

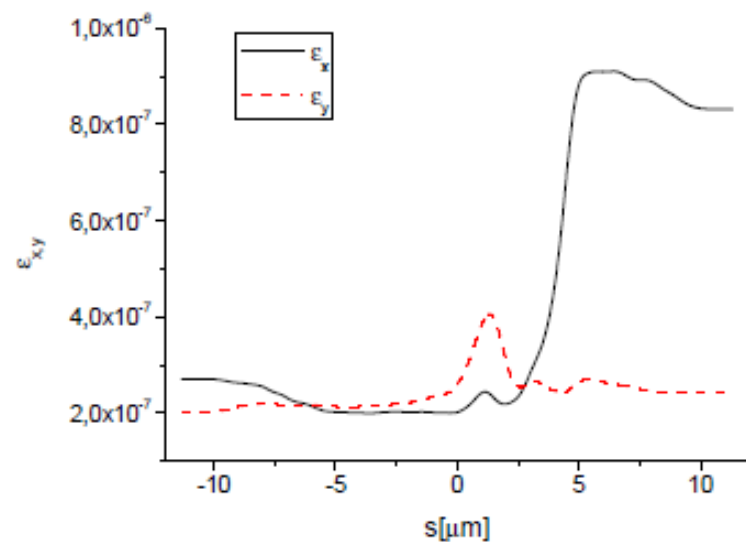
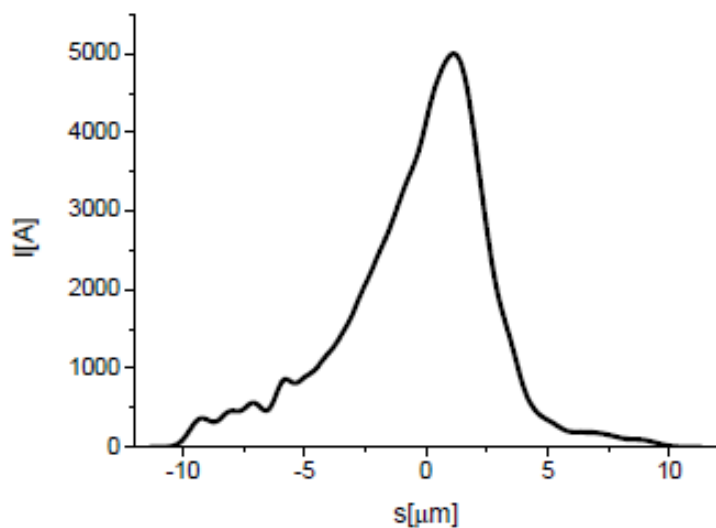
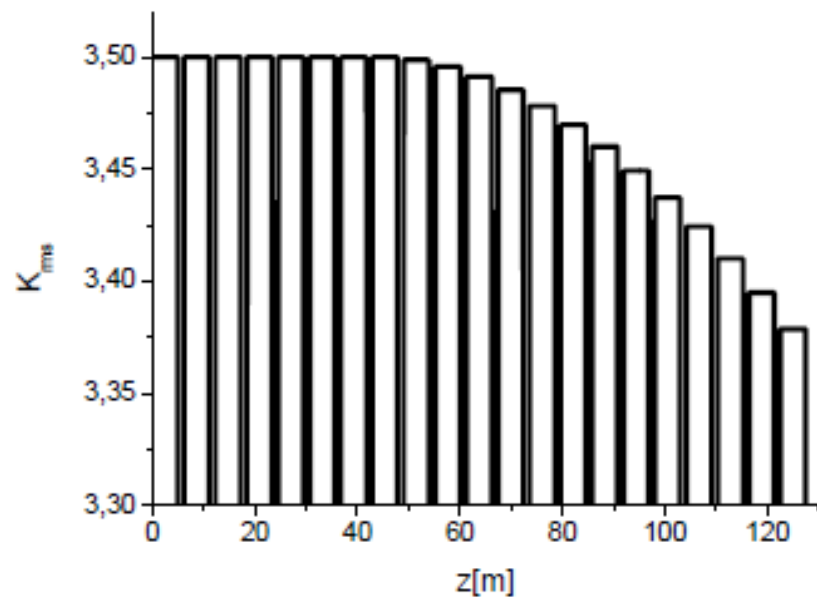
# Tapering with ALICE and Genesis 1.3

