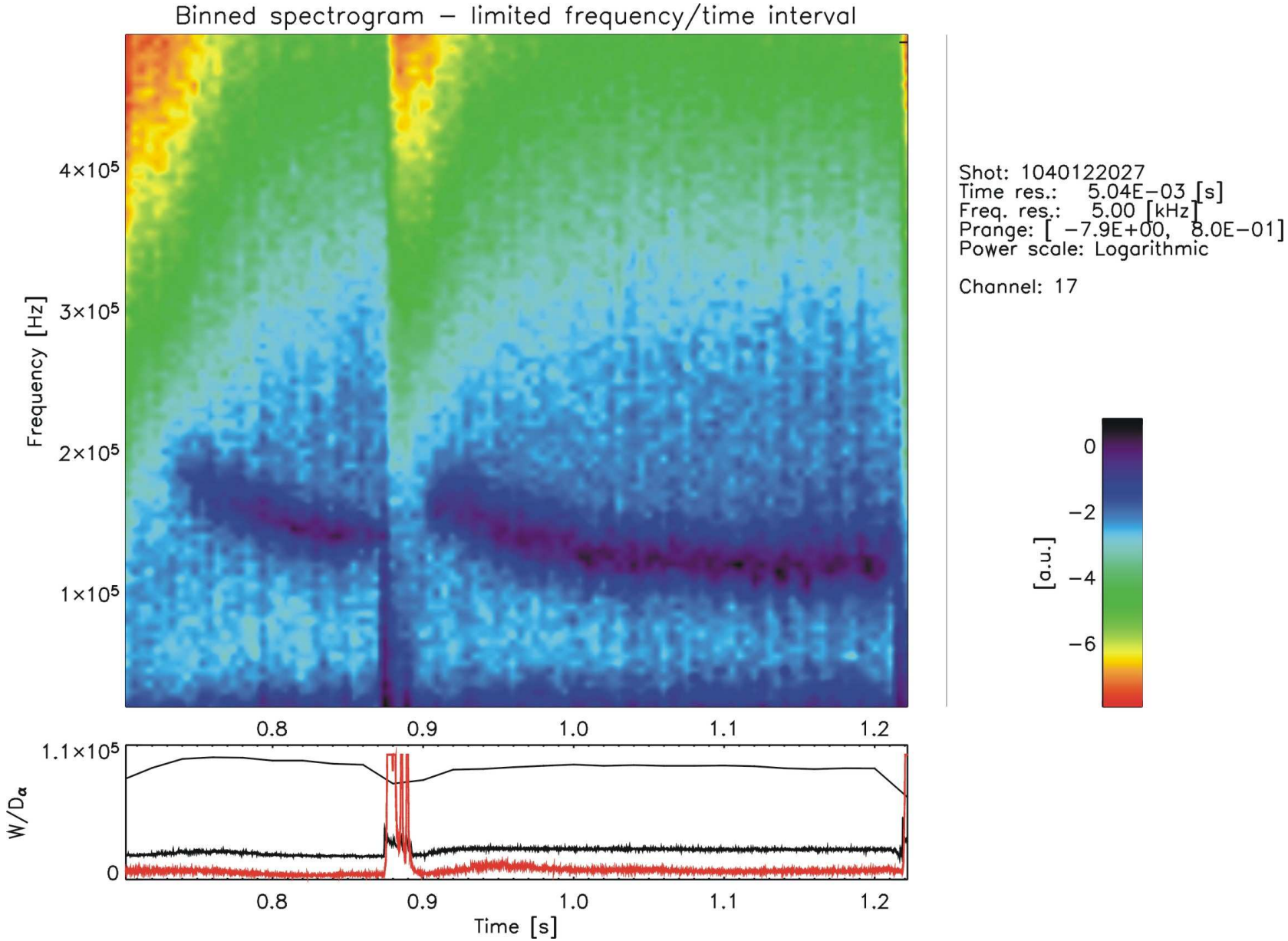
- 12 original core channels digitized using the old data acquisition system.
- Remaining 20 channels (10 on each side of the core channels) sampled using 10 MHz cPCI system. 0.5 s time windows, so 200 MB per shot.
- Total amount of data collected per shot before the fast cPCI installation: 650 MB.
- If we use all 32 cPCI channels at 10 MHz for 1.5 s time windows we will acquire 1 GB per shot.

