

# LhARA Capture Meeting

Hin Tung Lau

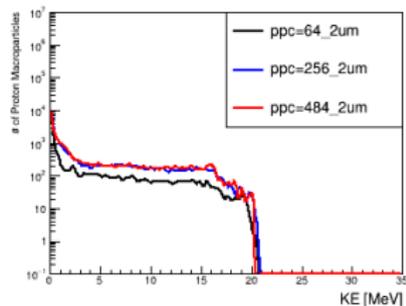
June 25, 2020

Aspects to investigate in Smilei simulations:

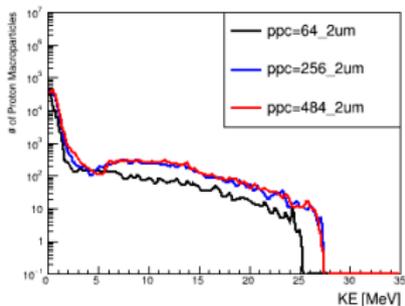
- Convergence
- Reflections at boundaries
- Odd apparent bunching of protons

# Convergence

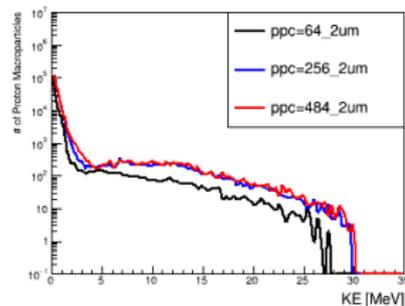
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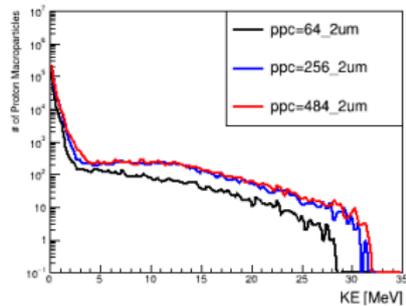
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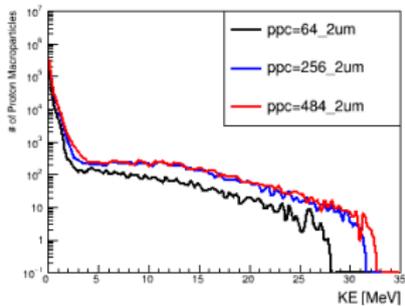
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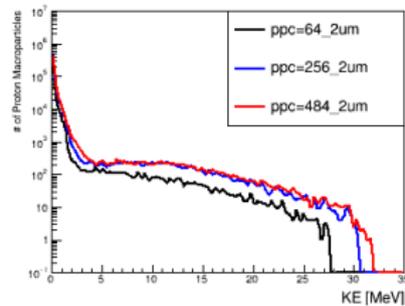
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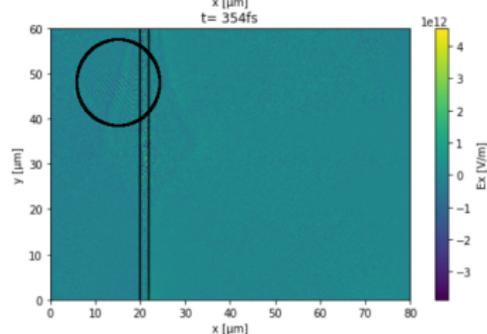
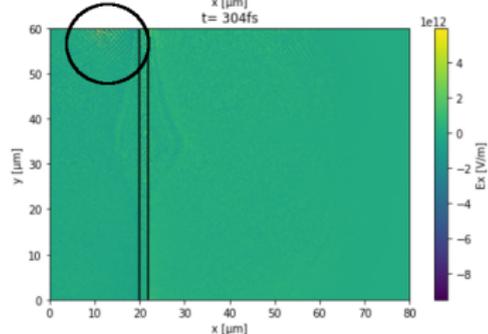
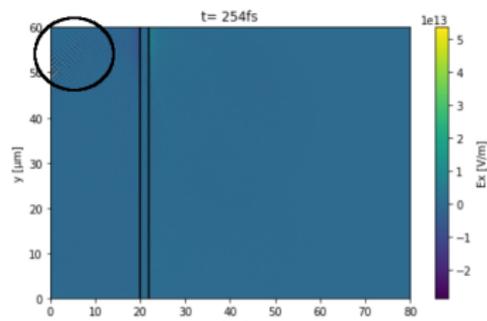
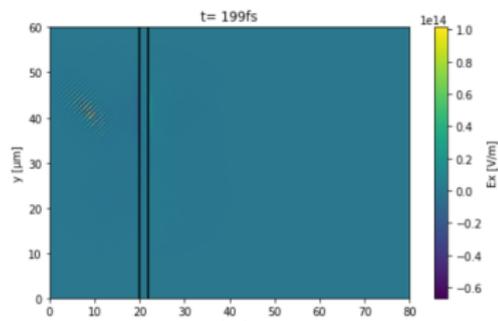
Time = 848 [fs]



Time = 998 [fs]

