RF Parameters										
Parameter	**Units**	**"SNS"**	**RIA**	**TESLA**	**12GeV CEBAF**	**ERLs**	**FEL**	**SPL**	**ELBE**	
f_RF	MHz	805	57.5-805	1300	1500	1300/1500	749	**352**	**1300**	
Eacc	MV/m	10, 16	3, - 10	25/35	18 to 21	20	7.5	3, -9	10-Jan	
Q_loaded		7.00E+05	>20000000	2.00E+06	3.00E+07	2.00E+07	1.00E+07	2.00E+06	2.00E+07	microphonics minimization is critical to pushing up Ql in lightly beamloaded machines
beta		.61/.81	0.49/.61/.81	1	1	1	1	0.5 - 7	1.00E+00	
Macro-pulse rf	msec	1.3		1.4				4		
Macro-pulse beam	msec	1		0.94				2.3		
Repetition Rate	Hz	60		5 , 10				50		
Duty Cycle		0.08	cw	0.007	cw	cw	cw		cw	
Lorentz force coef.	Hz/(MV/m)^2	spec 2, <4 now	spec 2, <4 now	1	1 to 3	1 to 3	1 to 3	2 (LEP)	1	open issue with SNS
Beam Current, ave Macro	mA	26	0.3	9.3	0.4	~0 (<0.2)	5 to 10	13	1	FEL current is understood as "unmatched" beam current
Beam Phase	Degrees	-20	-30	-3	0	360	-20	-20		
Number of cavity/klystrons		1	1	36	1	1?	1 ?	1 to 4	1	unclear where 1:1 tradeoff lies if performance spread of cavities is small or not in question
Number of cells/cavity		6	6	9 to 18	7	9 or 7	3		9	
Microphonics(meas.)	rms Hz	10		3 to 7	3.5			?	?	clarify low end of frequency spectrum to discount easily tracked slow drifts
Pressure sensitivity				+ 10 Hz/mb				~10		near klystron saturation, slow drift effects influence tuner operation need and control headroom
Nearest mode	MHz delta	0.8	0.8	0.8, 0.3superstructure	1?	0.8	0.8	0.7		
RF System Requirements										
Microphonics	rms Hz	15	<5	10	3.5	<<1 !	2	10		
Amplitude stability (cor)				2.00E-04	1.10E-05	1.00E-04	1.00E-05			
Amplitude stability (uncor)		0.005	0.01	0.001	2.00E-04	2.00E-03	6.00E-05	0.005	0.05	
Phase stability	degrees	0.5	1	0.5	0.1	0.5??	??	0.5	1	
Klystron saturation	%	obscure accounting	??	3	10, under most extreme conditions	20	*0*		20	do SELs have a gain/noise advantage when operating near saturation? How do different machines deal with this?
Vector sum calibration	Degree / %			1 and 10						
Resonance Control - Slow	Hz	?		p/m 50	+-2					deadband
Resonance Control - Fast	Hz	100		p/m 200	25					6*microphoics + 2* deadband
Beamloading fluctuations	%	1.2 @ 30 kHz		1	NA	2 (inj most critic	2			Low frequ