Run 1040122(027)

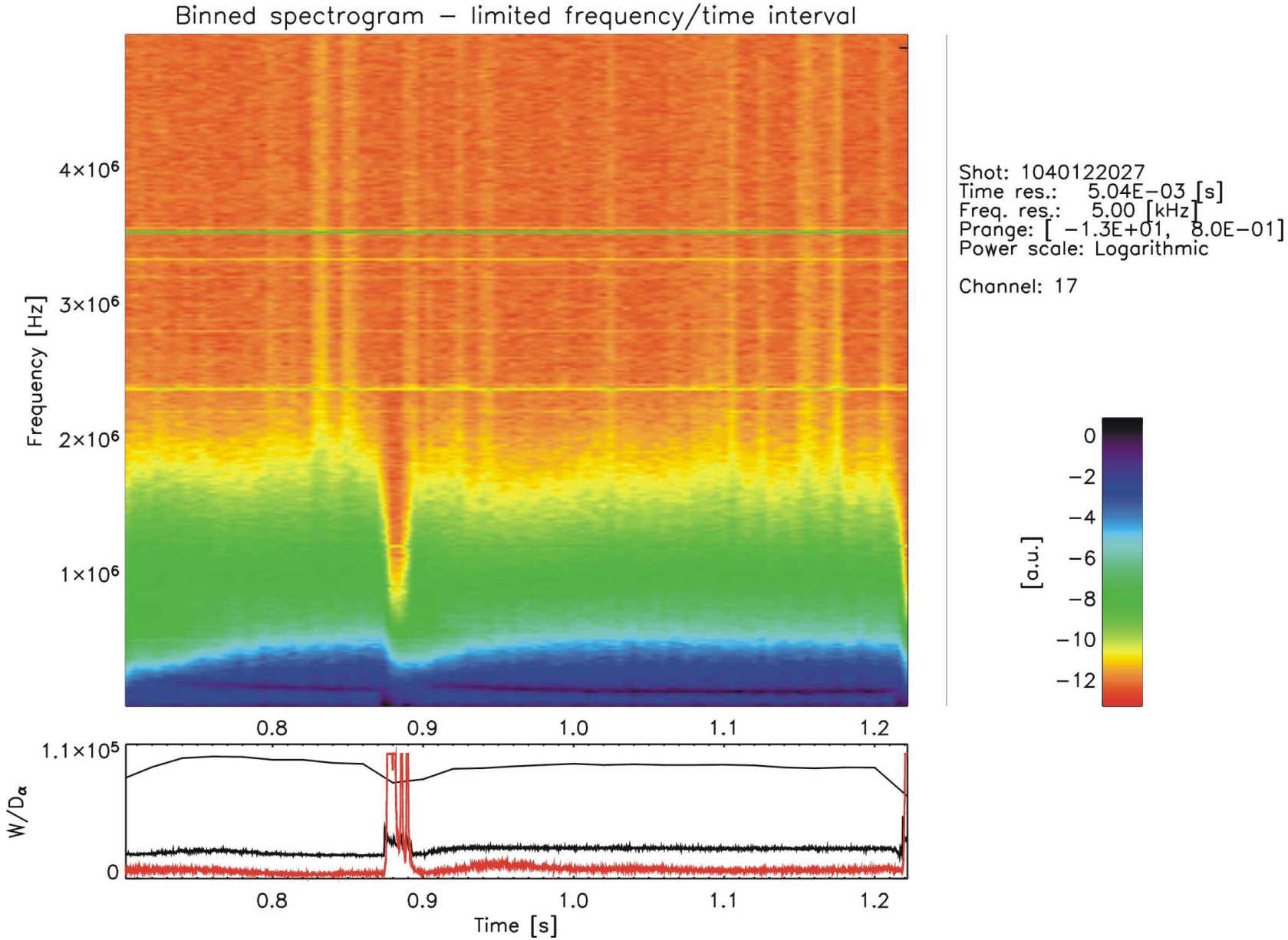


MP #372 Further studies of the quasi-coherent mode in EDA H-mode plasmas
MP #369 Experimental measurement of neutral penetration in H-Mode plasmas

