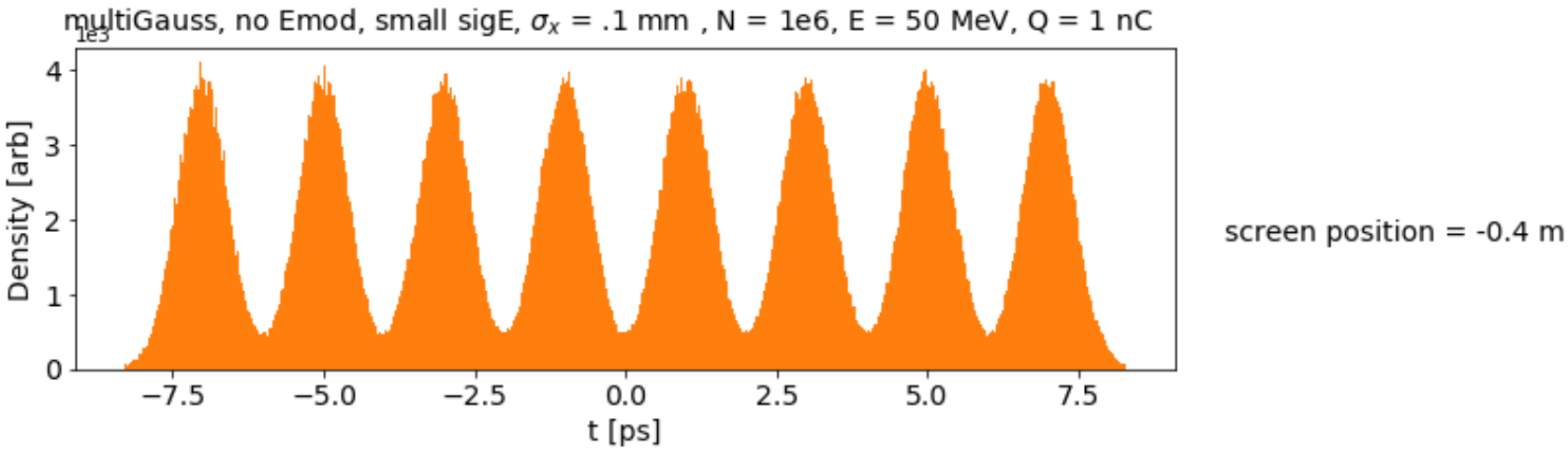
Test with Wiggler Alone

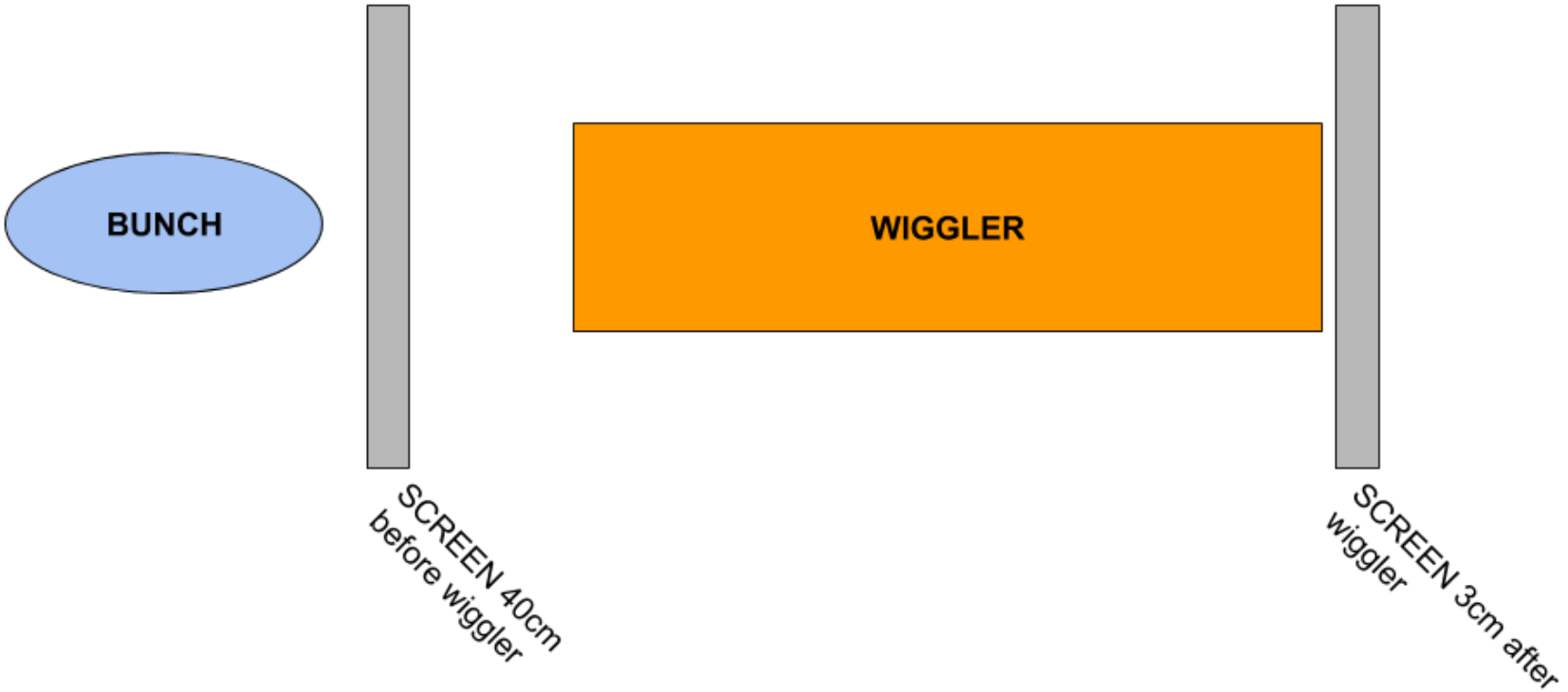
Input bunch

$E = 50\text{MeV}$	$\Delta t = 2\text{ps}$	$\sigma_{diff} \simeq \sqrt{\frac{FWHM_{pulse}}{2\pi}\lambda_w} = 2\text{mm}$
$\gamma_z = \frac{\gamma}{\sqrt{1+\frac{K^2}{2}}} = 12.37$	$FWHM_{pulse} = 1\text{ps}$	$\sigma_{SC} \simeq FWHM_{pulse}\gamma_z = 3.7\text{mm}$