Igor Zagorodnov

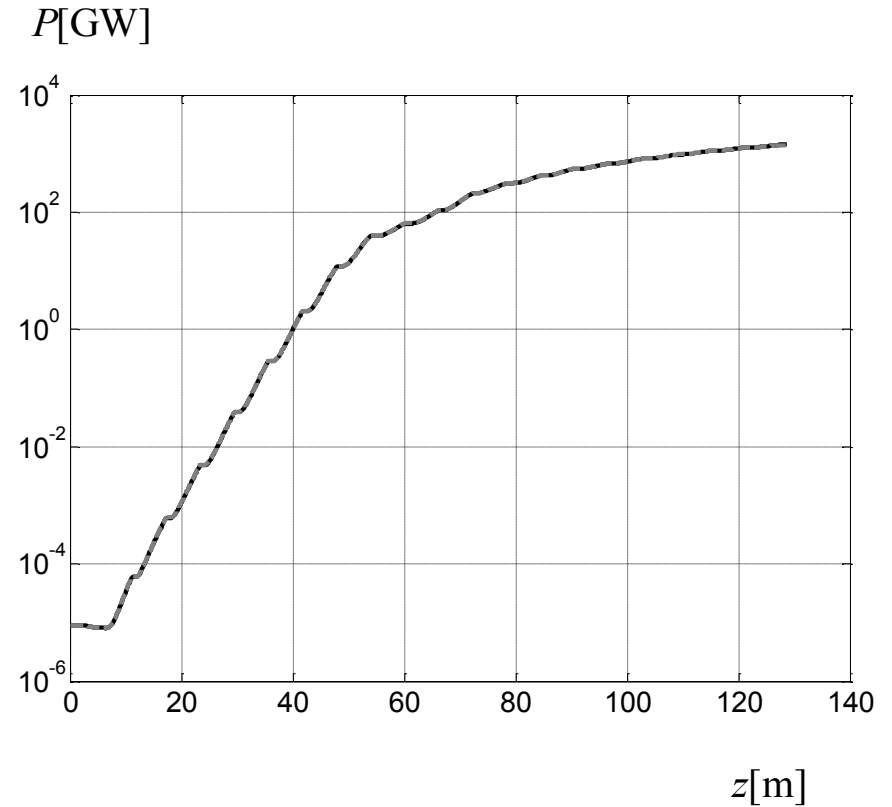