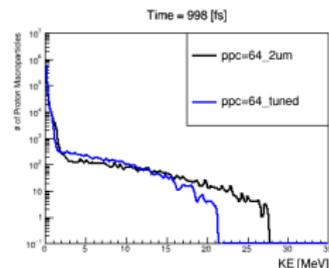
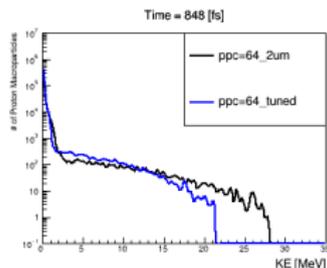
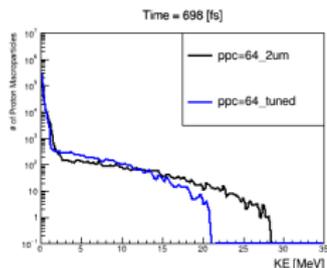
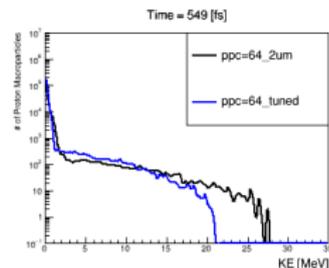
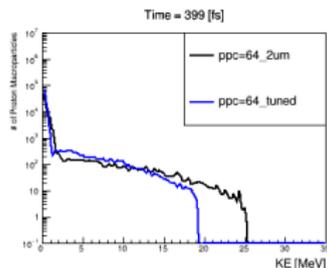
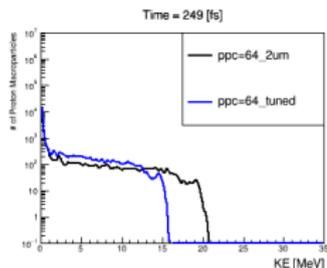


# Boundary Reflections



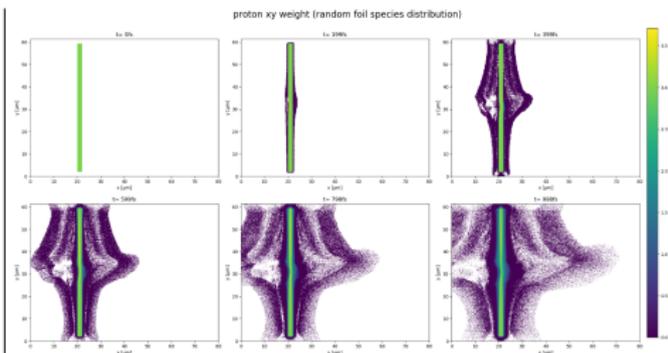
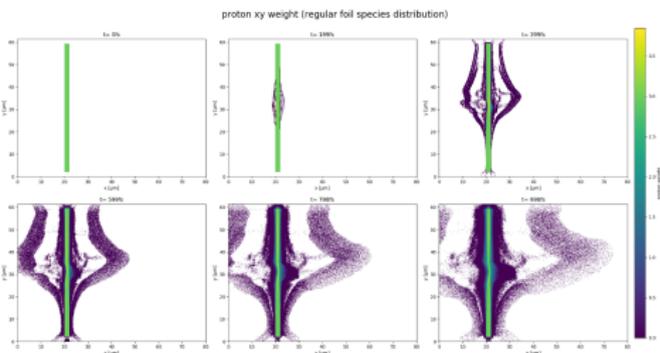
- Tune boundary
- Decrease transverse size of foil

# Boundary Reflections



- Tuning boundary affects spectrum

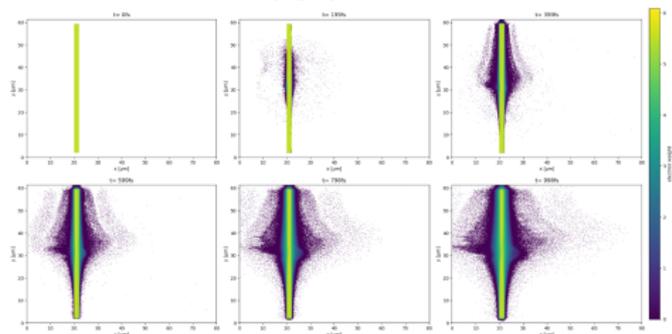
# Proton Bunching



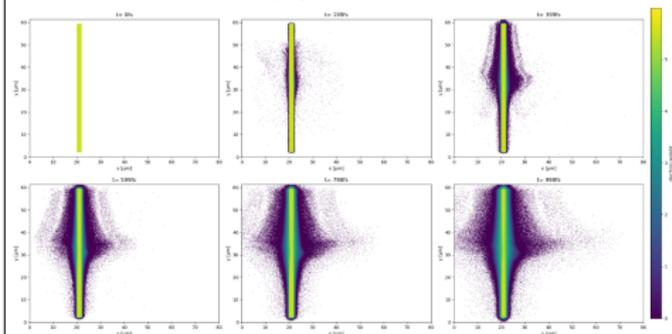
- Asymmetry may be related to boundary reflections
- Foil composition appears to have a noticeable effect on the resulting proton distribution

# Backup: Foil Composition effect on electrons

electron xy weight (regular foil species distribution)

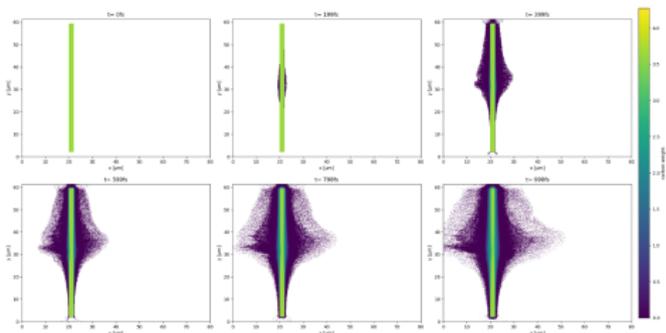


electron xy weight (random foil species distribution)



# Backup: Foil Composition effect on carbon

carbon xy weight (regular foil species distribution)



carbon xy weight (random foil species distribution)

