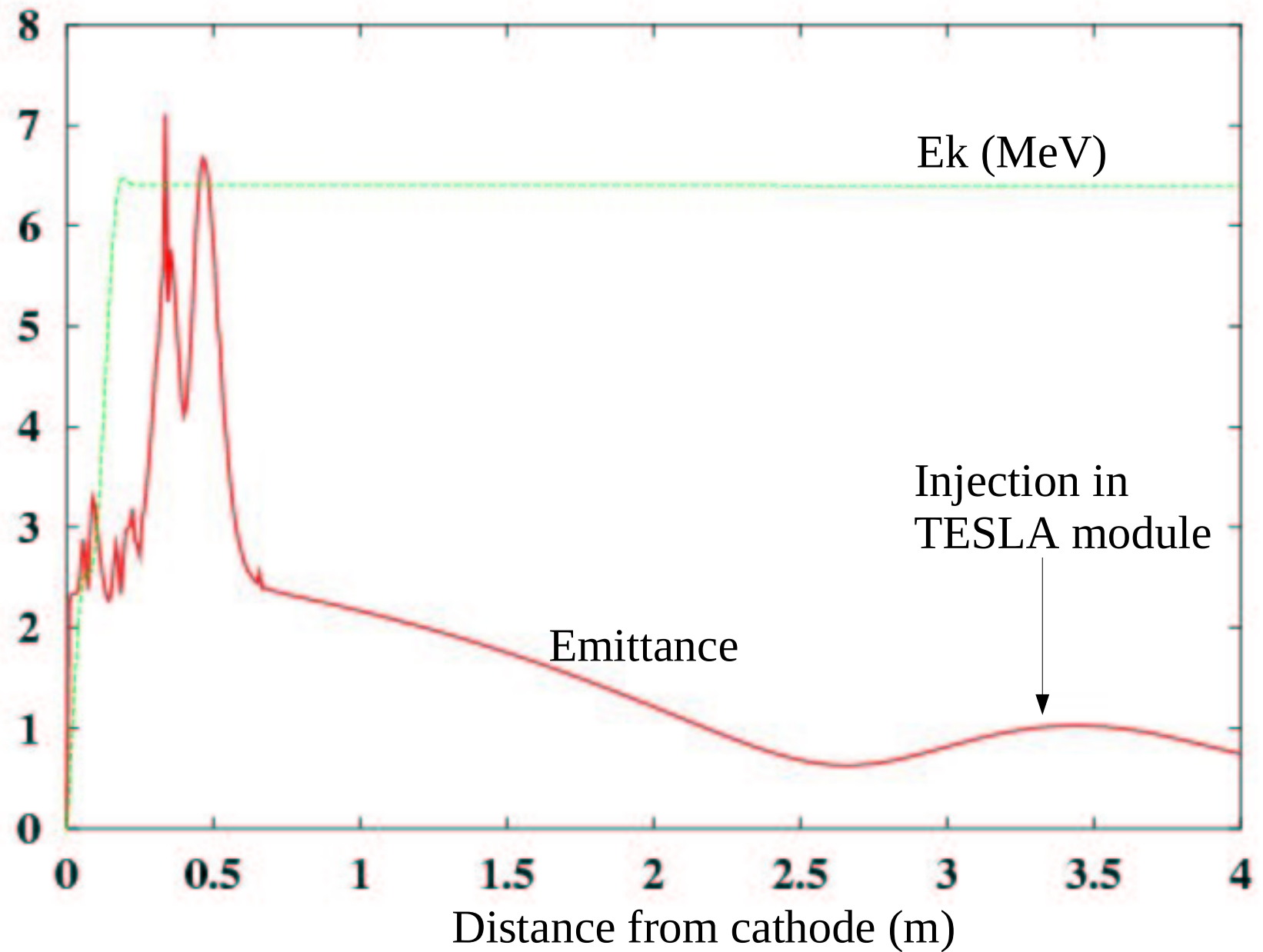