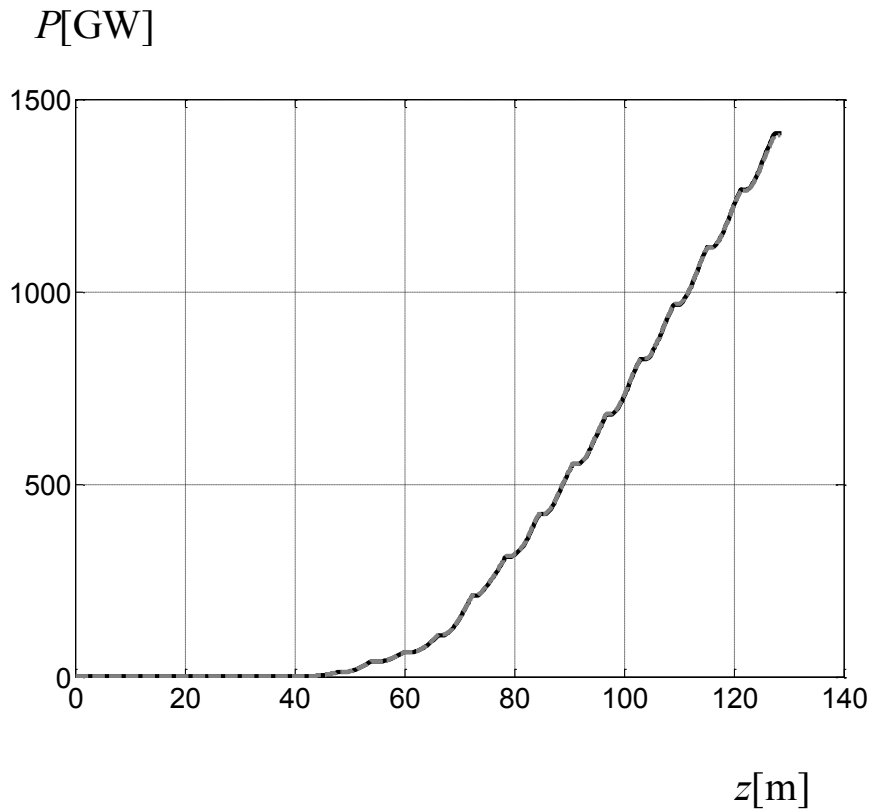
DESY, Hamburg, Germany

