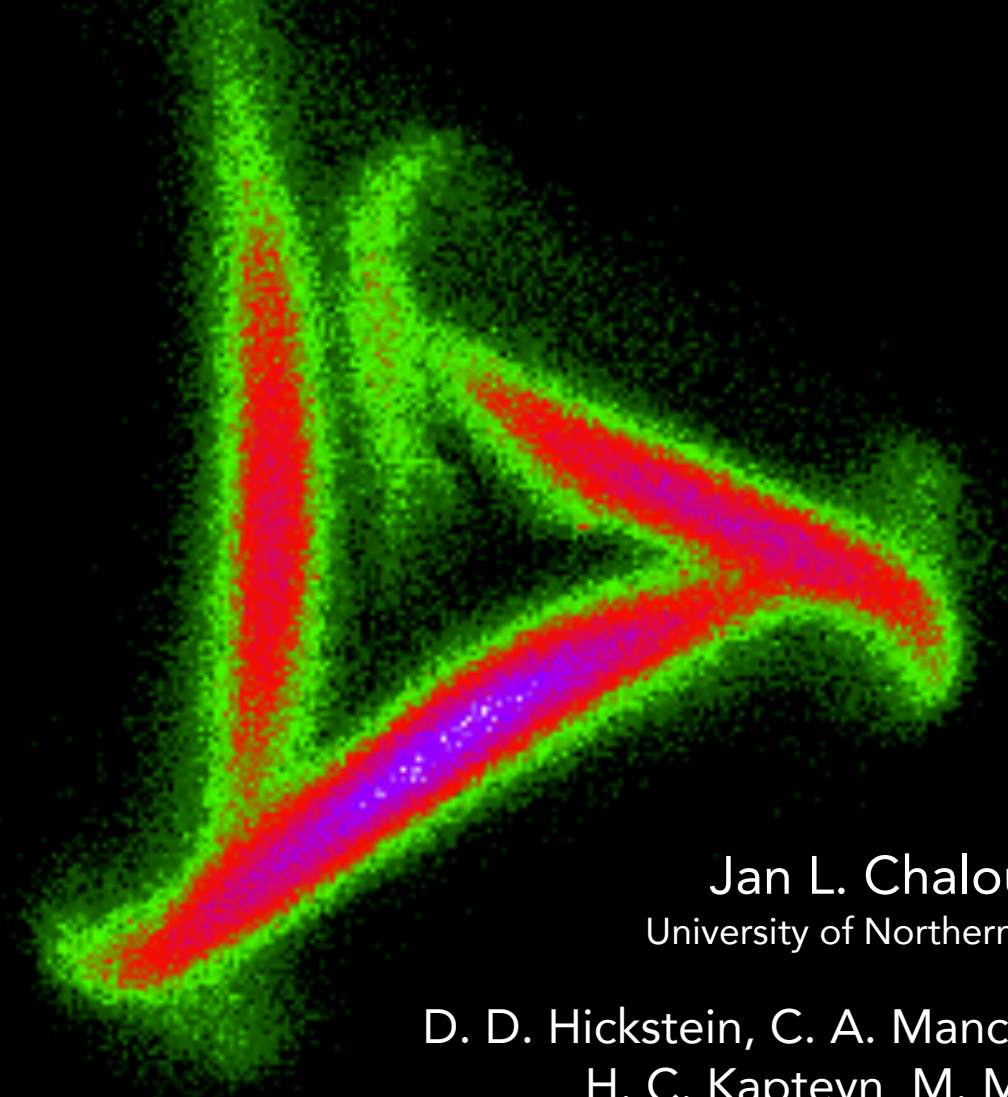


Ionization Dynamics in Intense Two-Color Circularly Polarized Laser Fields



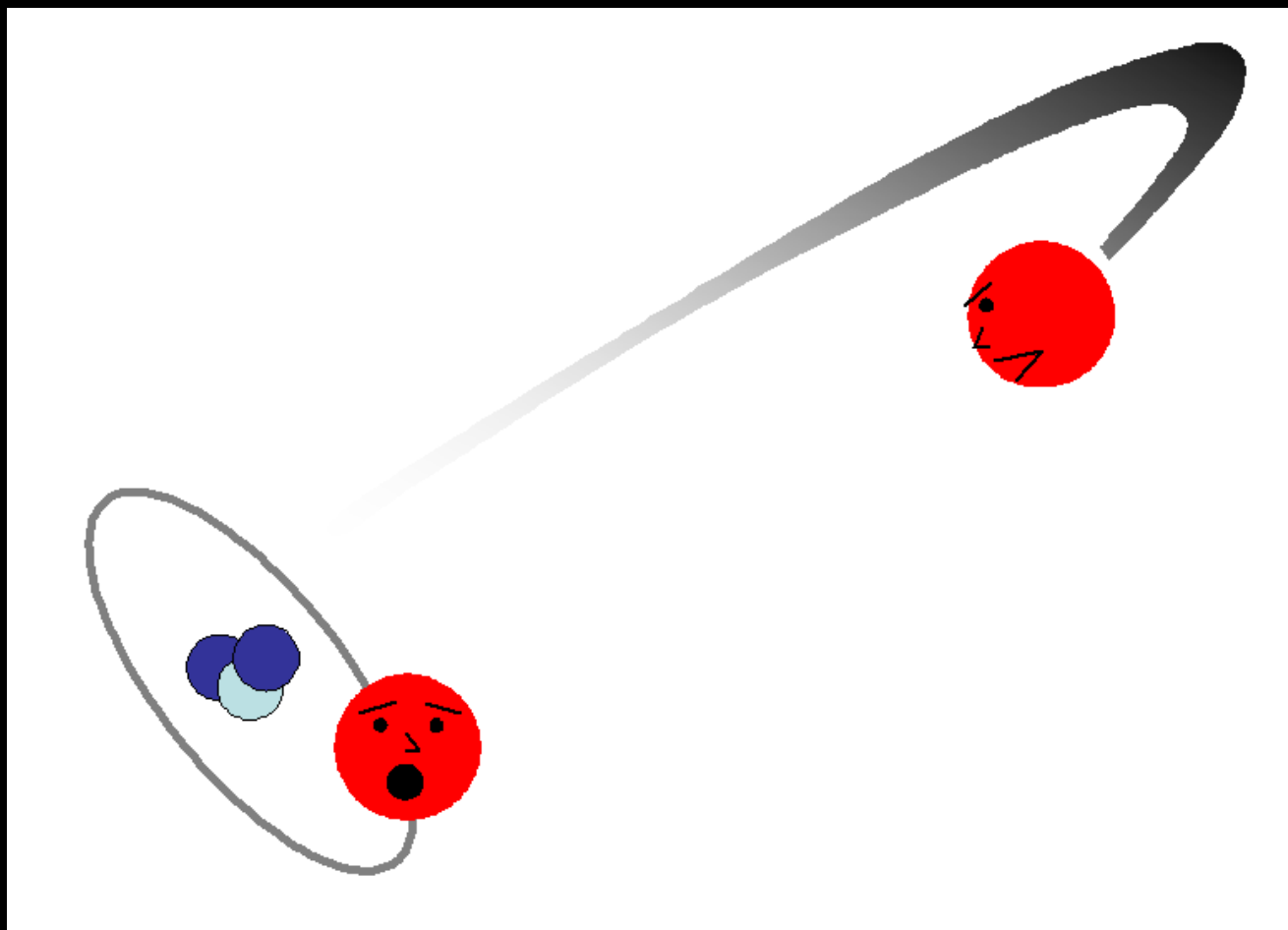
Jan L. Chaloupka

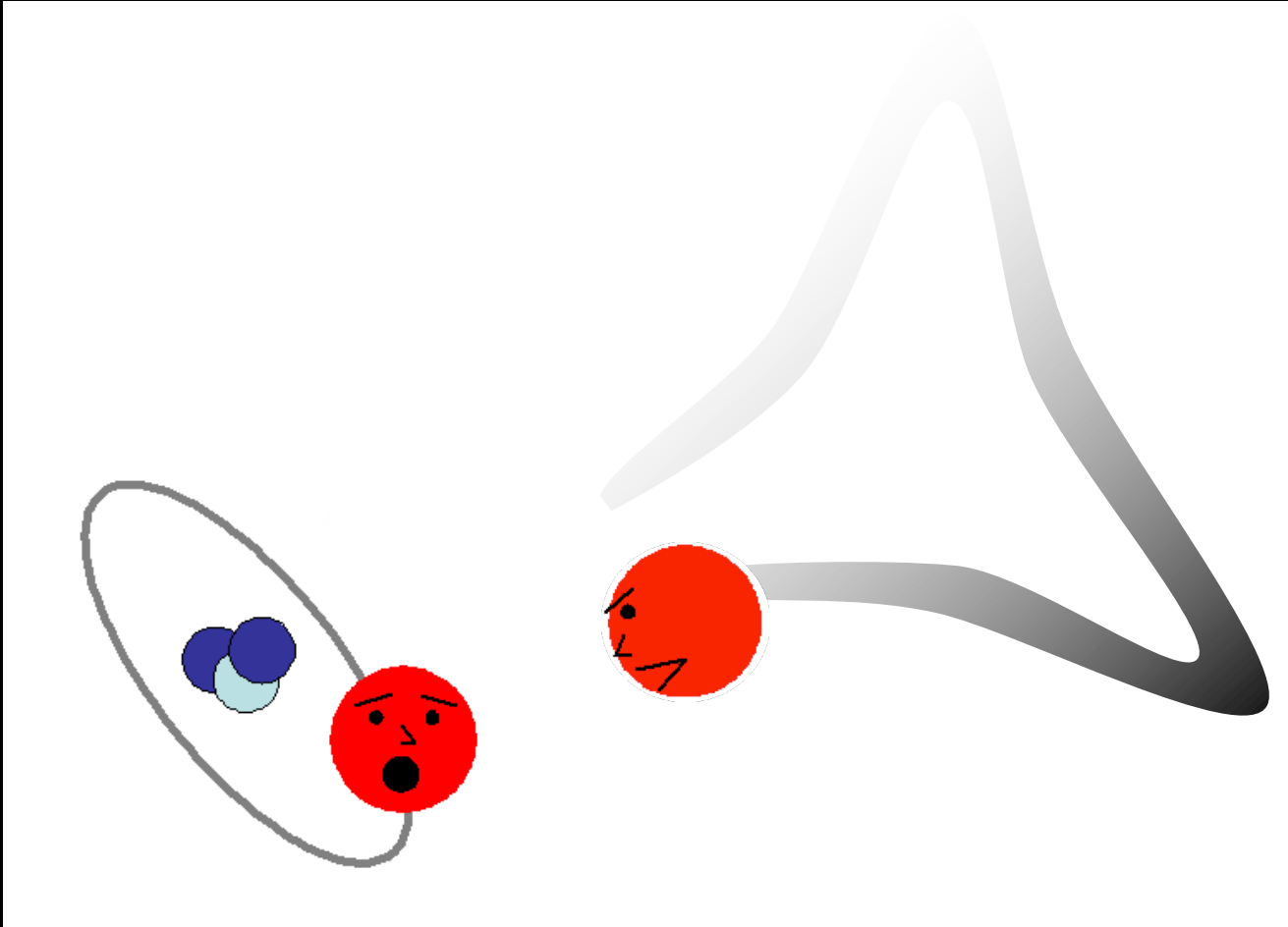