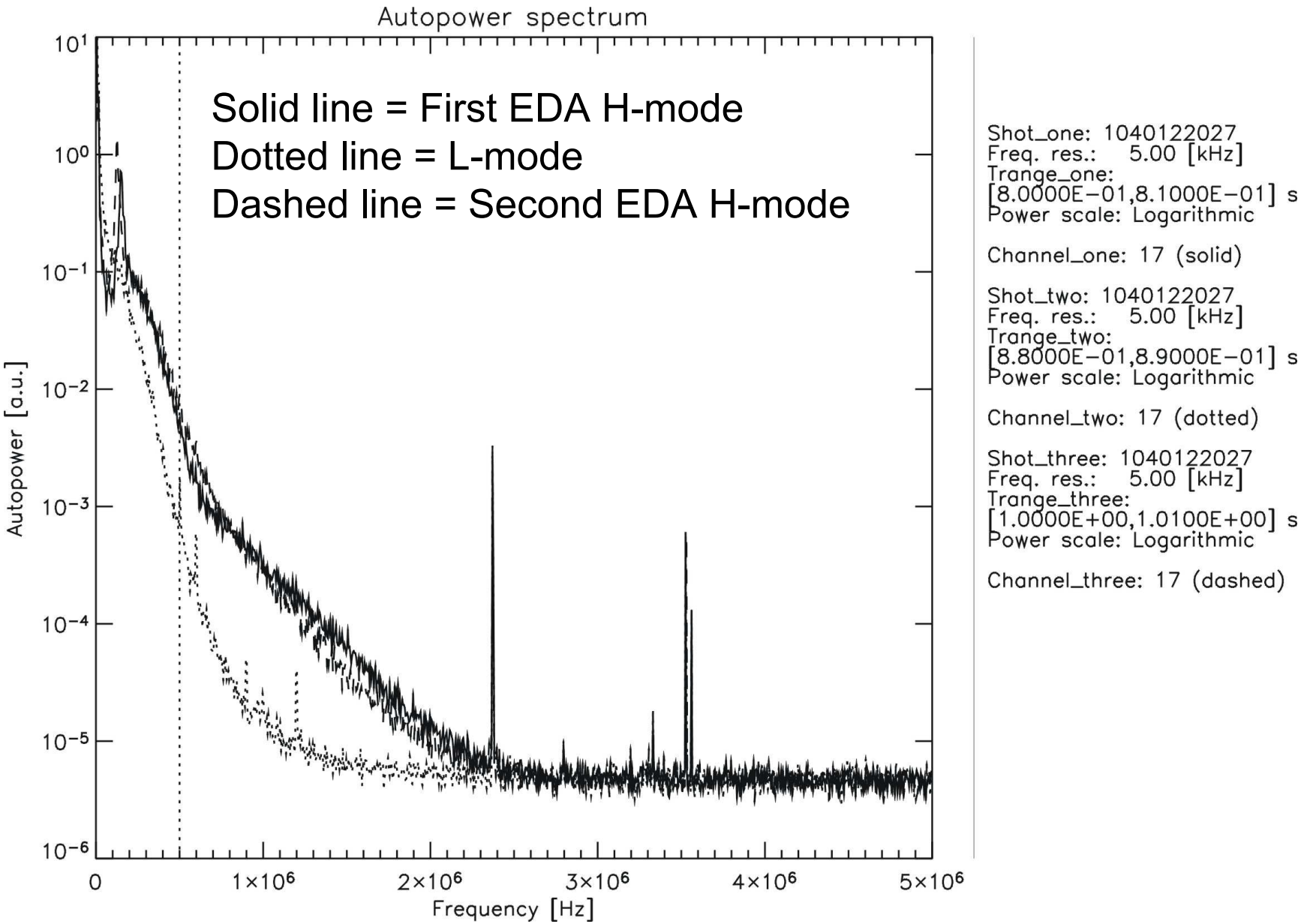
20 kHz to 500 kHz (old range)