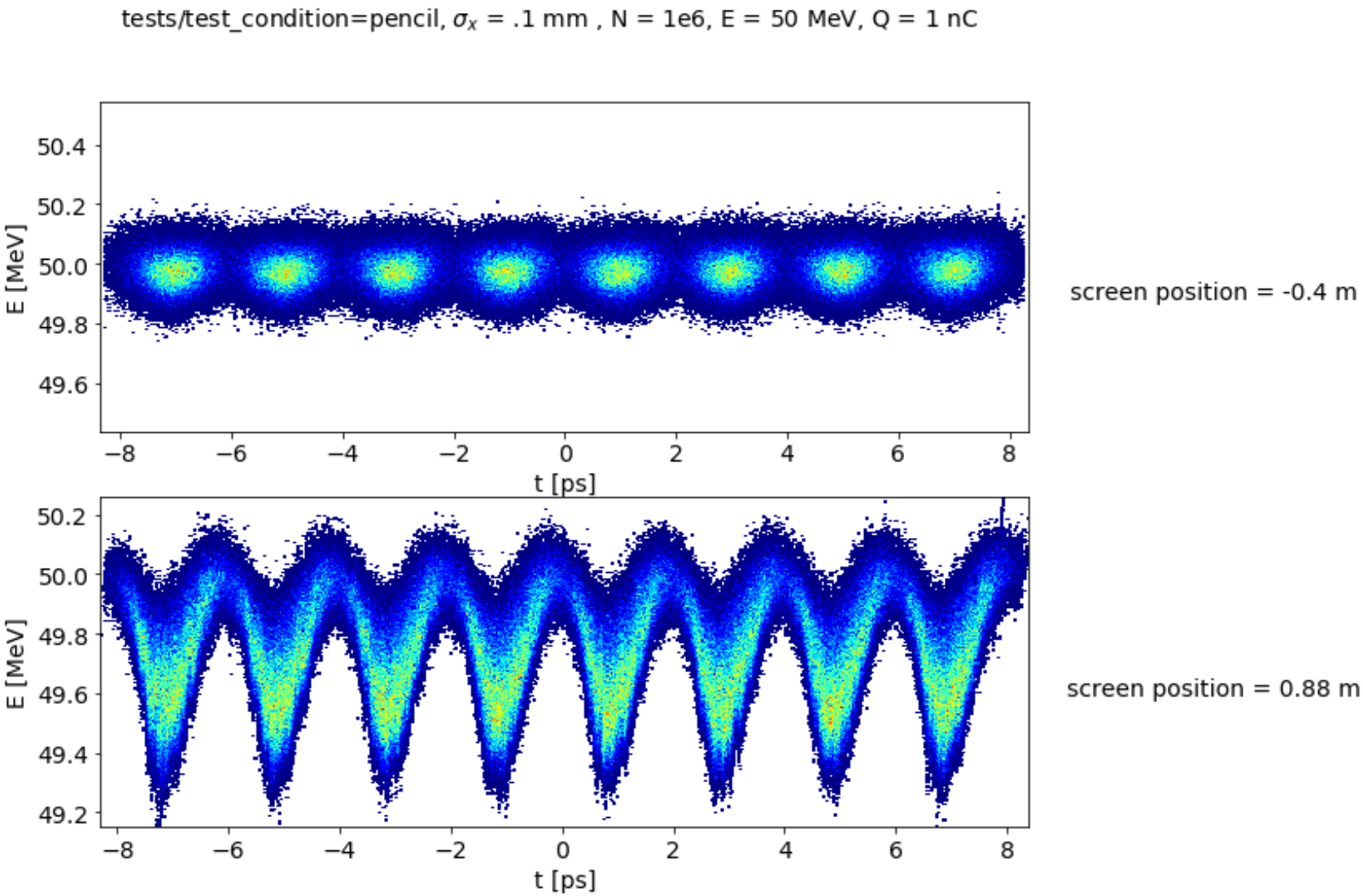
Test with Wiggler Alone

Shematics of the simulated scenario



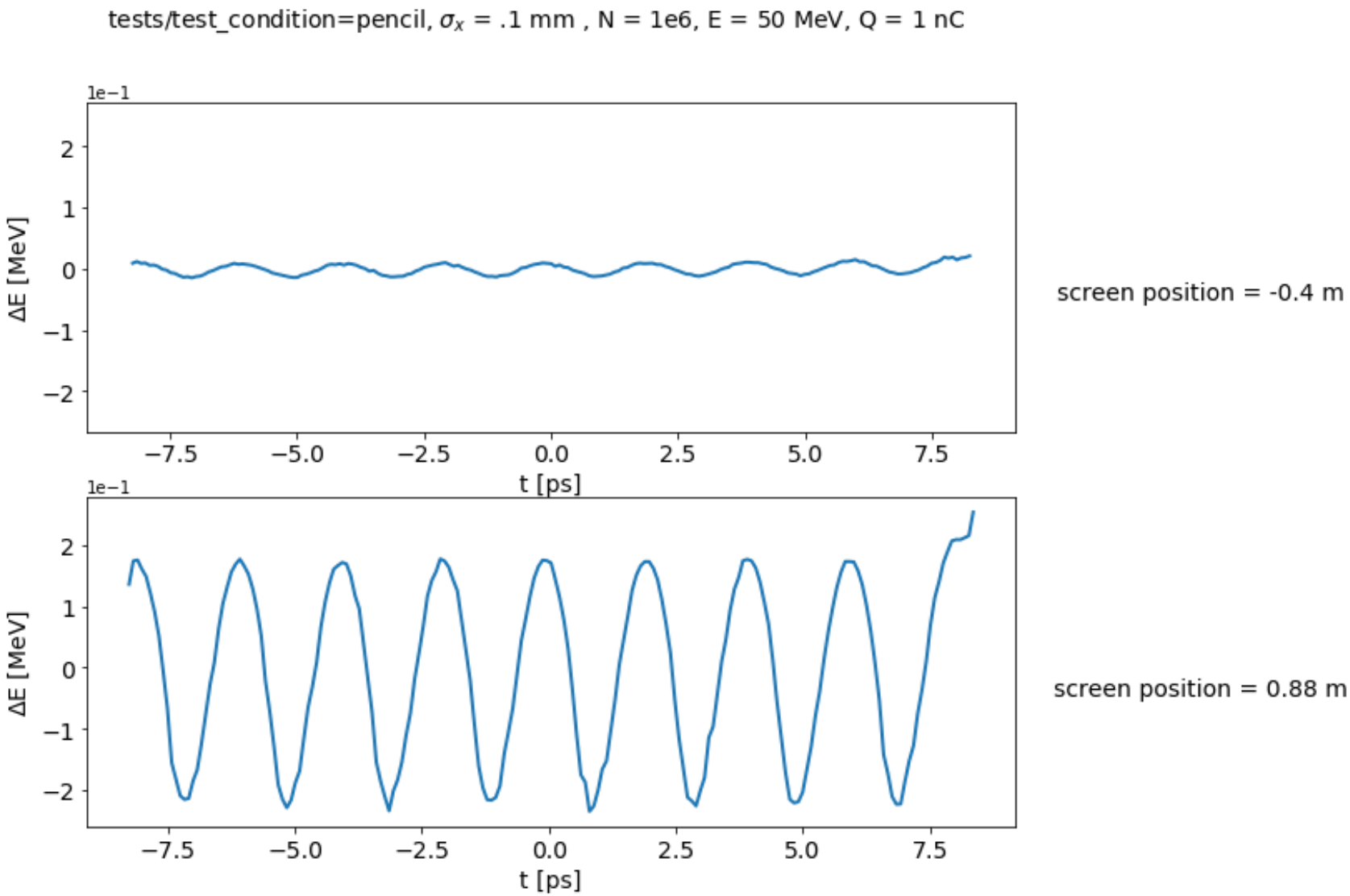
Test with Wiggler Alone

Case $\sigma_\perp = .1\text{mm} < \sigma_{diff}$ i.e. pencil-like approximation.