University of Northern Colorado

D. D. Hickstein, C. A. Mancuso, K. M. Dorney,

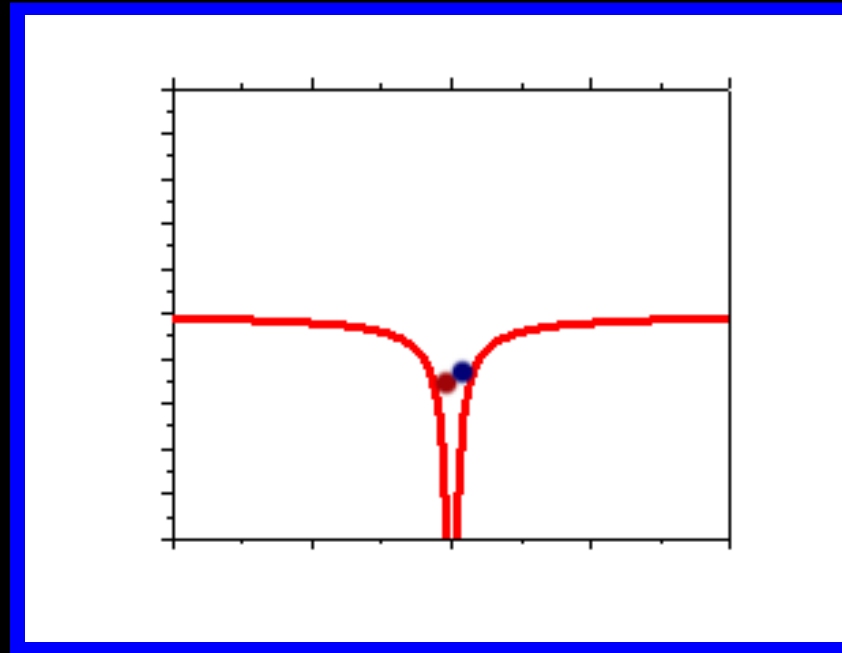
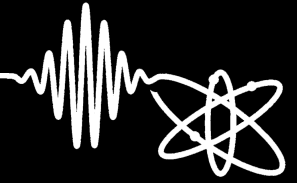
H. C. Kapteyn, M. M. Murnane