16.09.2013

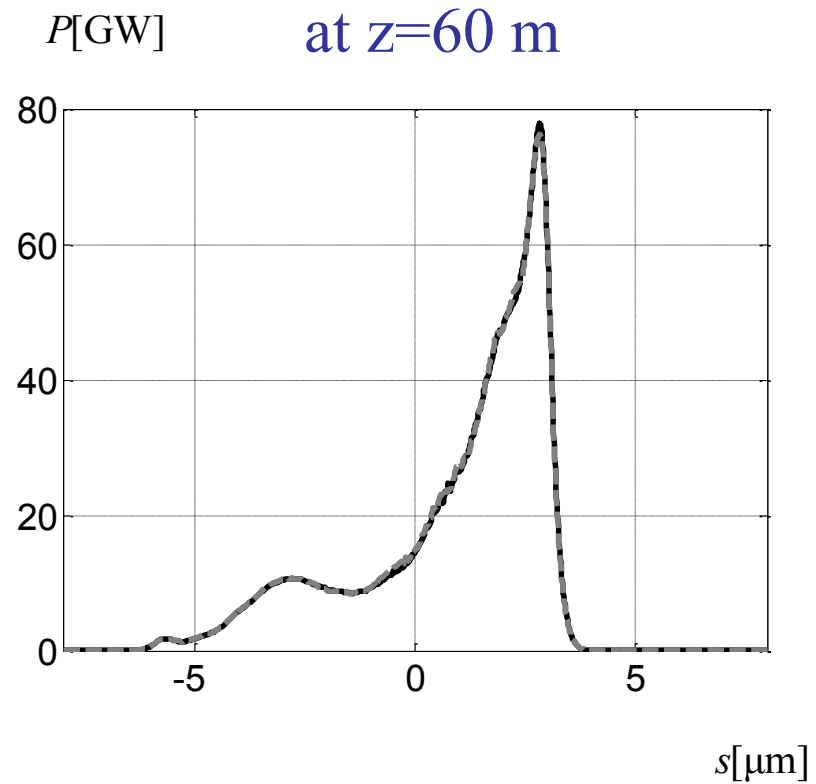
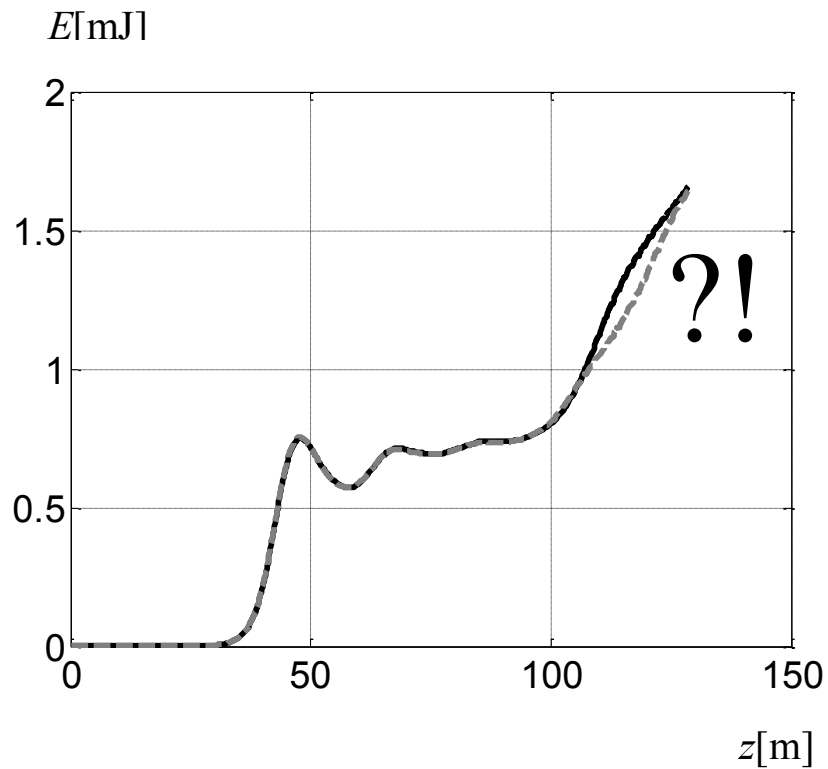
	Units	
Undulator period	mm	68
Periods per cell	-	73
Total number of cells	-	21
Intersection length	m	1.1
Energy	GeV	14
Charge	nC	0.1



