OPTIMIZATION OF THE LCLS X-RAY FEL OUTPUT PERFORMANCE IN THE PRESENCE OF STRONG UNDULATOR WAKEFIELDS

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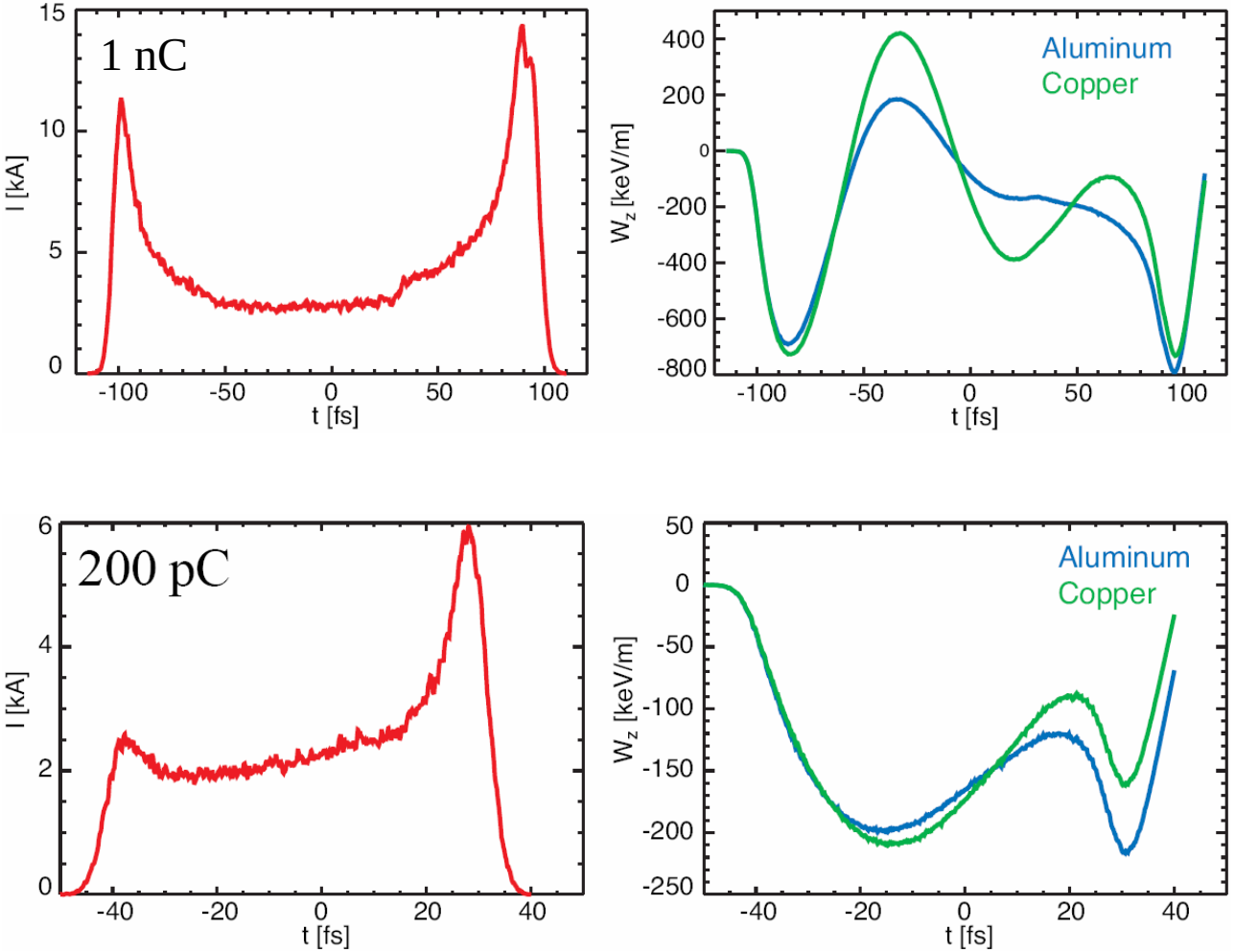
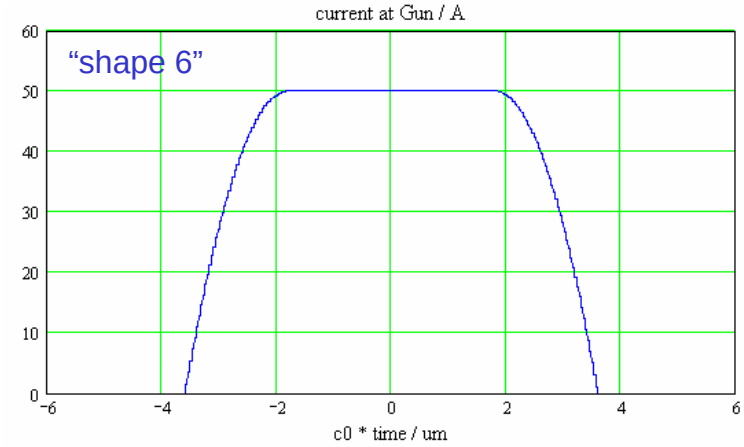
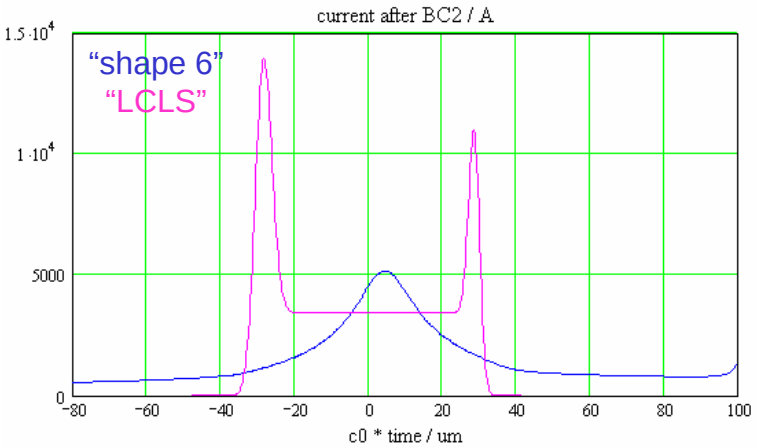
$r_{pipe} = 2.5\,\mathrm{mm}$