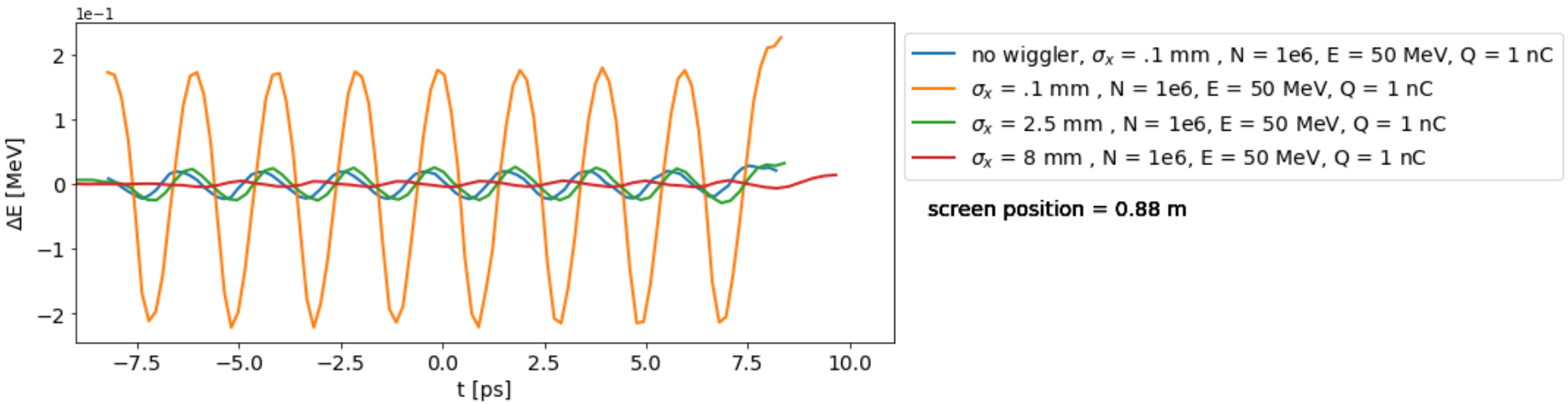
Test with Wiggler Alone

Case $\sigma_\perp = .1\text{mm} < \sigma_{diff}$ i.e. pencil-like approximation.



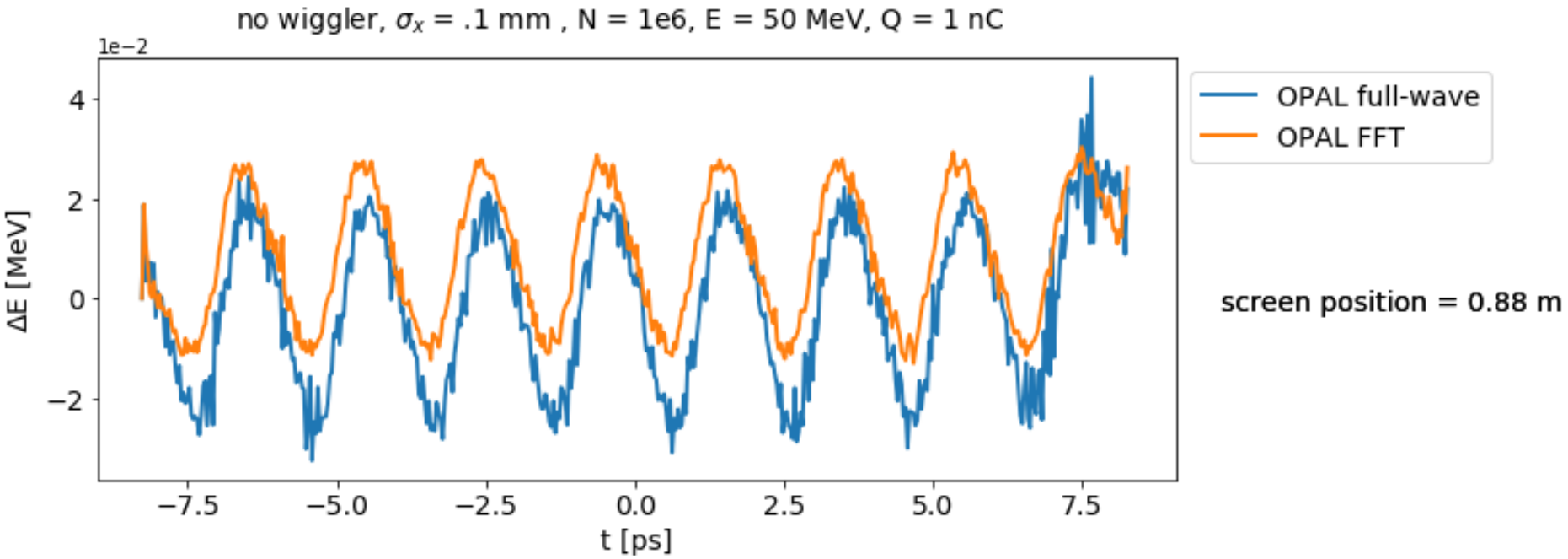
Test with Wiggler Alone

Comparison different transverse sizes $\sigma_\perp$:



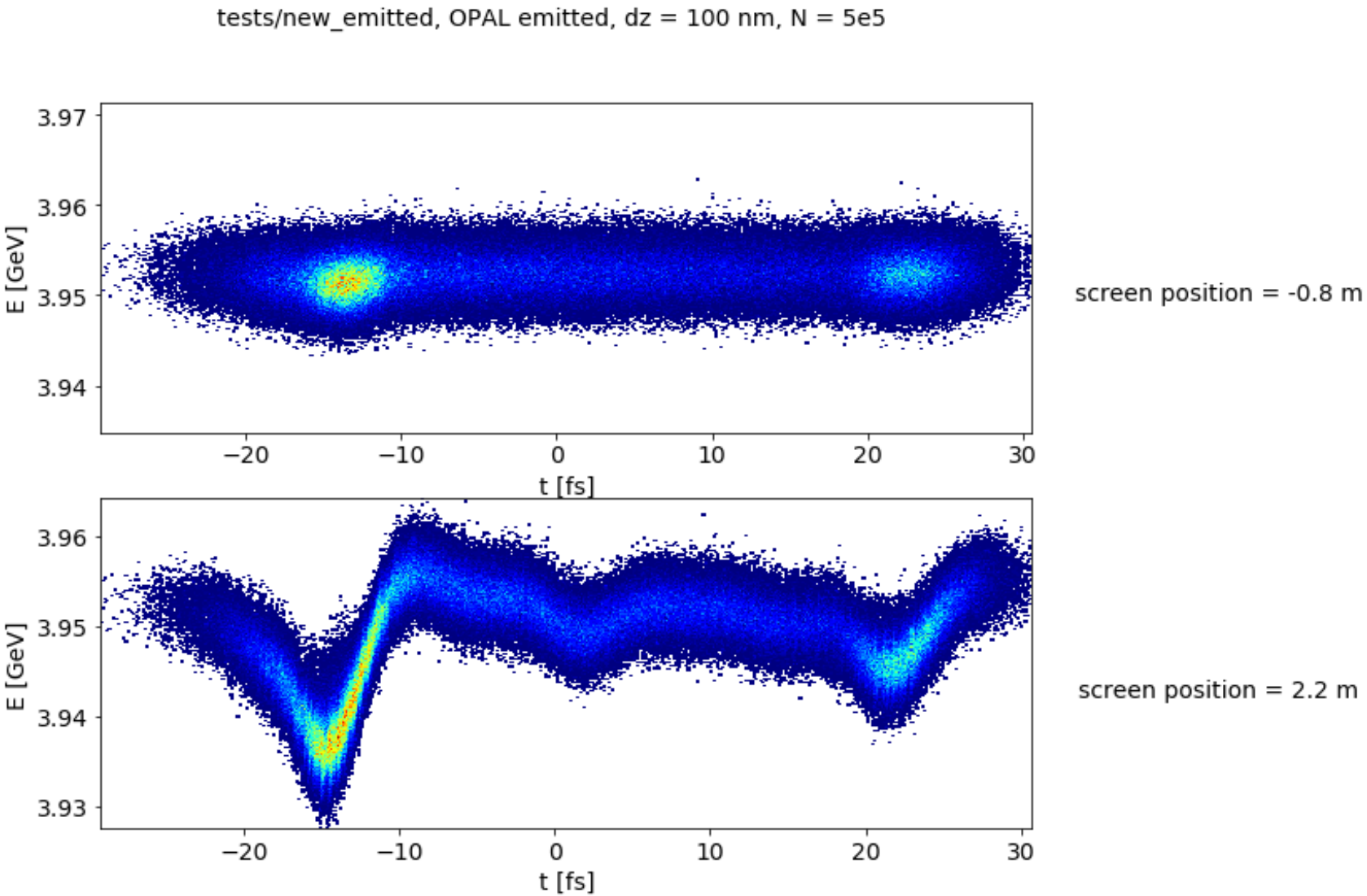
Test with Wiggler Alone

Benchmark between solvers in the case of no wiggler (i.e. a drift).



Test with Wiggler Alone

Benchmark with J. MacArthur paper, experiment at LCLS.



Test with Wiggler Alone

Benchmark with J. MacArthur paper, experiment at LCLS.