# One slice ALICE and Genesis (v. 2.0) with Intersections, taper, wake, quantum fluctuations (factor 100)



# Amplifier ALICE and Genesis (v. 2.0) without intersections



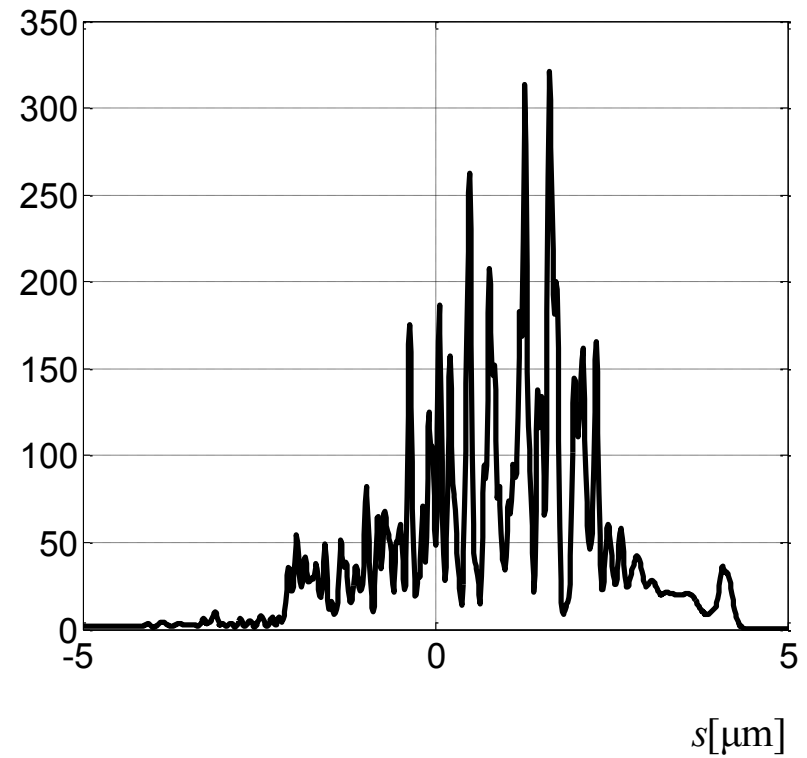
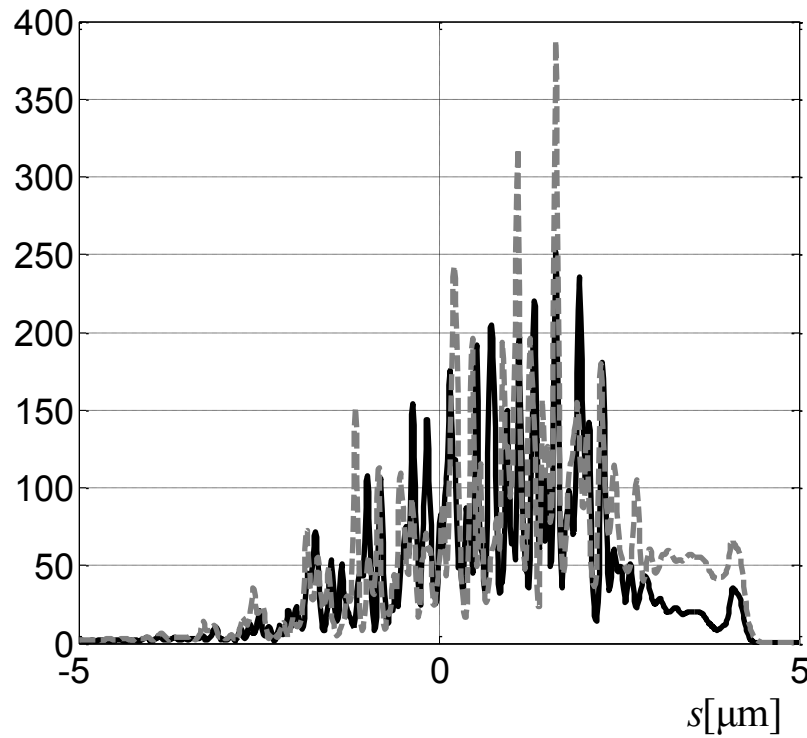
# Amplifier ALICE and Genesis (v. 2.0) without intersections (Instability???)