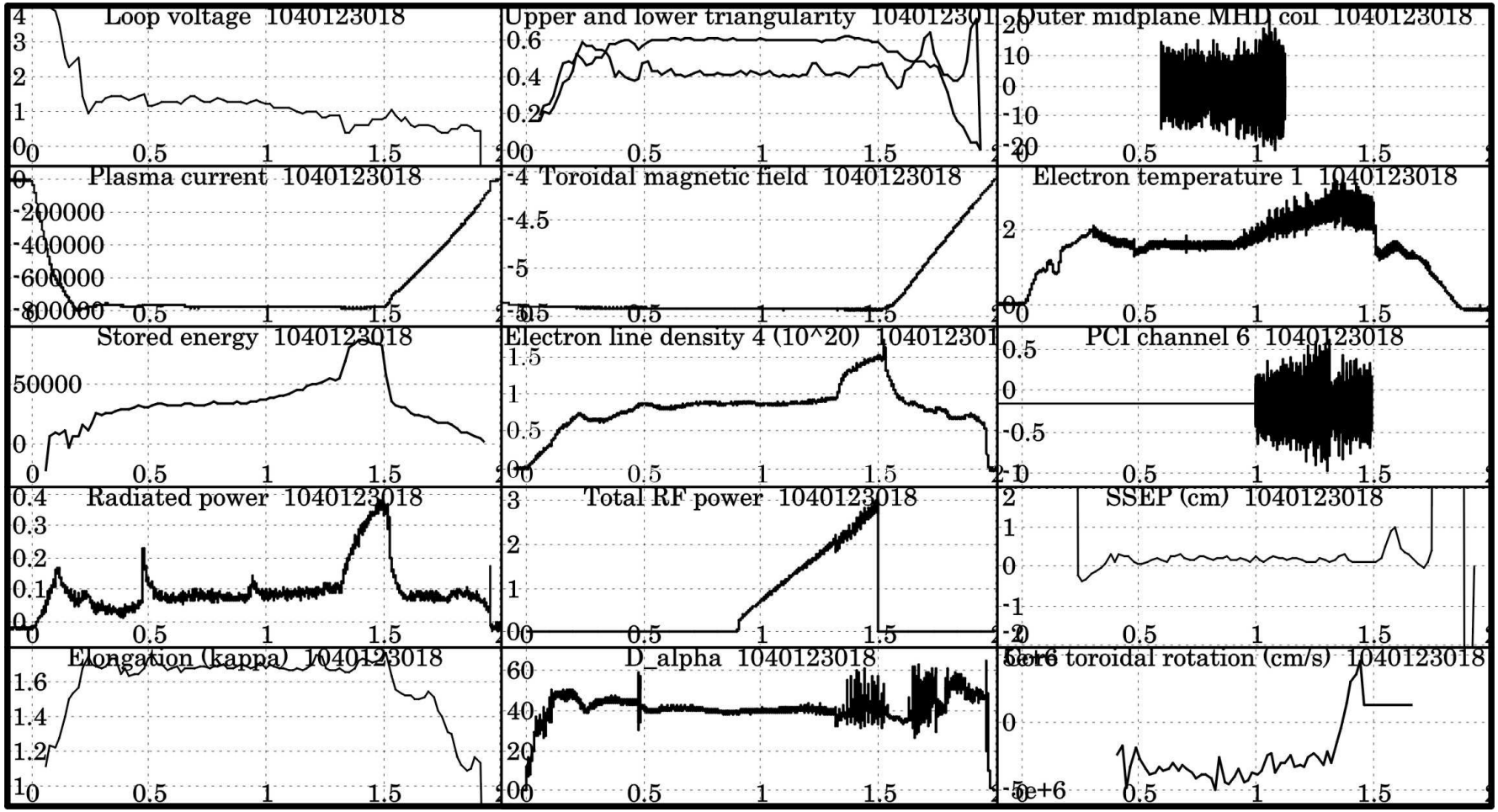
20 kHz to 5 MHz (new range)