University of Colorado, Boulder

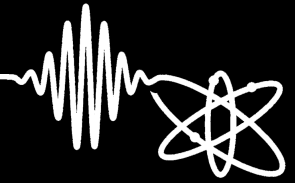




rescattering



HHG with two-color, counter-rotating fields

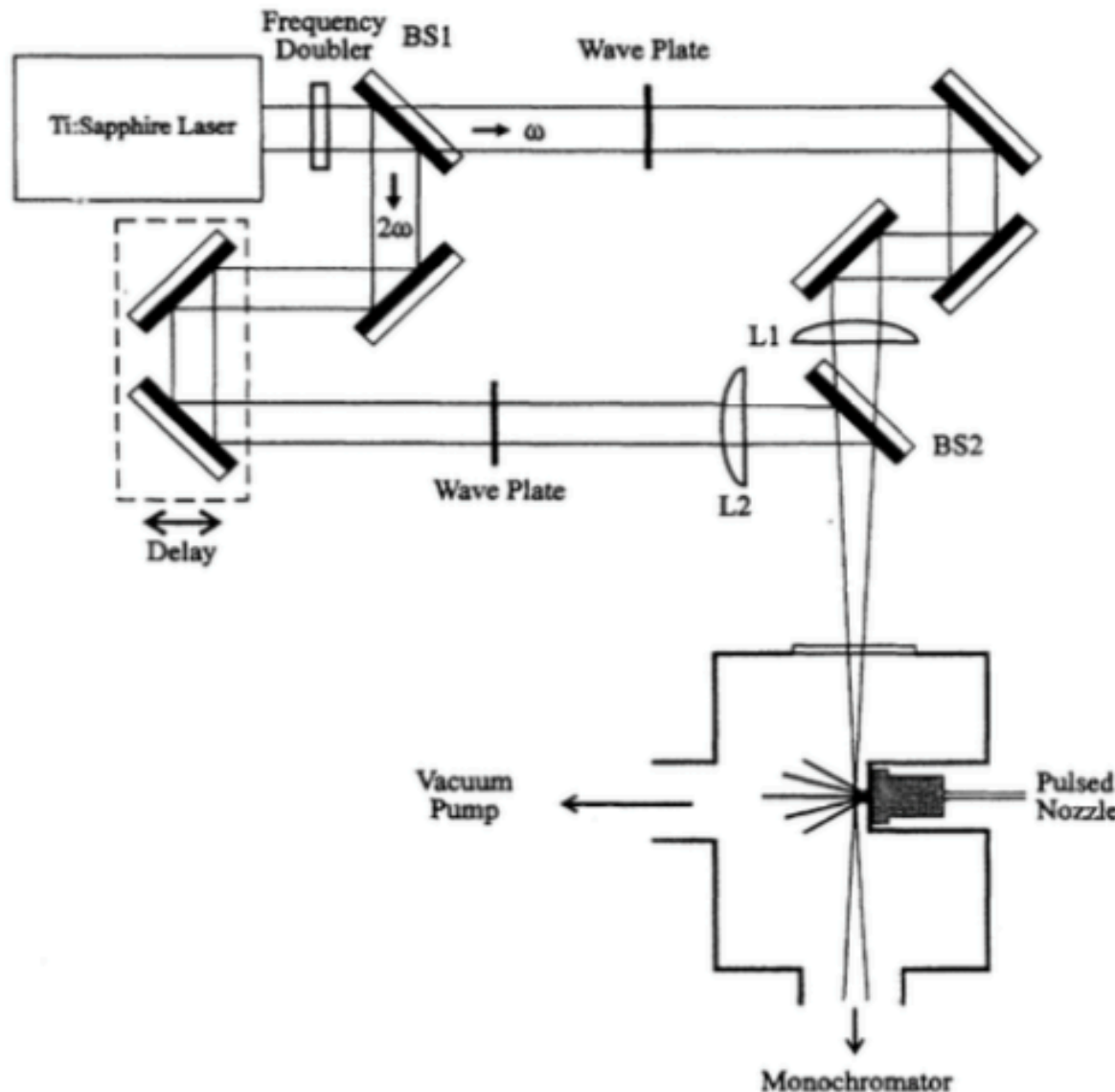


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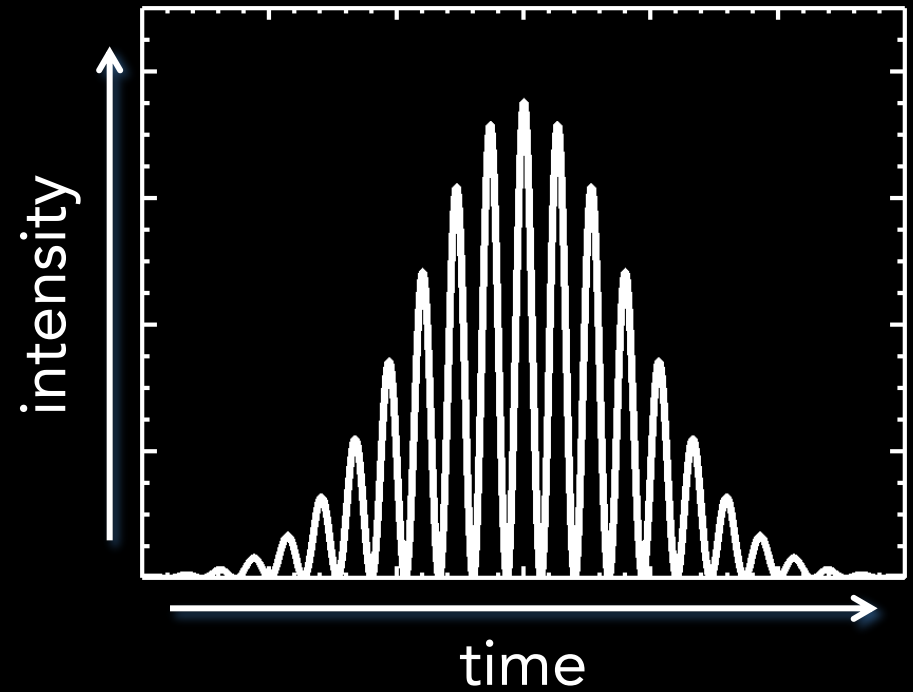
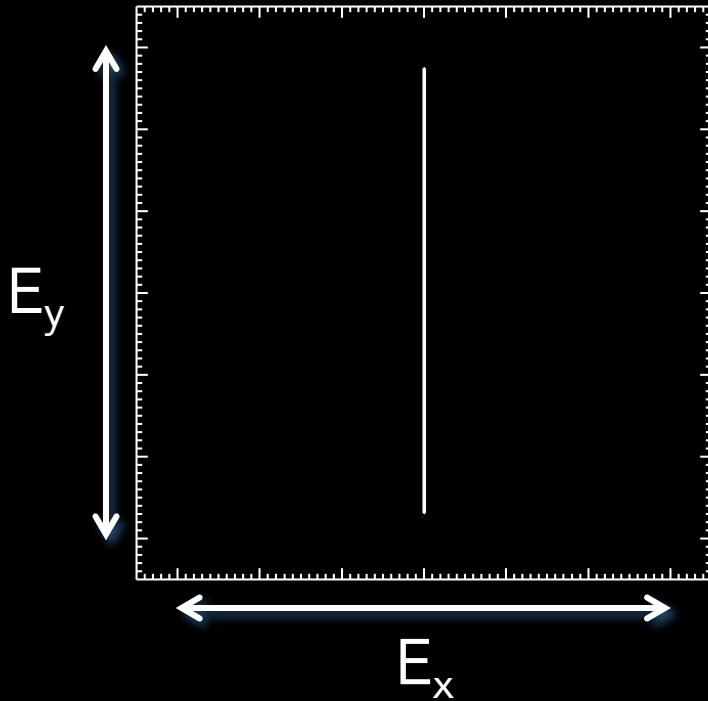
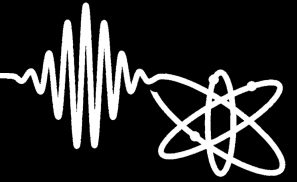
MAY 1995

Germany

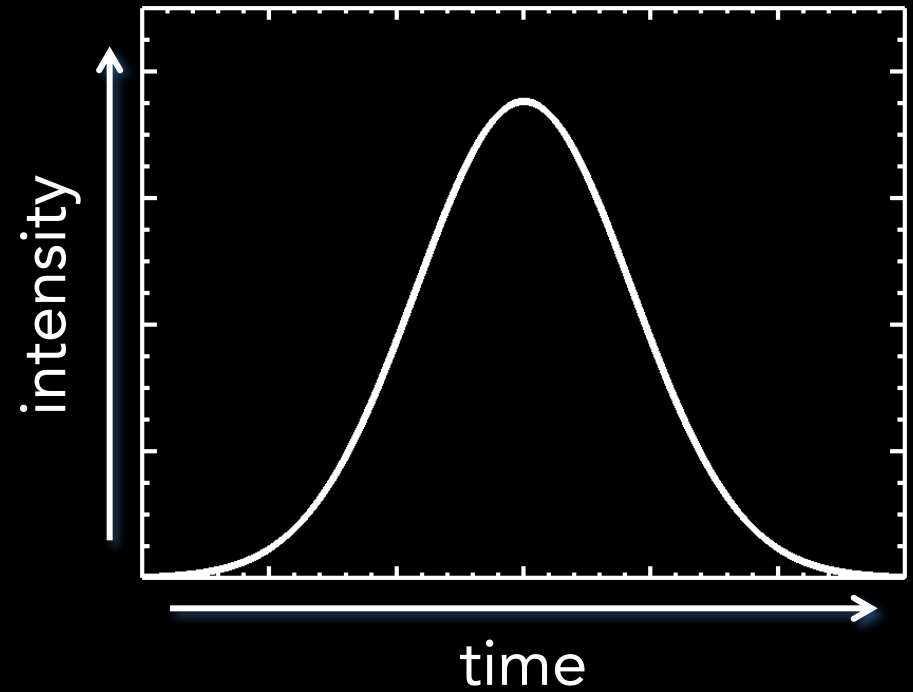
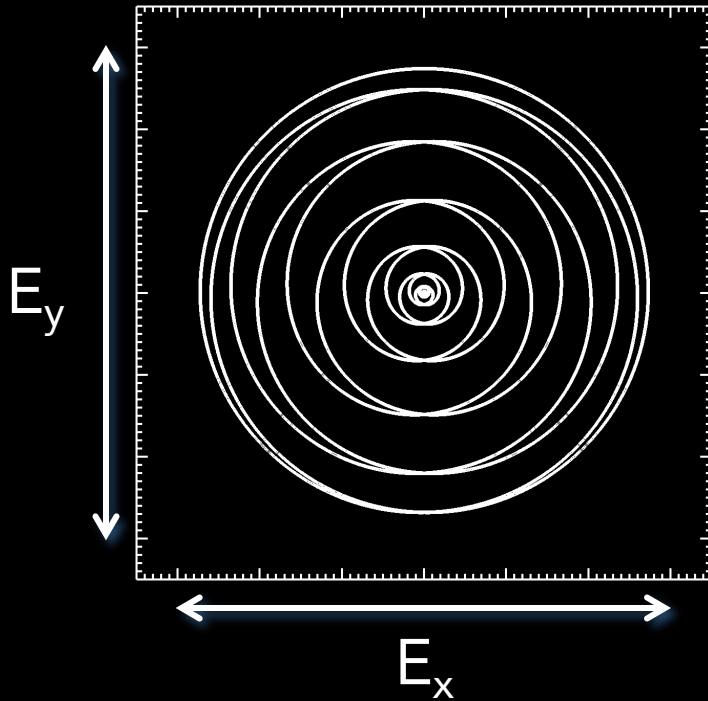
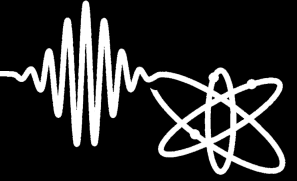
erque, New Mexico 87131

