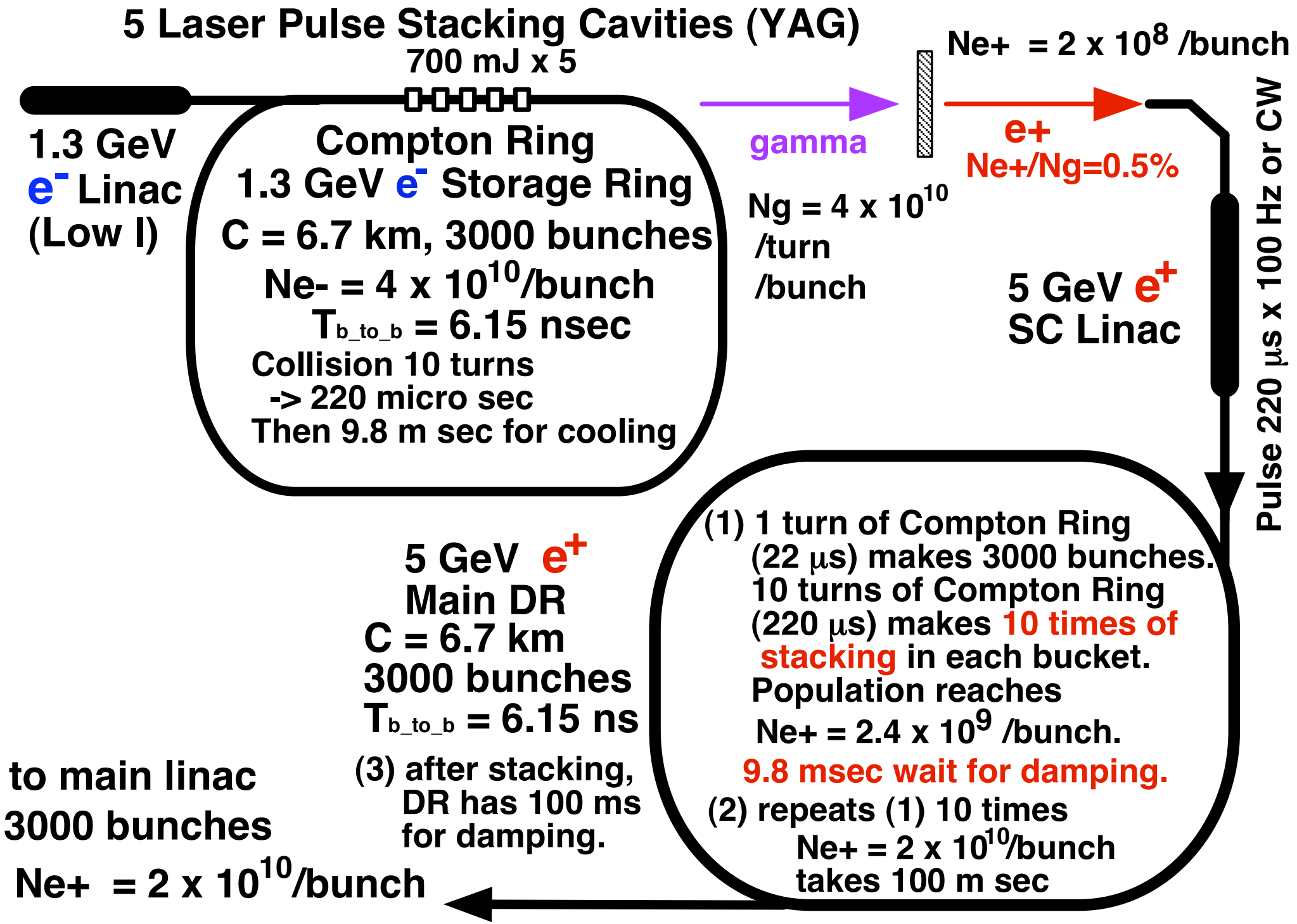
5 Laser Pulse Stacking Cavities (YAG)
700 mJ x 5
Ne+ = 2 x 10^8 /bunch
1.3 GeV
e- Linac
(Low I)
Compton Ring
1.3 GeV e- Storage Ring
C = 6.7 km, 3000 bunches
Ne- = 4 x 10^10/bunch
T b_to_b = 6.15 nsec
Collision 10 turns
-> 220 micro sec
Then 9.8 m sec for cooling
gamma
Ng = 4 x 10^10
/turn
/bunch
e+
Ne+/Ng=0.5%
5 GeV e+
SC Linac
Pulse 220 μs x 100 Hz or CW
(1) 1 turn of Compton Ring
(22 μs) makes 3000 bunches.
10 turns of Compton Ring
(220 μs) makes 10 times of
stacking in each bucket.
Population reaches
Ne+ = 2.4 x 10^9 /bunch.
9.8 msec wait for damping.
(2) repeats (1) 10 times
Ne+ = 2 x 10^10/bunch
takes 100 m sec
5 GeV e+
Main DR
C = 6.7 km
3000 bunches
T b_to_b = 6.15 ns
(3) after stacking,
DR has 100 ms
for damping.
to main linac
3000 bunches
Ne+ = 2 x 10^10/bunch