20 kHz to 5 MHz (new range)

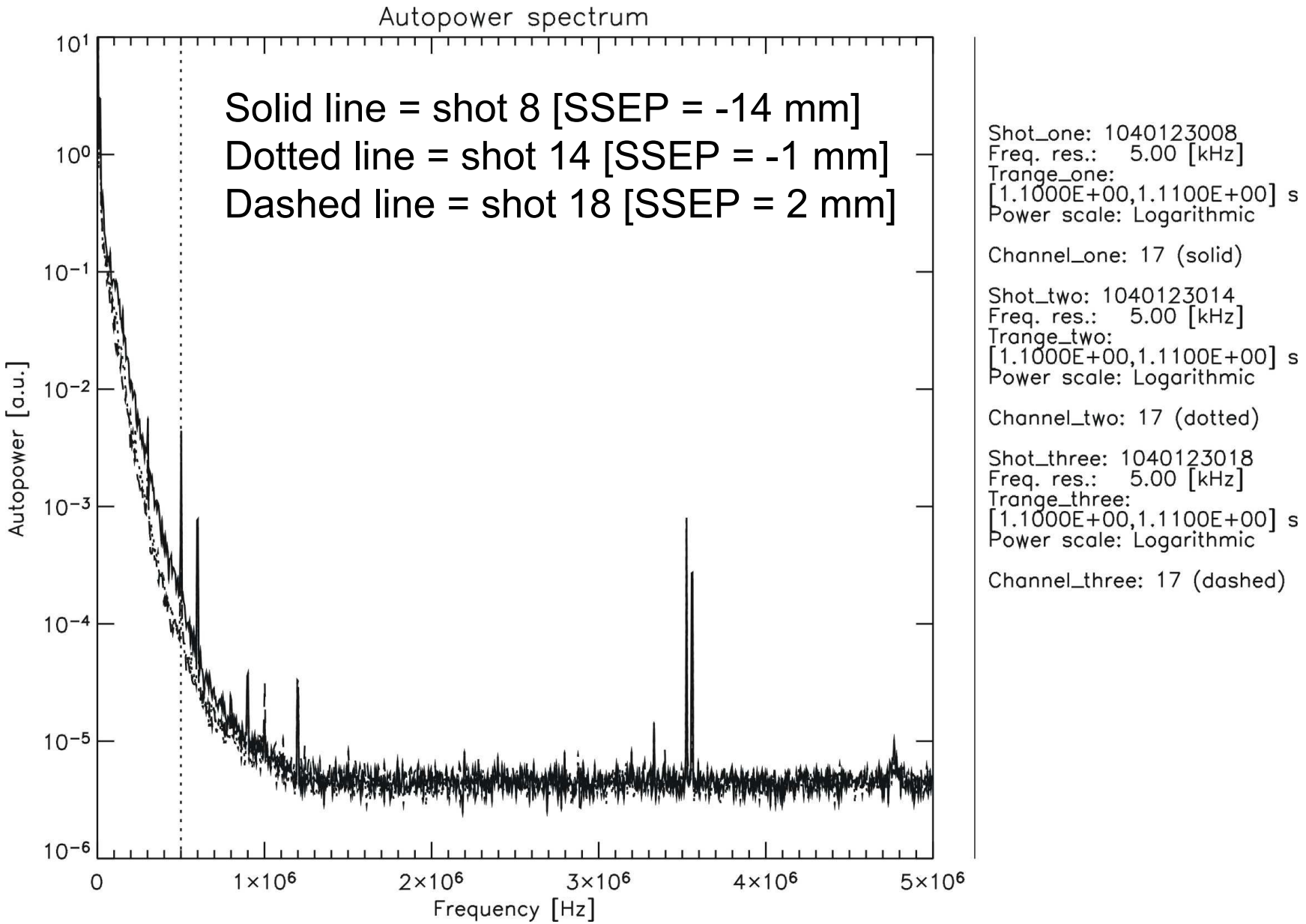


Run 1040123(8,14,18)