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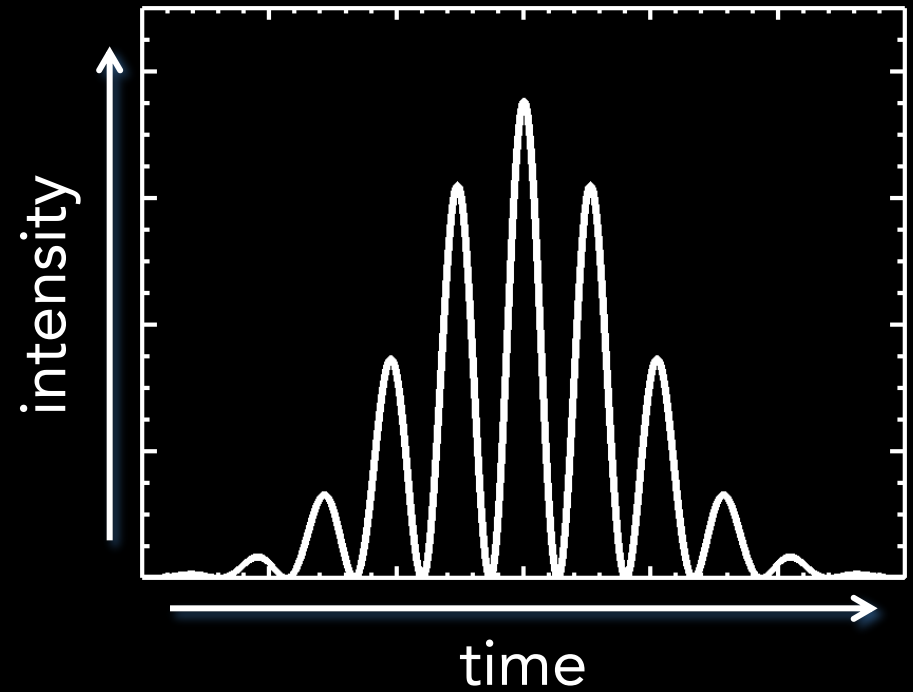
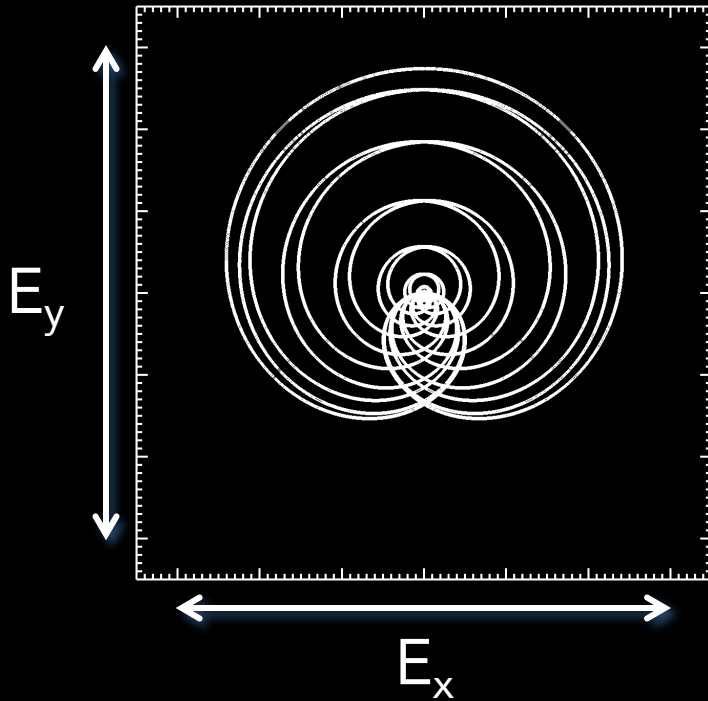
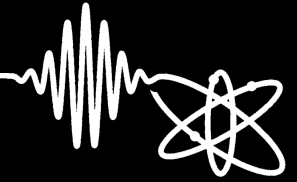
single-color linear polarization



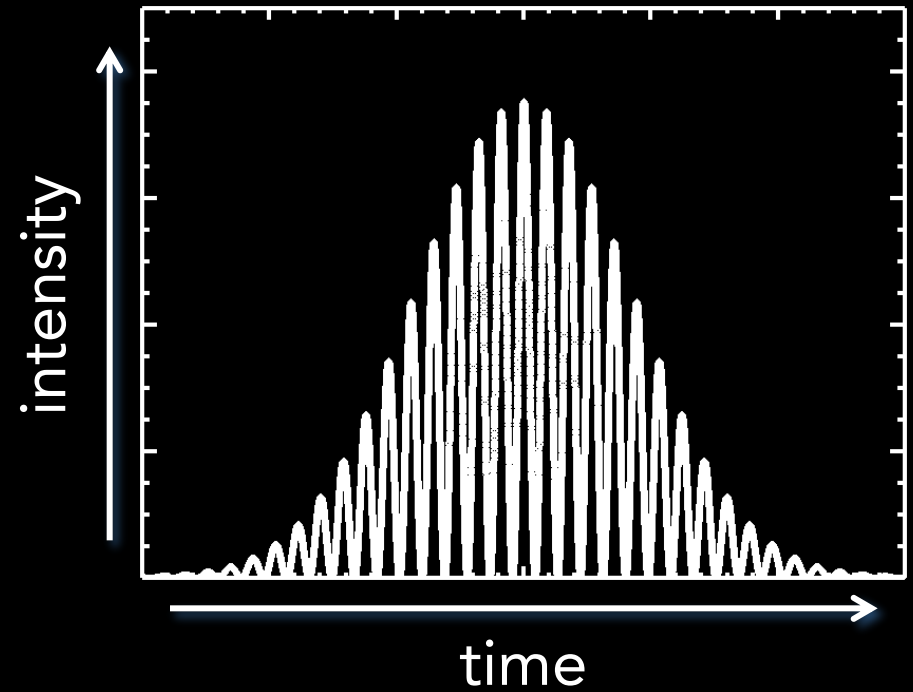
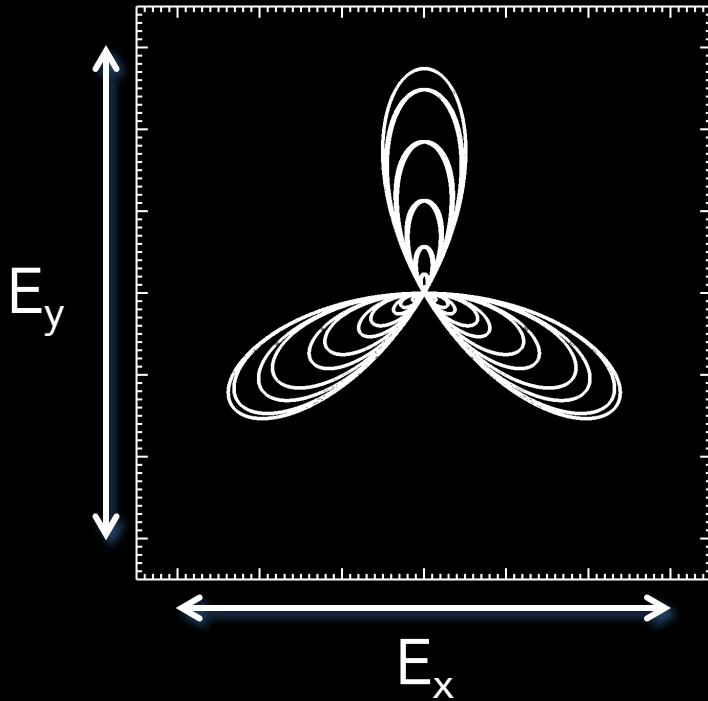
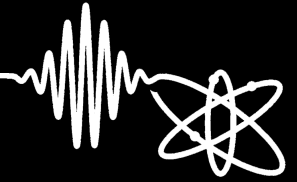
single-color circular polarization