at  $z=128$  m

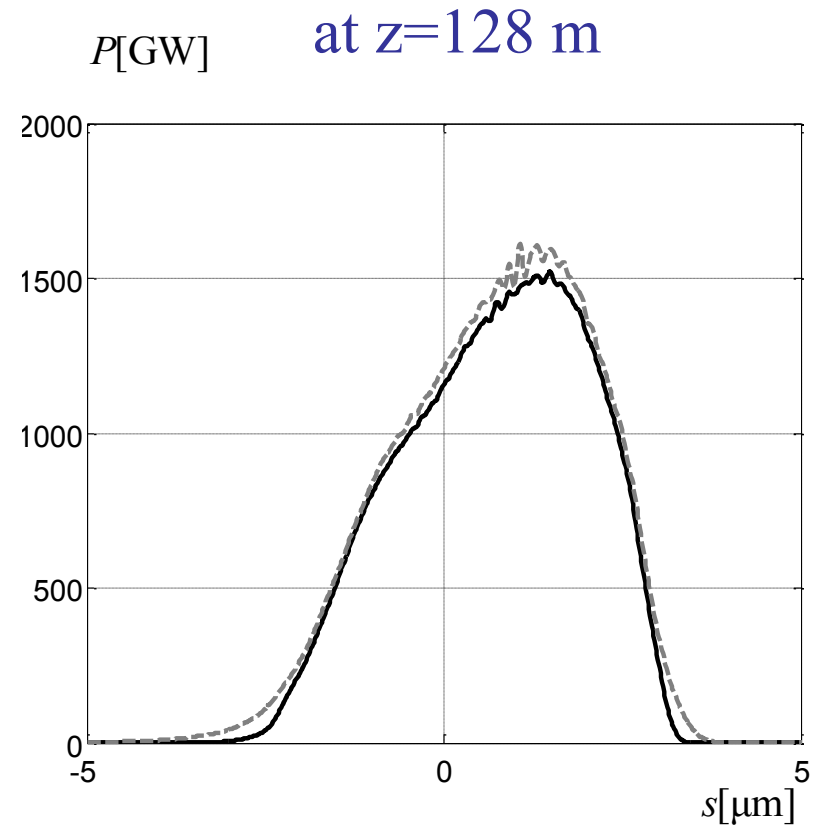
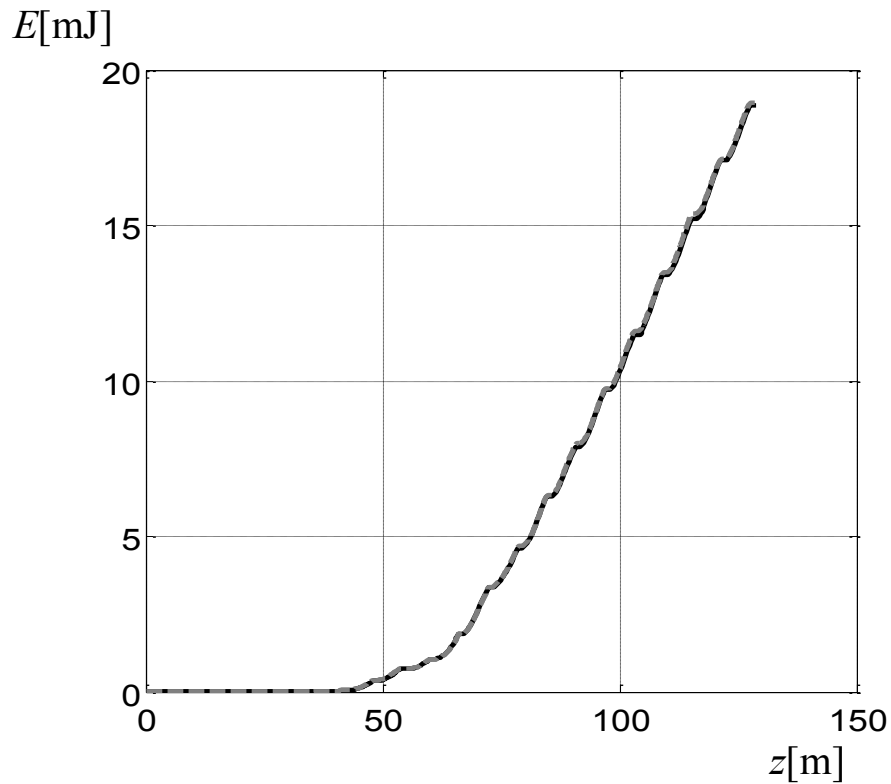
$P[\text{GW}]$