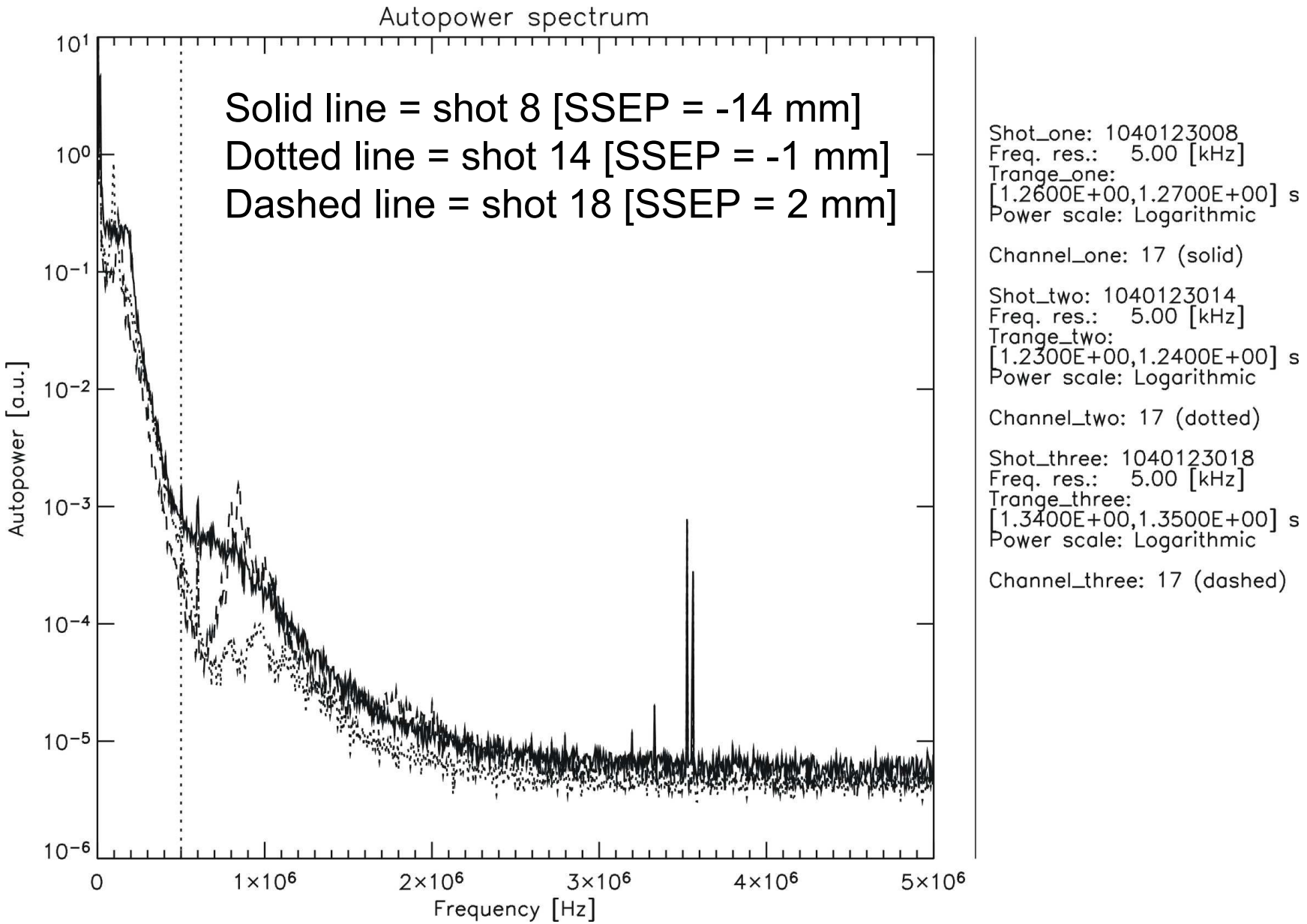


MP #375 Rotation and H-mode threshold versus SSEP

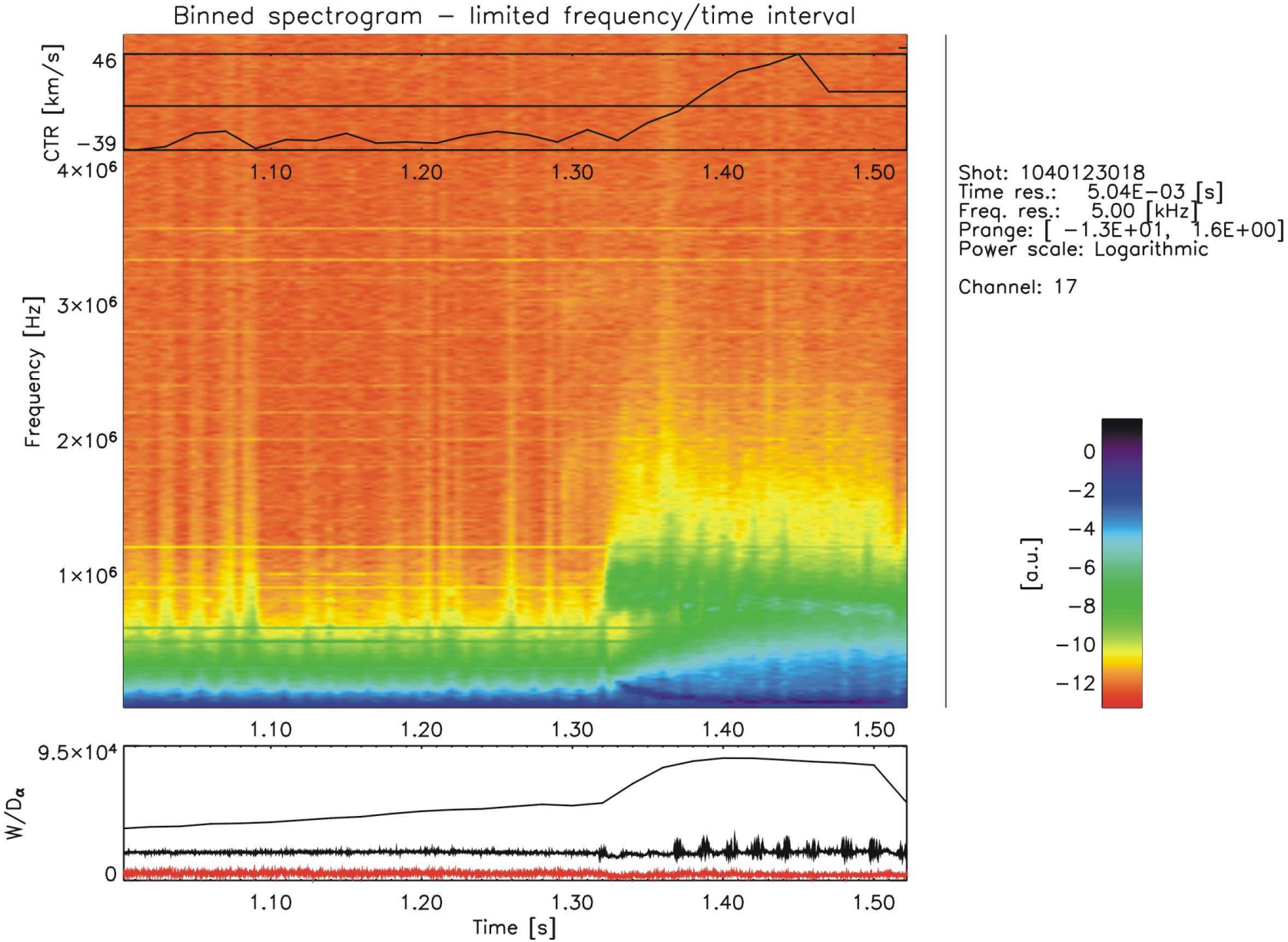
L-mode 1040123(8,14,18)



H-mode 1040123(8,14,18)



1040123018 (SSEP = 2 mm) [20 kHz to 5 MHz]



1040123018 (SSEP = 2 mm) [20 kHz to 2 MHz]