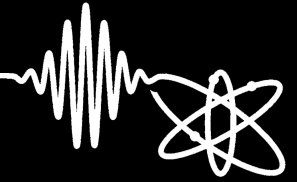
two-color co-rotating fields



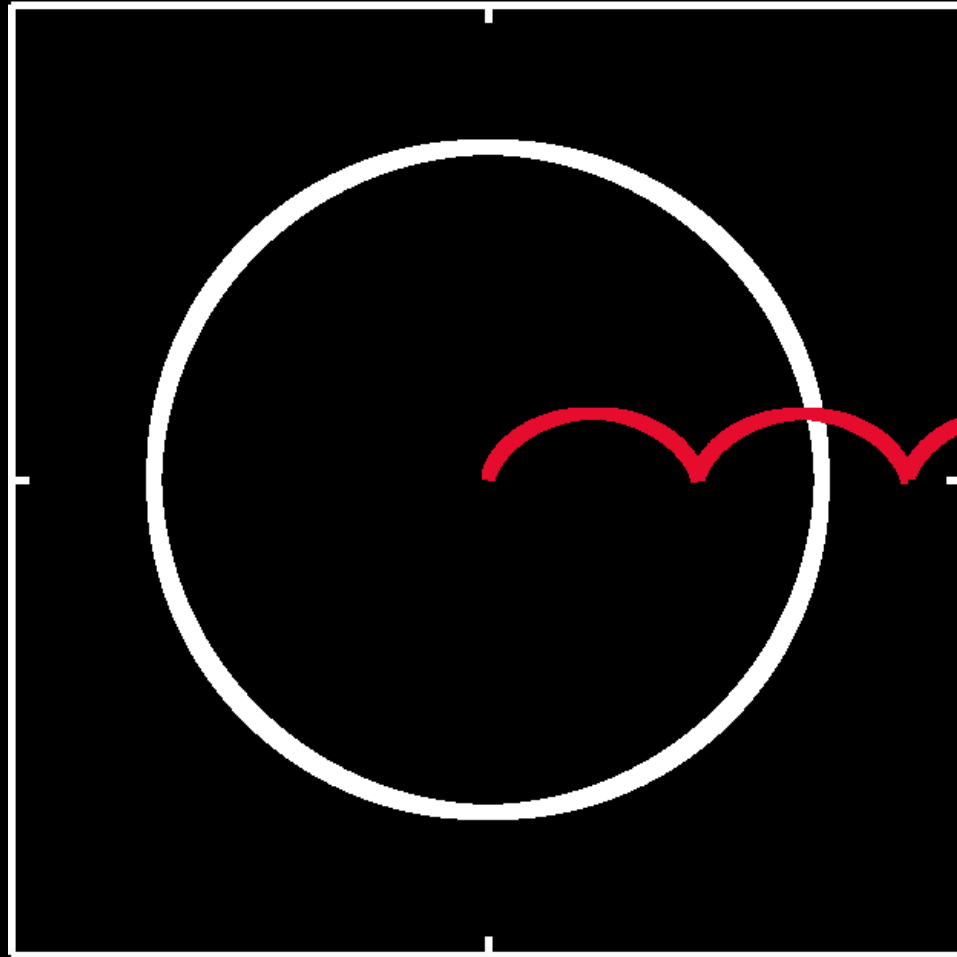
two-color counter-rotating fields



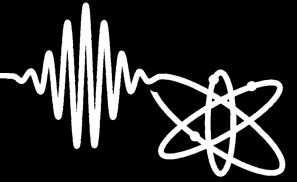
simple trajectories



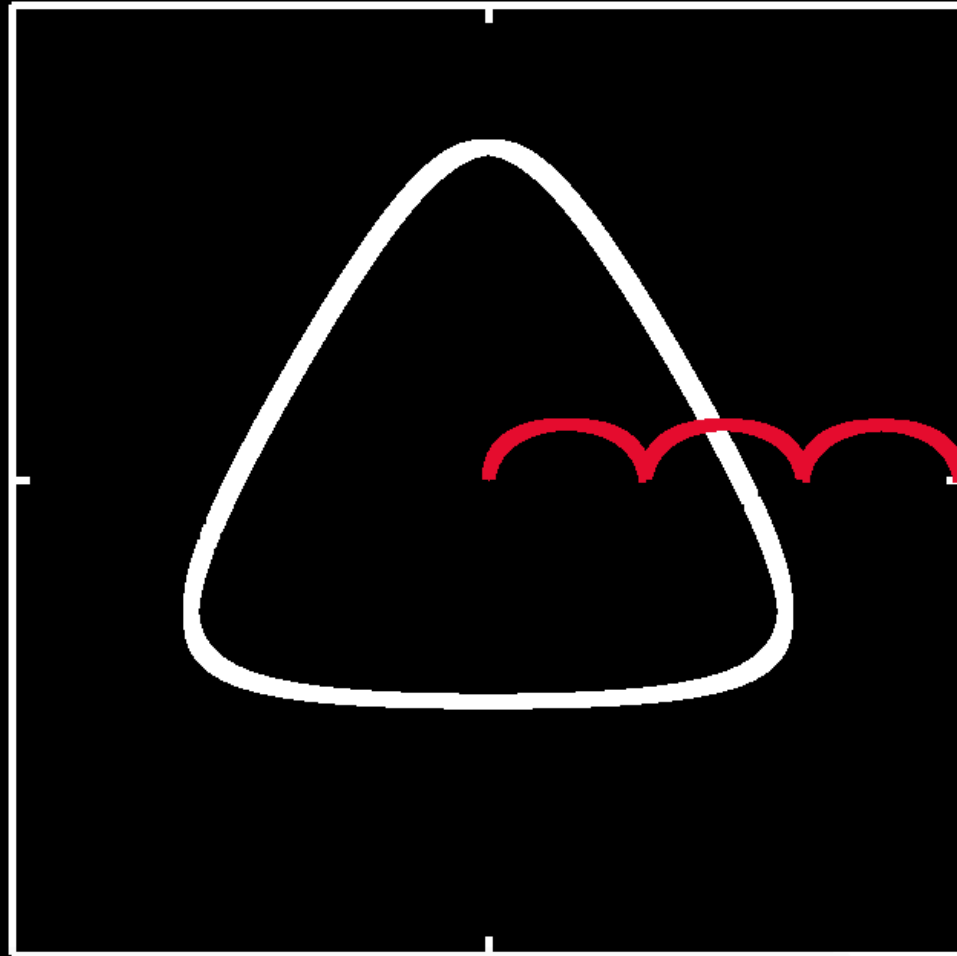
circular polarization



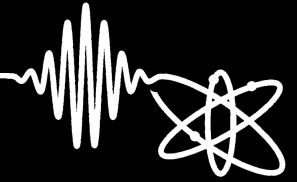
simple trajectories



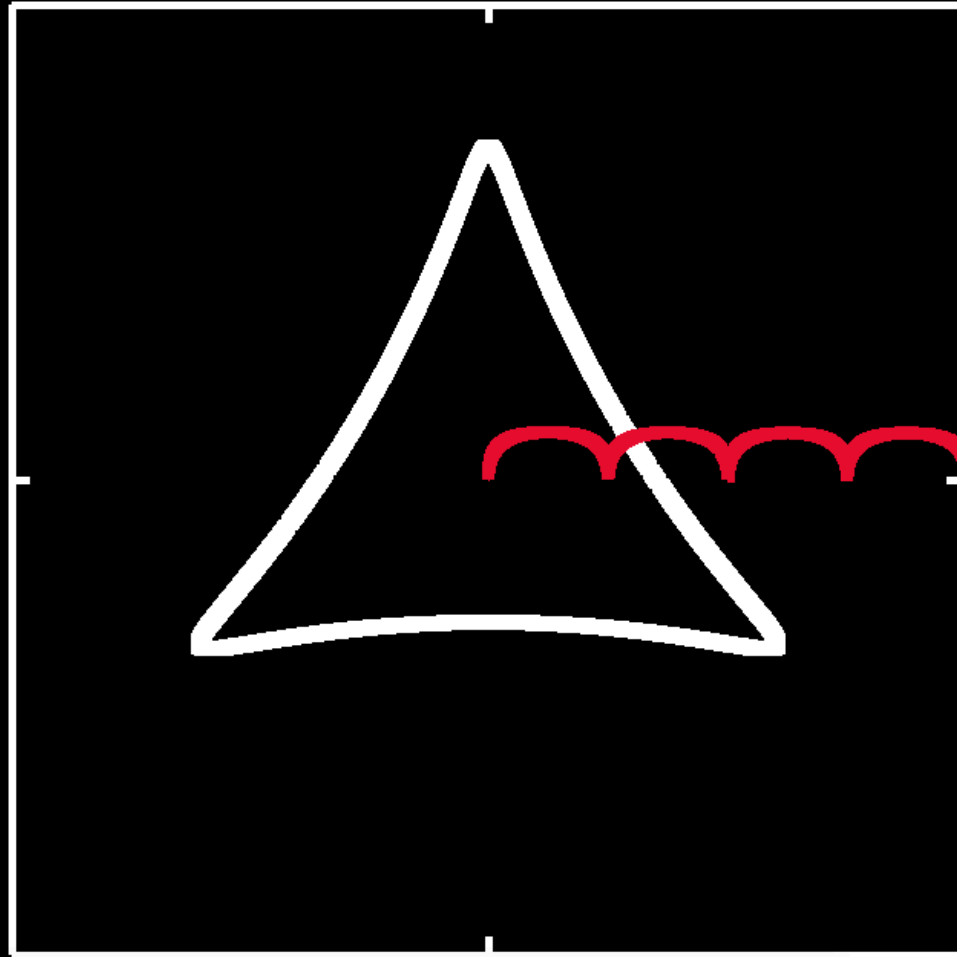
