Tip Tilt #1	Resonant Frequency	"Time Factor" (2 for halflife, 3 for 1/3-life)	Time for factor (half life time, etc)	Calculated Q	Test Date	Not suspended as of 27July2010
Vertical, no dampers				#NUM!		
Vertical, with dampers	20	2	0.2	18.1294405465929		
				#NUM!		
Pitch, no ECDs				#NUM!		
Pitch, with ECDs	no osc			#NUM!		
				#NUM!		
Yaw, no ECDs				#NUM!		
Yaw, with ECDs	1.887	2	0.44	3.76312797425628		yaw #s
				#NUM!		440ms half decay time
Pos, no ECDs				#NUM!		
Pos, with ECDs	1.85	2	0.24	2.01236790067181	only one overshoot, so "freq" was measured with one half period	half time is estimate
				#NUM!		
Side with ECDs	1.75	2	0.4	3.17265209565375		

Tip Tilt #2	Resonant Frequency	"Time Factor" (2 for halflife, 3 for 1/3-life)	Time for factor (half life time, etc)	Calculated Q	Test Date												
Vertical, no dampers	25.91	2	0.308	36.169502951291	(see .txt file)	vert, no dampers. freq 20Hz, half life 300-400ms, Q~36 (16Aug)											
Vertical, with dampers	20	2	0.46	41.6977132571636	dampers on inner screws												
vert, with dampers	24	2	0.072	7.83191831612812	remeas 16Aug dampers on outer screws												
Pitch, no ECDs				#NUM!		#s for side 16Aug	freq	1.852									
Pitch, with ECDs	can't measure			#NUM!	Q < 1/2	ampl series (offset pre-included)	-4.88		-2.88	2.88	-1.2	0.96	-0.48				
				#NUM!			#DIV/0!	0	-1	-2.4	-1.25	-2					
Yaw, with ECDs (remeas)	1.887	4	0.52994170641229	2.26618006832411	ampl ratio is a guess		1.30170827931778										
Yaw, with ECDs	1.825	1.5625	0.54794520547945	7.03939825170279		freq \pm 1.6mHz/5											
				#NUM!													
Pos, no ECDs				#NUM!		#'s for yaw with ecd											
Pos, with ECDs	1.75			#NUM!	Q too low to measure	offset		-0.12	\pm 0.02								
				#NUM!		1.2	-1.18	0.6	-0.78	0.24	-0.48	0.12	-0.36	0.04	-0.28		
side	1.818	1.96	0.55005500550055	4.66842774540219		1.32	-1.06	0.72	-0.66	0.36	-0.36	0.24	-0.24	0.16	-0.16		
						-1.24528301886792	-1.47222222222222	-1.09090909090909	-1.83333333333333	-1	-1.5	-1	-1.5	-1			
						#'s for vertical, no rubber	freq		25.91	\pm 13mHz/10							
						offset		0.176	\pm 1								
						0.211	0.154	0.206	0.157	0.2	0.164	0.199	0.166	0.198	0.167	0.198	0.162
						0.035	-0.022	0.03	-0.019	0.024	-0.012	0.023	-0.01	0.022	-0.009	0.022	-0.014
						-1.59090909090909	-0.733333333333333	-1.57894736842105	-0.791666666666667	-2	-0.521739130434783	-2.30000000000001	-0.454545454545455	-2.44444444444445	-0.409090909090909	-1.57142857142857	
						-1.30873681538858											
						#s for side (re-measured)Aug	freq		1.818								
						-3.68	3.76	-1.76	1.52	-0.72	0.56	-0.4					
						-0.978723404255319	-2.13636363636364	-1.15789473684211	-2.11111111111111	-1.28571428571429	-1.4						
						#s for yaw (re meas 16Aug)	freq = 1.887										
						ampl series (offset already done)	-1.04	1.2	-0.44	0.4							
							-0.866666666666667	-2.72727272727273	-1.1								