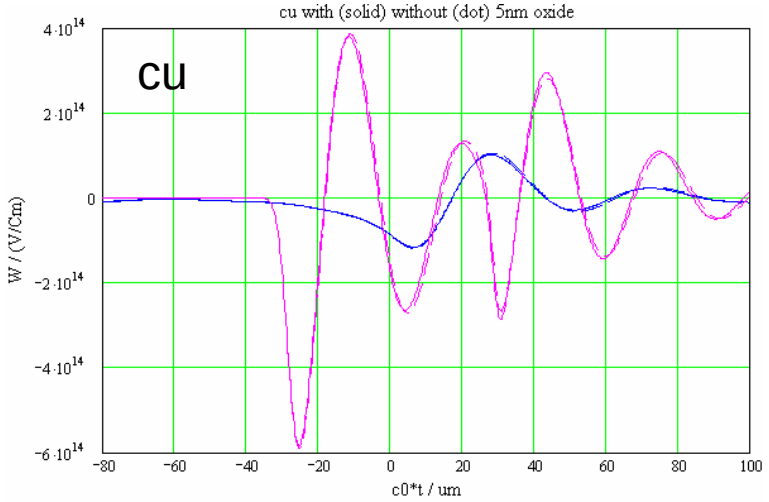
shape 6 & “LCLS”