0.2:1 counter-rotating $2\omega:\omega$



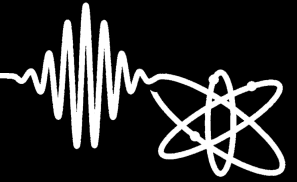
simple trajectories



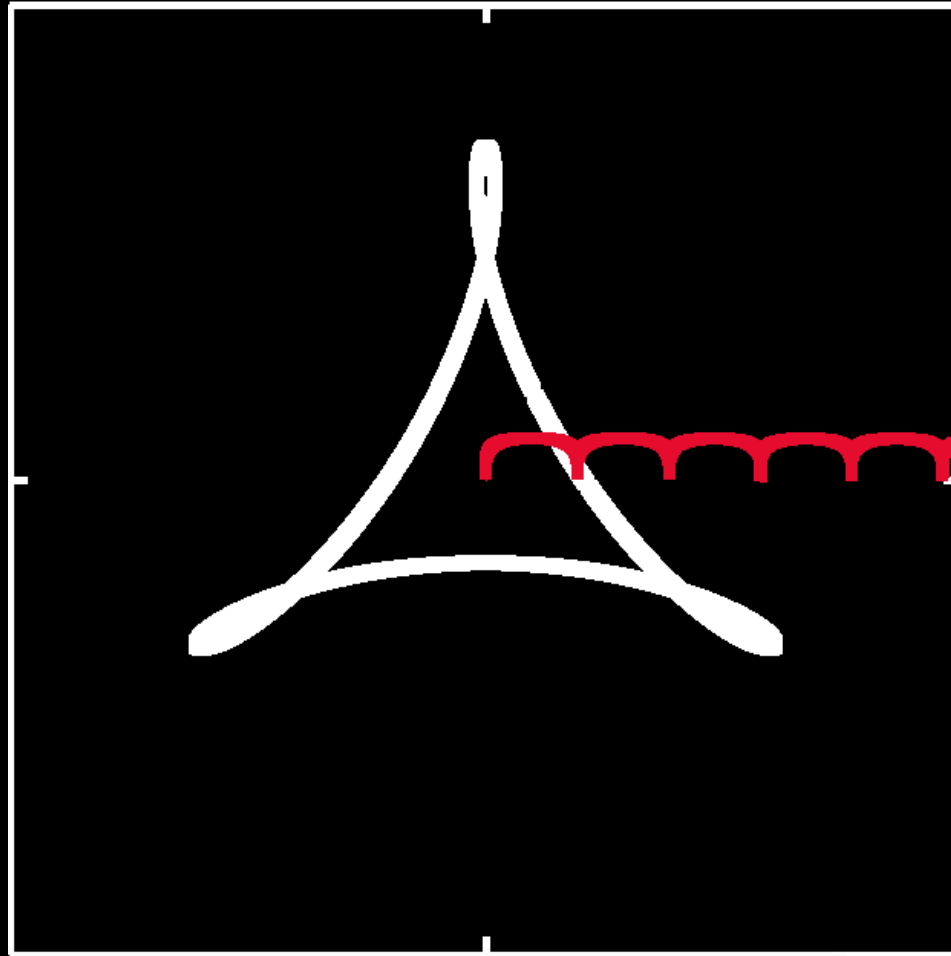
0.4:1 counter-rotating $2\omega:\omega$



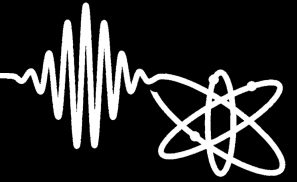
simple trajectories



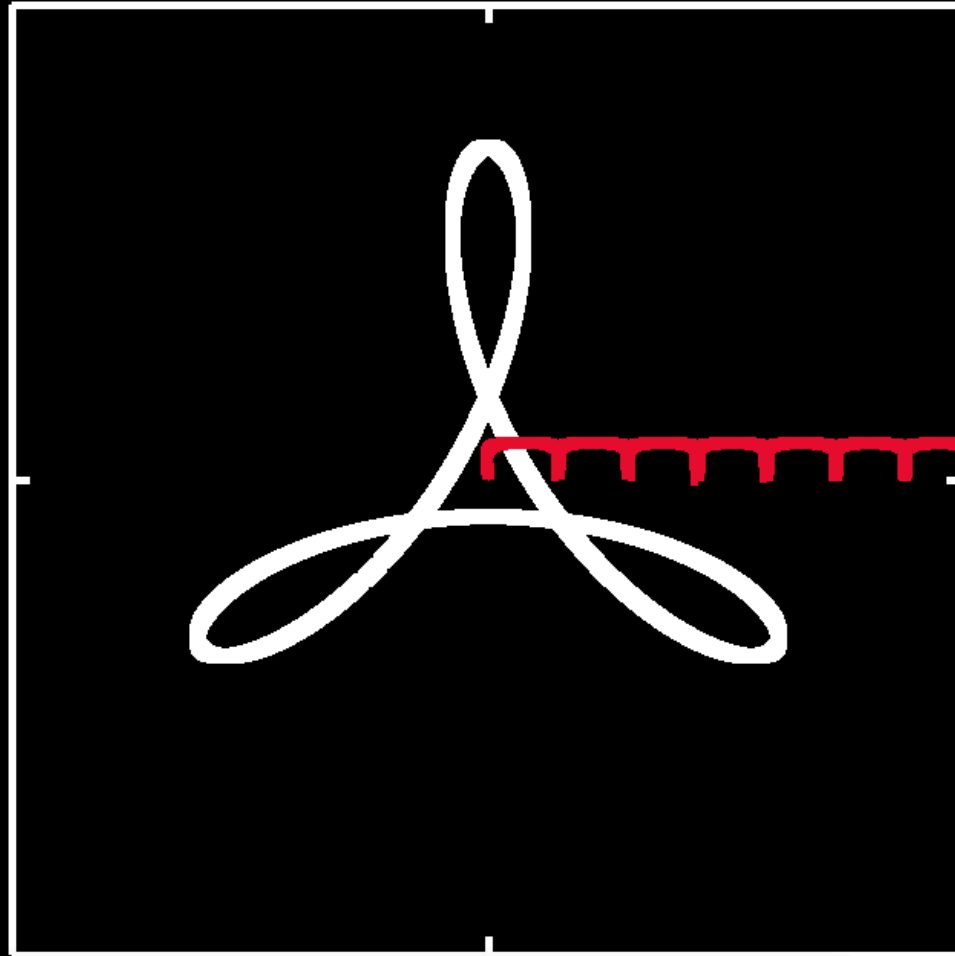
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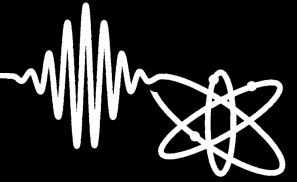
simple trajectories