$dz=1, ds=20$

$dz=4, ds=4$



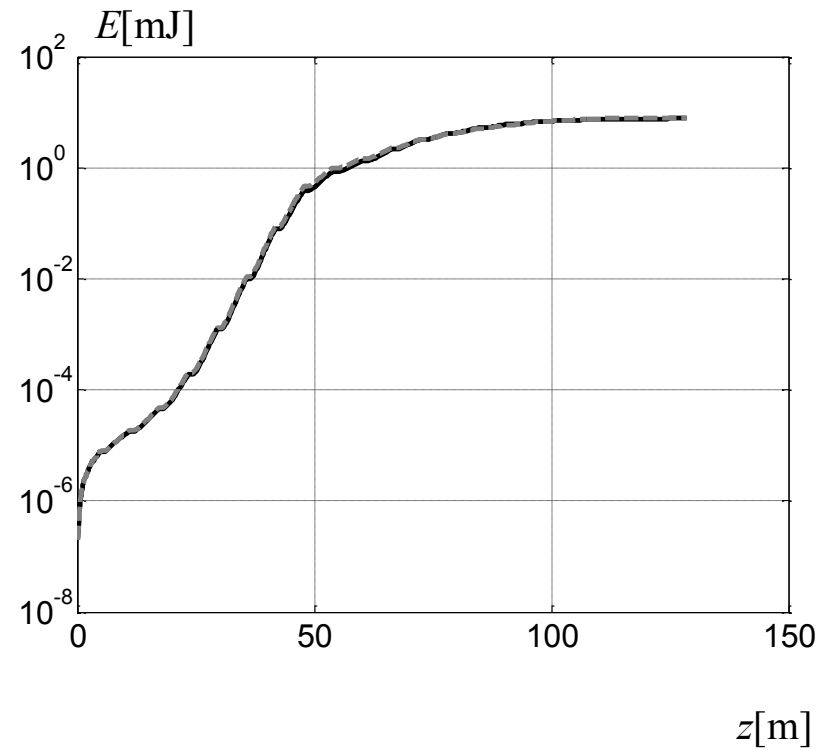
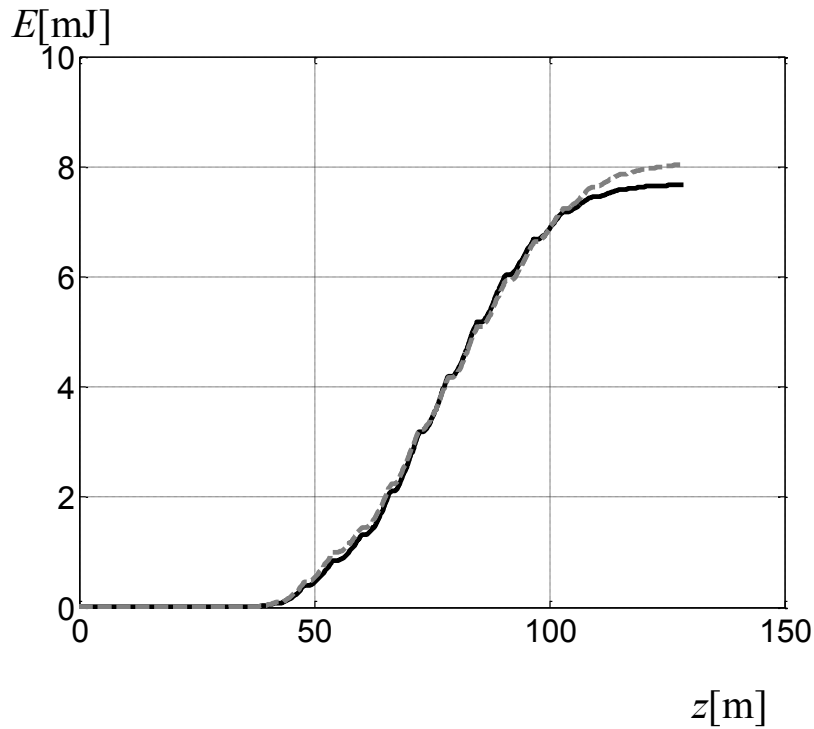
# Amplifier ALICE and Genesis (v. 2.0) with intersections