Tip Tilt #3	Resonant Frequency	"Time Factor" (2 for halflife, 3 for 1/3-life)	Time for factor (half life time, etc)	Calculated Q	Test Date	Installed in BS chamber, no rubber, no tests											
Vertical, no dampers	20	2	0.83	75.2371782683604													
Vertical, with dampers	20.5	2	0.55	51.1023605407087	one damper on outer, one on inner...oops												
vert, with dampers	20	2	0.38	34.4459370385265	both dampers on outside												
Pitch, no ECDs				#NUM!													
Pitch, with ECDs	no freq			#NUM!	beam started down, came up, back down a tiny bit												
				#NUM!													
Yaw, no ECDs				#NUM!													
Yaw, with ECDs	1.96			#NUM!	Q very low												
				#NUM!													
Pos, no ECDs				#NUM!													
Pos, with ECDs	1.724	2.56	0.58004640371229	3.3420940334457													
				#NUM!													
side	1.852	1.69	0.53995680345572	5.98708184663858	yaw #s 16Aug	freq	1.96Hz										
					pos #s 16Aug	mV											
					-240	140	-100	60	-40								
					-1.71428571428571	-1.4	-1.66666666666667	-1.5									
					side #s 16Aug	mV	pk-pk vals between each crest an trough										
					720	640	500	380	240	200	100						
					1.125	1.28	1.31578947368421	1.58333333333333	1.2	2							

Tip Tilt #4	Resonant Frequency	"Time Factor" (2 for halflife, 3 for 1/3-life)	Time for factor (half life time, etc)	Calculated Q	Test Date	Suspended with 0.0017" wire, 26July2010											
Vertical, no dampers	18.5	2	0.375	31.443248447997	26July2010												
Vertical, with dampers	21	2	0.15	14.2769344304419	26July2010												
				#NUM!													
Pitch, no ECDs	0.85302	2	180	695.914891877459	27 July (approx half life)												
Pitch, with ECDs				#NUM!													
				#NUM!													
Yaw, no ECDs	3.29	2	60	894.687890974358	27July (approx half life)	These #s are all for Yaw with ECD: peak amplitude series											
Yaw, with ECDs	1.875	4	0.533333333333333	2.26618006832411	+/- 16mHz / 3	-1.06	0.38	-0.22	0.064	\pm 0.02	offset -.02	-0.028					
				#NUM!		-1.032	0.408	-0.192	0.092								
Pos, no ECDs				#NUM!		-2.52941176470588	-2.125	-2.08695652173913									
Pos, with ECDs	1.72	9	0.581395348837209	1.42980043205628	freq \pm .06Hz												
				#NUM!													
side	1.852	5.29	0.539956803455723	1.88591562001944													
				#NUM!													
(vert) Rubber in a bit	22	0.125	2	12.4639903757826			These #s are for Pos with ECD, peak ampl series										
UL ECD	10.048				+/- 3mHz / 8		offset	5.76									
UR	10.152				+/- 3mHz / 8		7.52	5.16	5.88								
LL	10.208						1.76	-0.6	0.12								
LR	10.208						-2.93333333333334	-4.99999999999999									
							These for side with ECD										
							offset	2.32	\pm 0.04								
							5.28	1.2	2.88	1.88							
							2.96	-1.12	0.56								
							-2.64285714285714	-2			freq	1.852	\pm 0.034				
Tip Tilt #5	Resonant Frequency	"Time Factor" (2 for halflife, 3 for 1/3-life)	Time for factor (half life time, etc)	Calculated Q	Test Date	Not suspended as of 27July2010											
Vertical, no dampers				#NUM!													
Vertical, with dampers	20	2	0.25	22.6618006832411													
				#NUM!													
Pitch, no ECDs				#NUM!													
Pitch, with ECDs				#NUM!													
				#NUM!													
Yaw, no ECDs				#NUM!													
Yaw, with ECDs				#NUM!	no way to measure. Q is low												
				#NUM!													
Pos, no ECDs				#NUM!													
Pos, with ECDs	1.785	2	0.22	1.77985782566176	only one overshoot, freq is from half period	half time is estimate											
				#NUM!													
side with ecds	1.78	2	0.44	3.54974445902288													