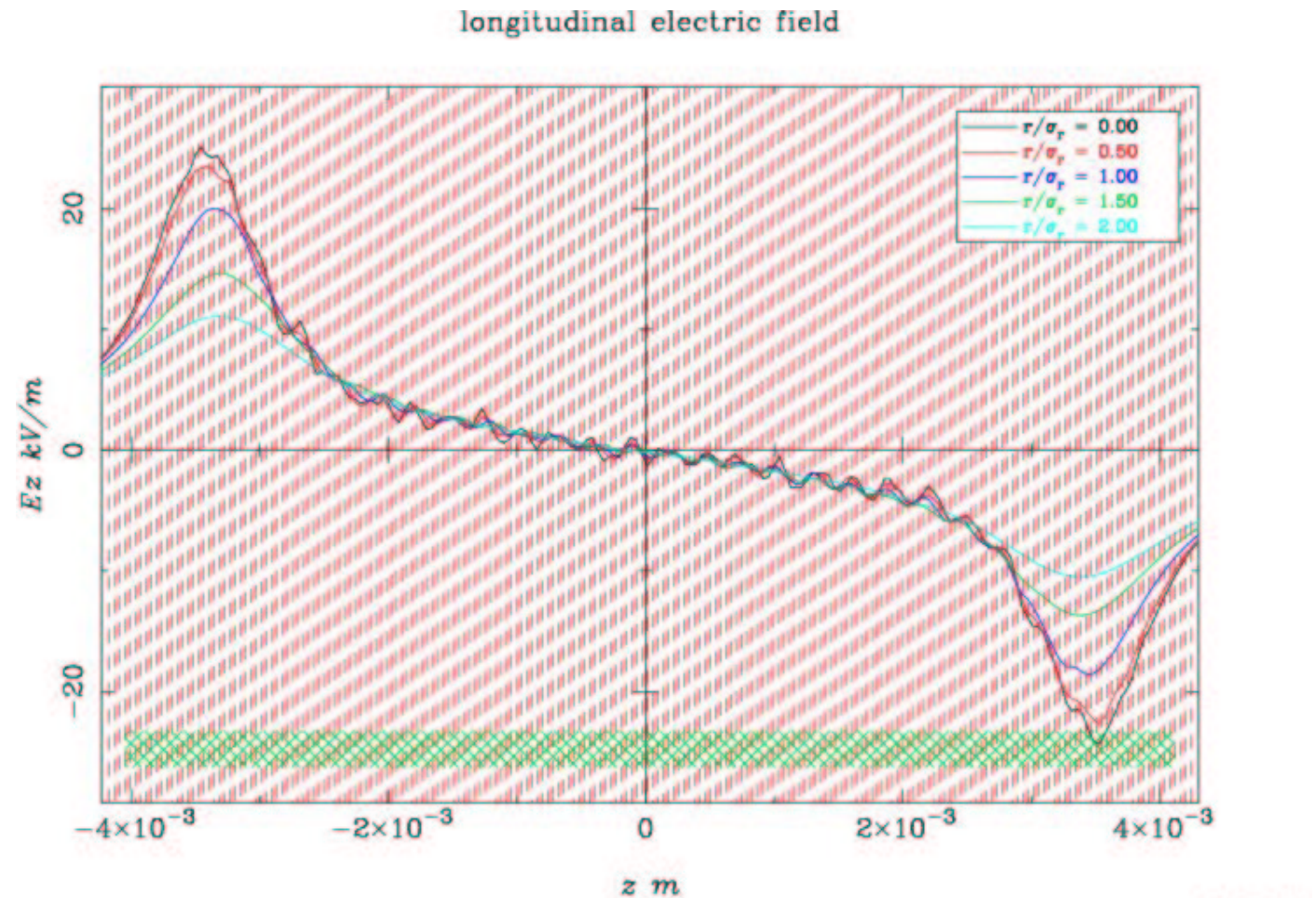


