

Achieved and expected performances for the CTF3 and CLIC Drive Beam

FOR ONE DRIVE BEAM	Unit	Achieved *	CTF-3	CLIC 0.5 TeV	CLIC 3 TeV
μ pulse charge	nC	100	2.4	11.7	17.5
Pulse width (FWHH)	ps	10	10	12	12
Peak current	A	10 kA	240	975	1450
Number of μ pulses	-	48	2145	10720	42880
Distance between pulses	ns	0.333	0.666	2.13	2.13
Macro pulse duration	μ s	0.016	1.4	23	92
Macro pulse charge	μ C	0.75	5.2	125	750
Charge stability	% rms	5	< 0.5	0.1	0.1
Repetition rate	Hz	10	5	200	100
Mean current	mA	0.0075	0.026	25	75
Photo cathode	-	Cs ₂ Te	Cs ₂ Te	Cs ₂ Te	Cs ₂ Te
Working wavelength λ	nm	262	< 270	< 270	< 270
Minimum QE @ λ	%	1.5	1.5	1.5	1.5
Minimum lifetime @ QE _{min}	h	200	100	24	24
Total shot number during lifetime	x 10 ⁹	0.15	3.9	185	371
Photo cathode produced charge	C	1.5	10	2.2 k	6.5 k
Laser energy at the cath. / Mp	mJ	0.3	1.6	39	233
Laser power at the cathode	W	0.003	0.008	7.8	23.3

* Not all in the same time