# SASE ALICE and Genesis (v. 2.0)

with intersections, quantum fluctuations, taper and wake

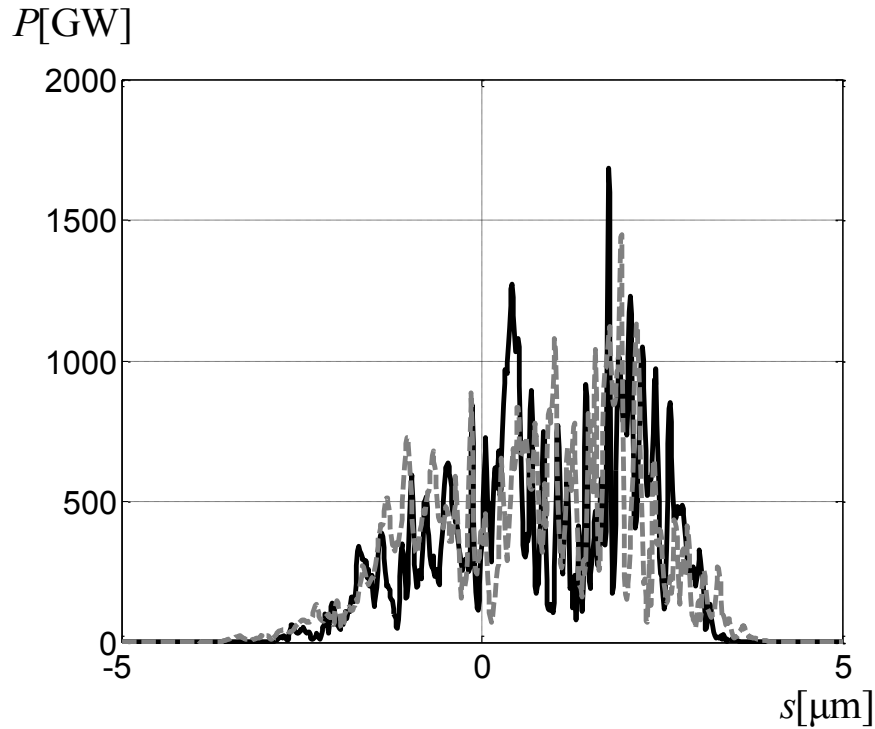
one shot only  $dz=1, ds=20$



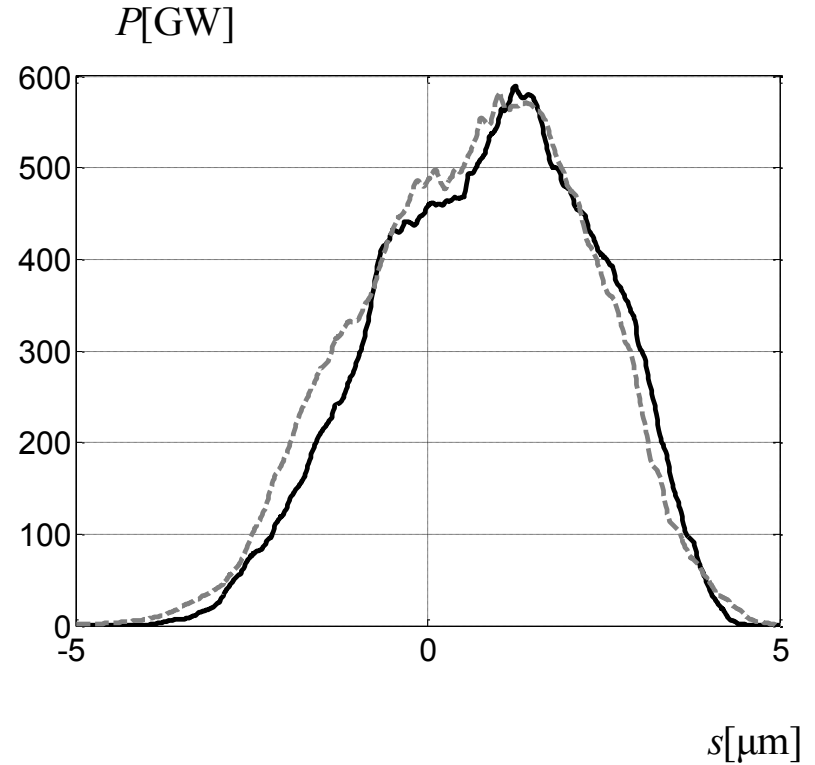
# SASE ALICE and Genesis (v. 2.0)

with intersections, quantum fluctuations, taper and wake

at  $z=128$  m



one shot only



averaged over 2000 slices