Low energy section of TESLA X-FEL injector



Set-up of the particle ensemble

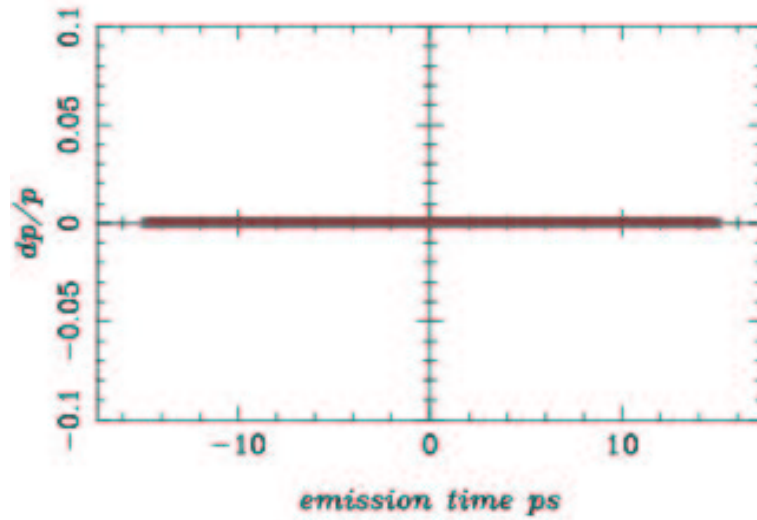
Q=1 nC
200 k macroparticles
201 longitudinal slices