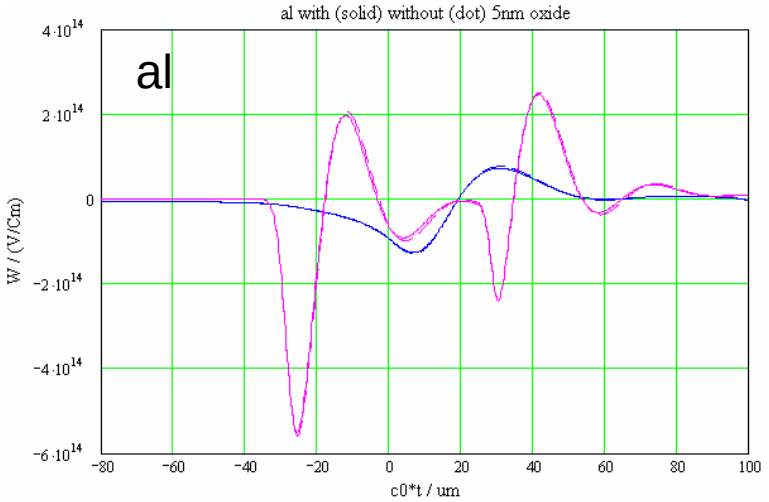


$r_{pipe} = 2.5\,\mathrm{mm}$

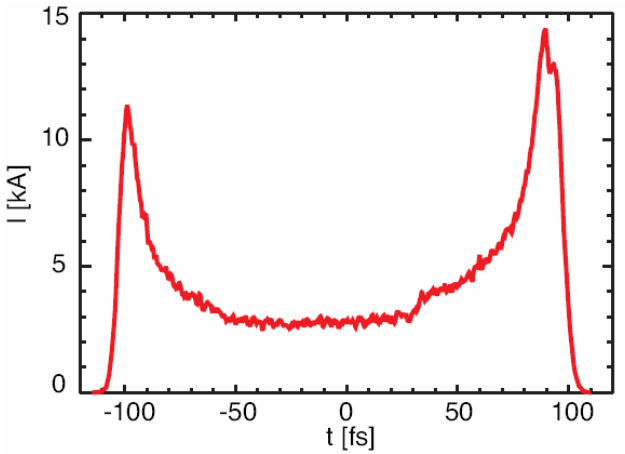
$r_{pipe} = 4.5\,\mathrm{mm}$

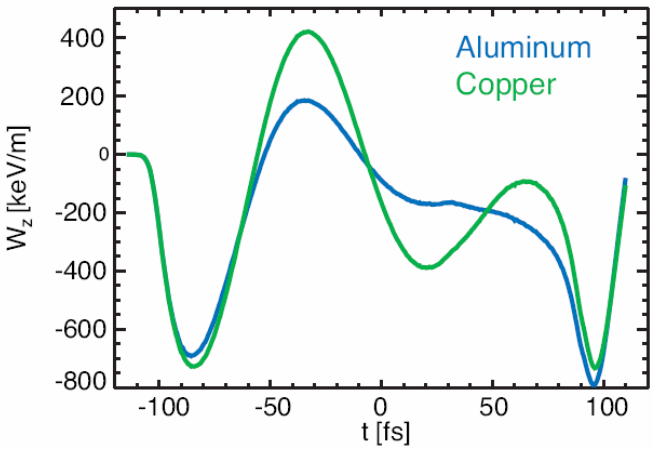


	without oxide layer:	with oxide layer:
shape 1:	$K\_met\_av2 \cdot 10^{-12} = -25.742$	$K\_met\_ox\_av2 \cdot 10^{-12} = -26.376$
$R = 4.5 \times 10^{-3}$	$K\_met\_rms2 \cdot 10^{-12} = 54.395$	$K\_met\_ox\_rms2 \cdot 10^{-12} = 56.003$
shape 2:	$K\_met\_av3 \cdot 10^{-12} = -120.627$	$K\_met\_ox\_av3 \cdot 10^{-12} = -118.569$
$R = 4.5 \times 10^{-3}$	$K\_met\_rms3 \cdot 10^{-12} = 254.235$	$K\_met\_ox\_rms3 \cdot 10^{-12} = 258.609$



	without oxide layer:	with oxide layer:
shape 1:	$K\_met\_av2 \cdot 10^{-12} = -31.785$	$K\_met\_ox\_av2 \cdot 10^{-12} = -32.437$
$R = 4.5 \times 10^{-3}$	$K\_met\_rms2 \cdot 10^{-12} = 54.074$	$K\_met\_ox\_rms2 \cdot 10^{-12} = 55.412$
shape 2:	$K\_met\_av3 \cdot 10^{-12} = -131.422$	$K\_met\_ox\_av3 \cdot 10^{-12} = -132.402$
$R = 4.5 \times 10^{-3}$	$K\_met\_rms3 \cdot 10^{-12} = 199.17$	$K\_met\_ox\_rms3 \cdot 10^{-12} = 203.578$





$r_{pipe} = 2.5\,\mathrm{mm}$