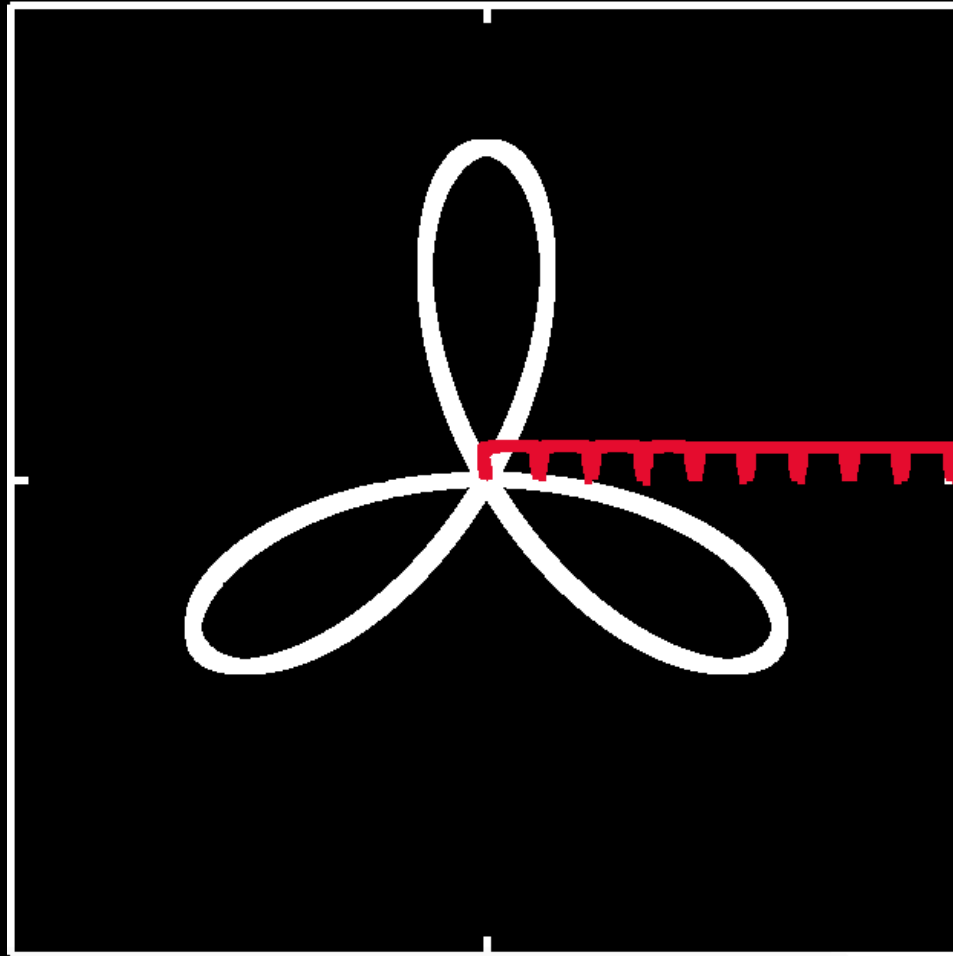
0.8:1 counter-rotating $2\omega:\omega$



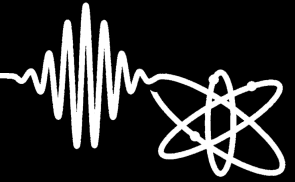
simple trajectories



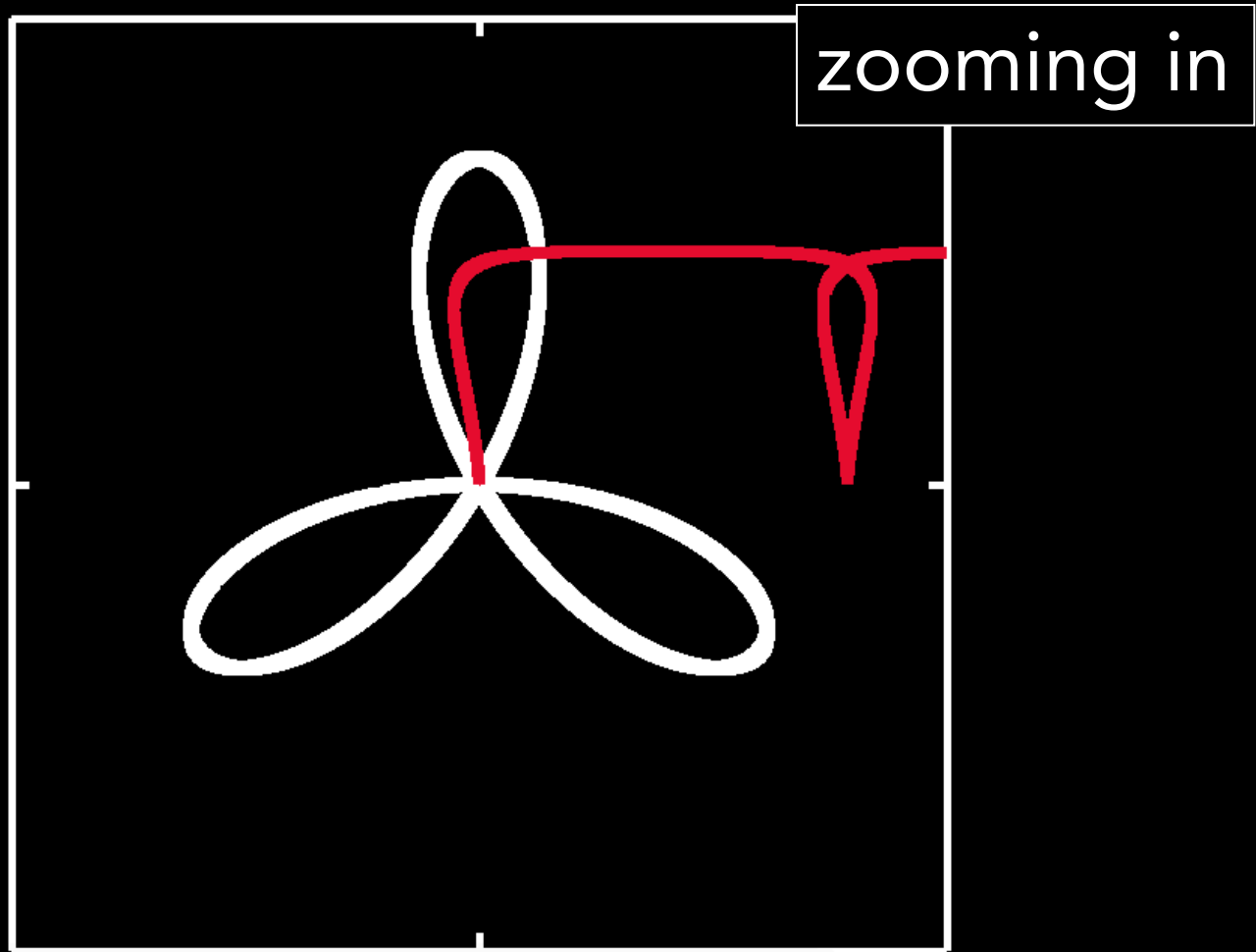
1.0:1 counter-rotating $2\omega:\omega$



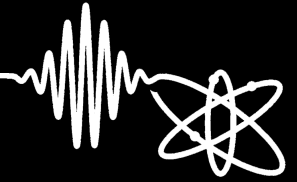
simple trajectories



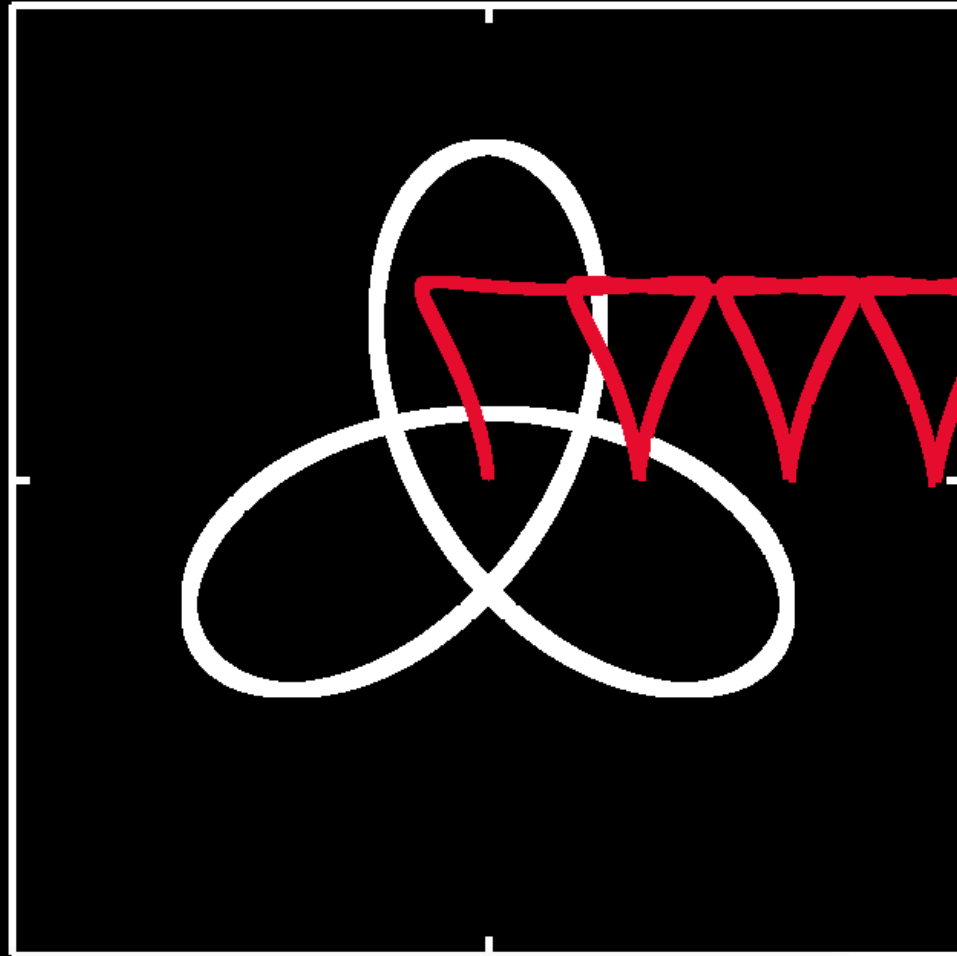
1.0:1 counter-rotating $2\omega:\omega$