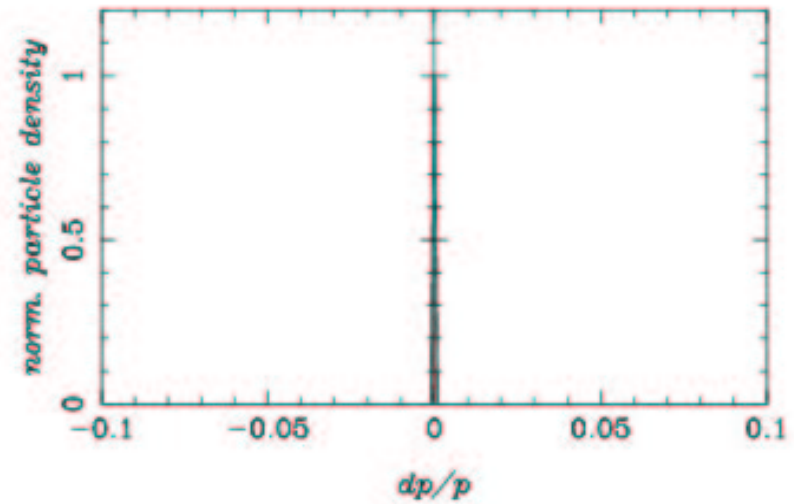
An example of initial phase space

$z = 0.000 \text{ m}$

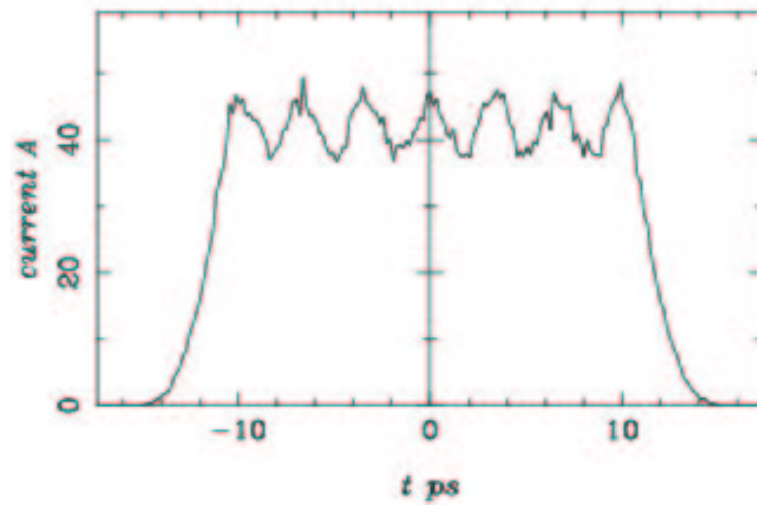
Longitudinal Phase-Space



Momentum Spread



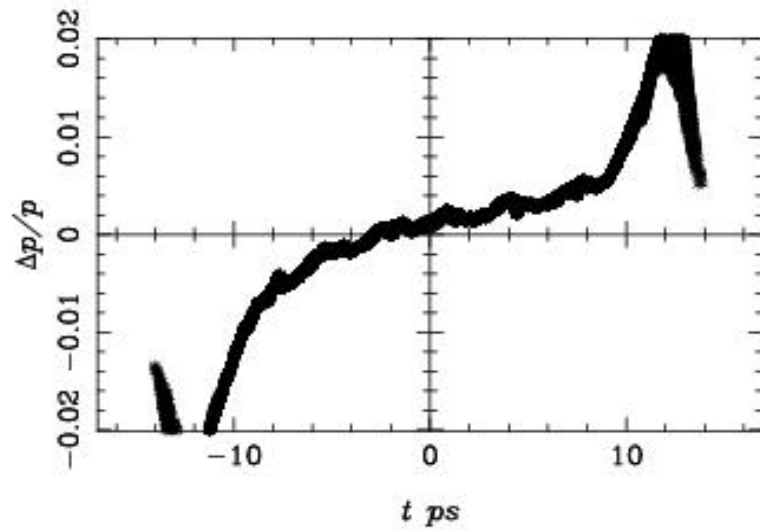
Longitudinal Distribution



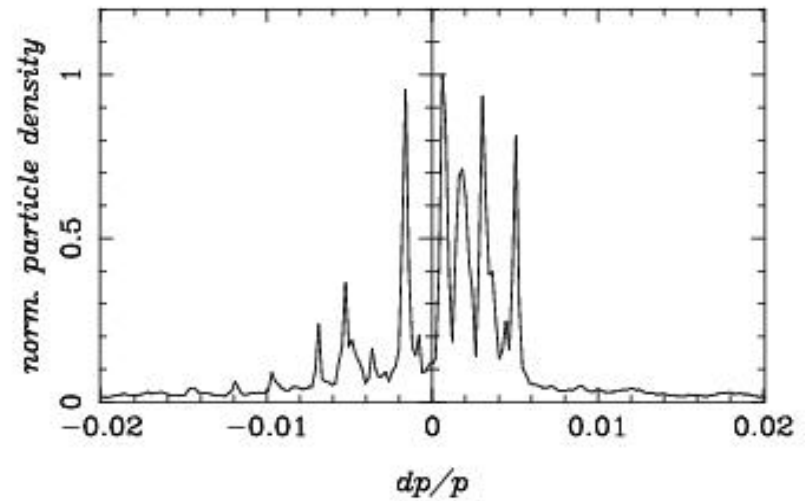
Final phase space

$z = 4.000 \text{ m}$

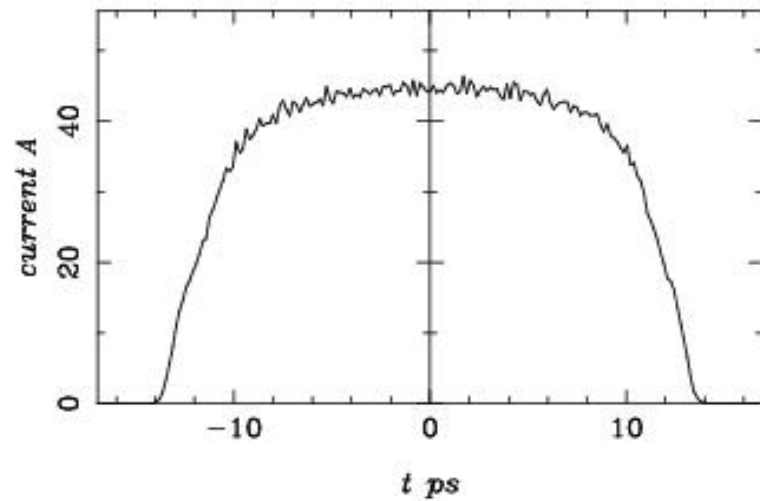
Longitudinal Phase-Space



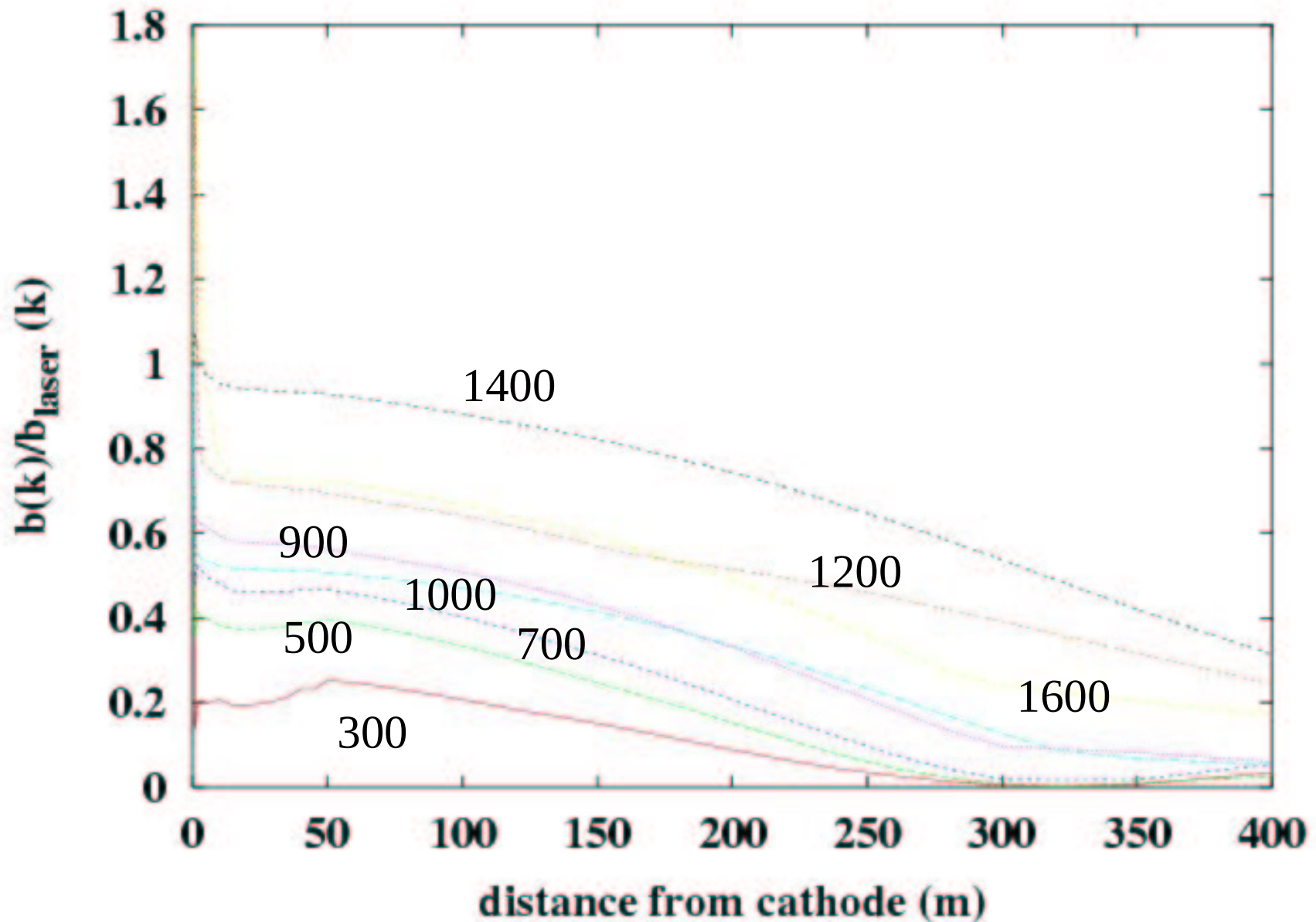
Momentum Spread



Longitudinal Distribution



Normalized bunching factor as a function of modulation wavelength
(amplitude of initial modulation is 10%)



Normalized bunching factor versus modulation wavelength
(amplitude of initial modulation is 10%)