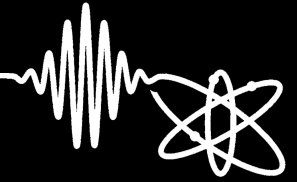
simple trajectories



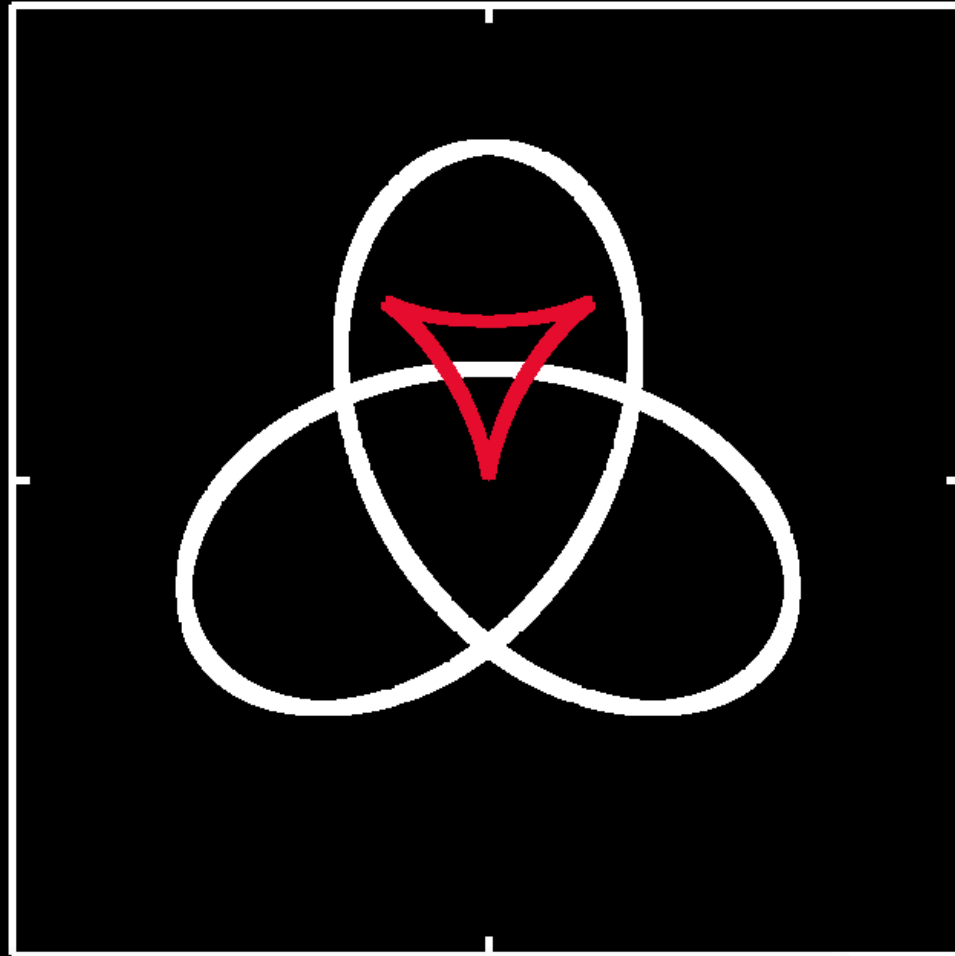
1.5:1 counter-rotating $2\omega:\omega$



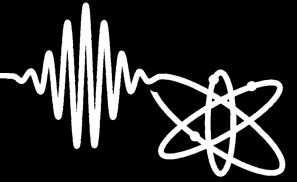
simple trajectories



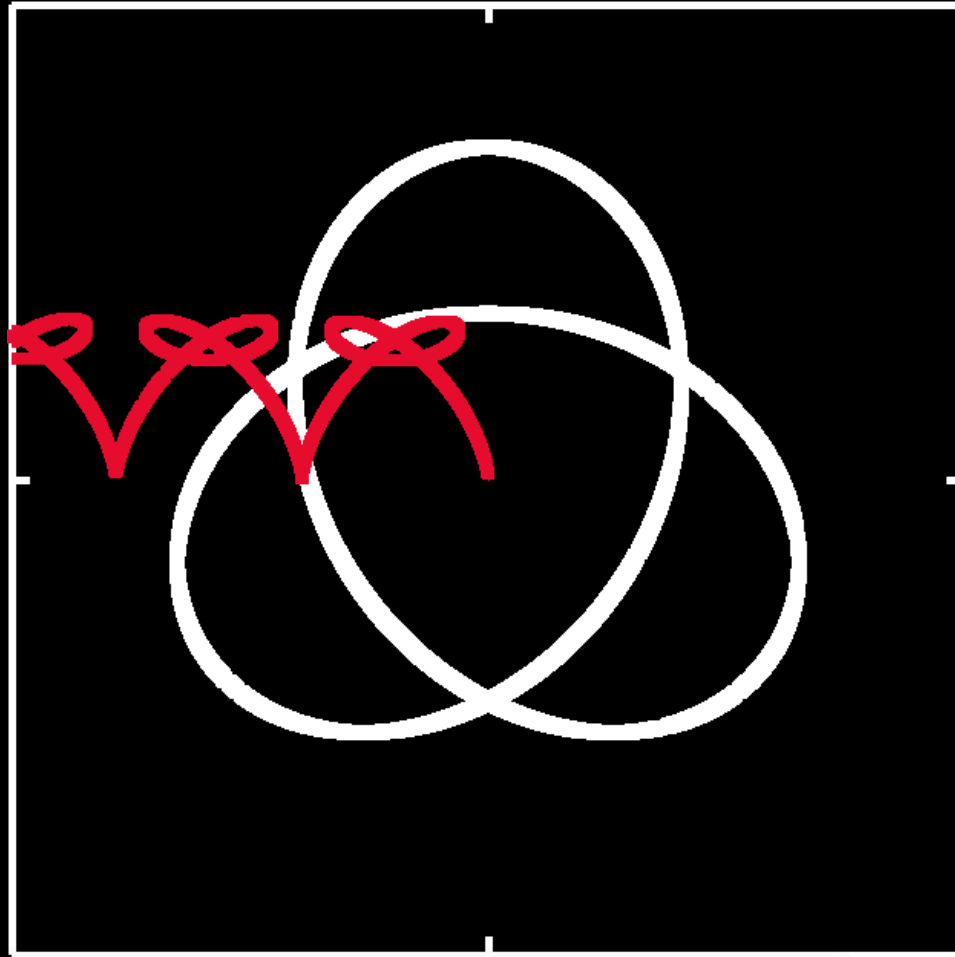
2.0:1 counter-rotating $2\omega:\omega$



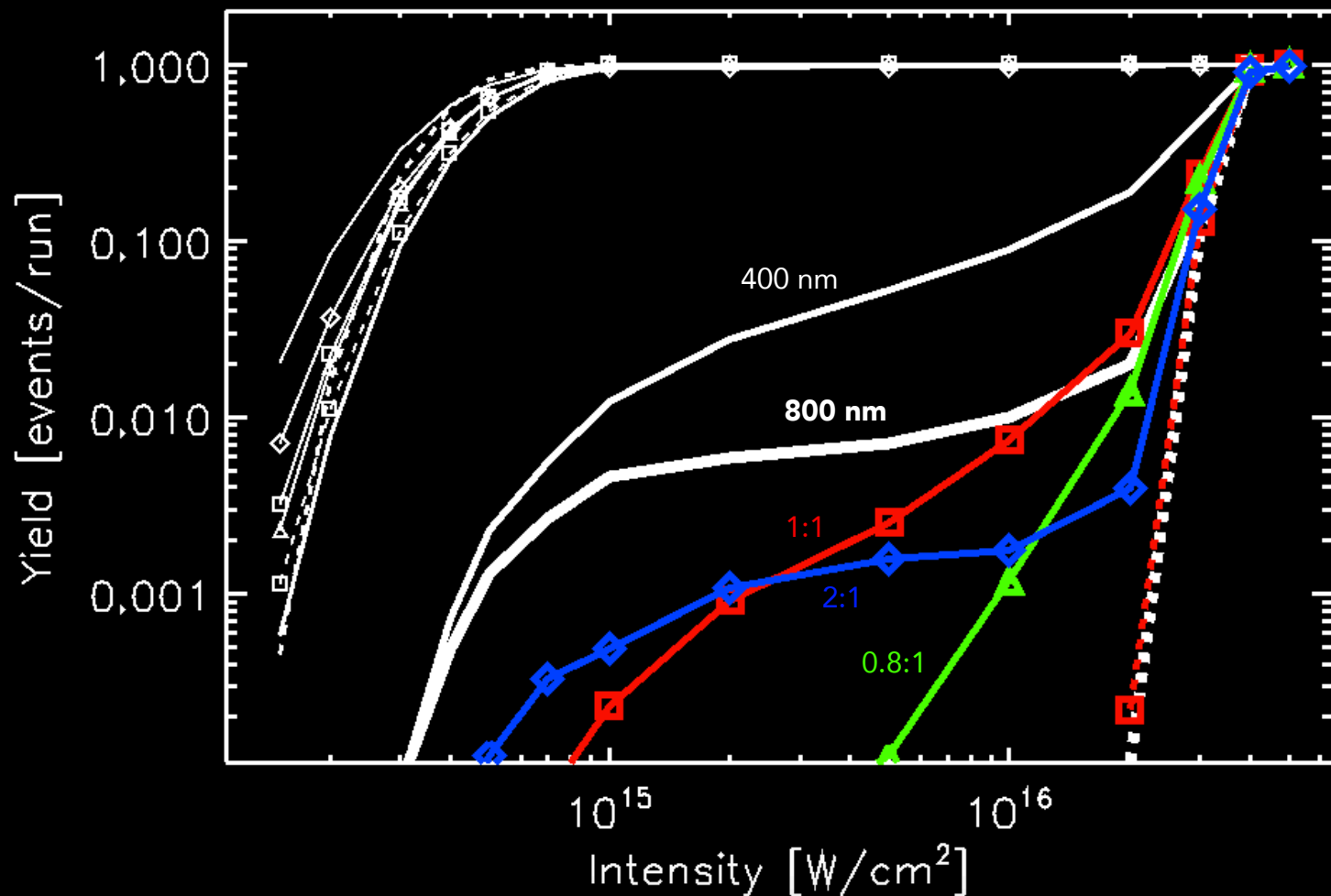
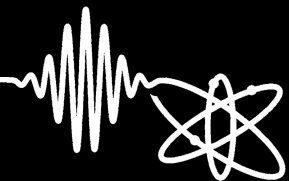
simple trajectories



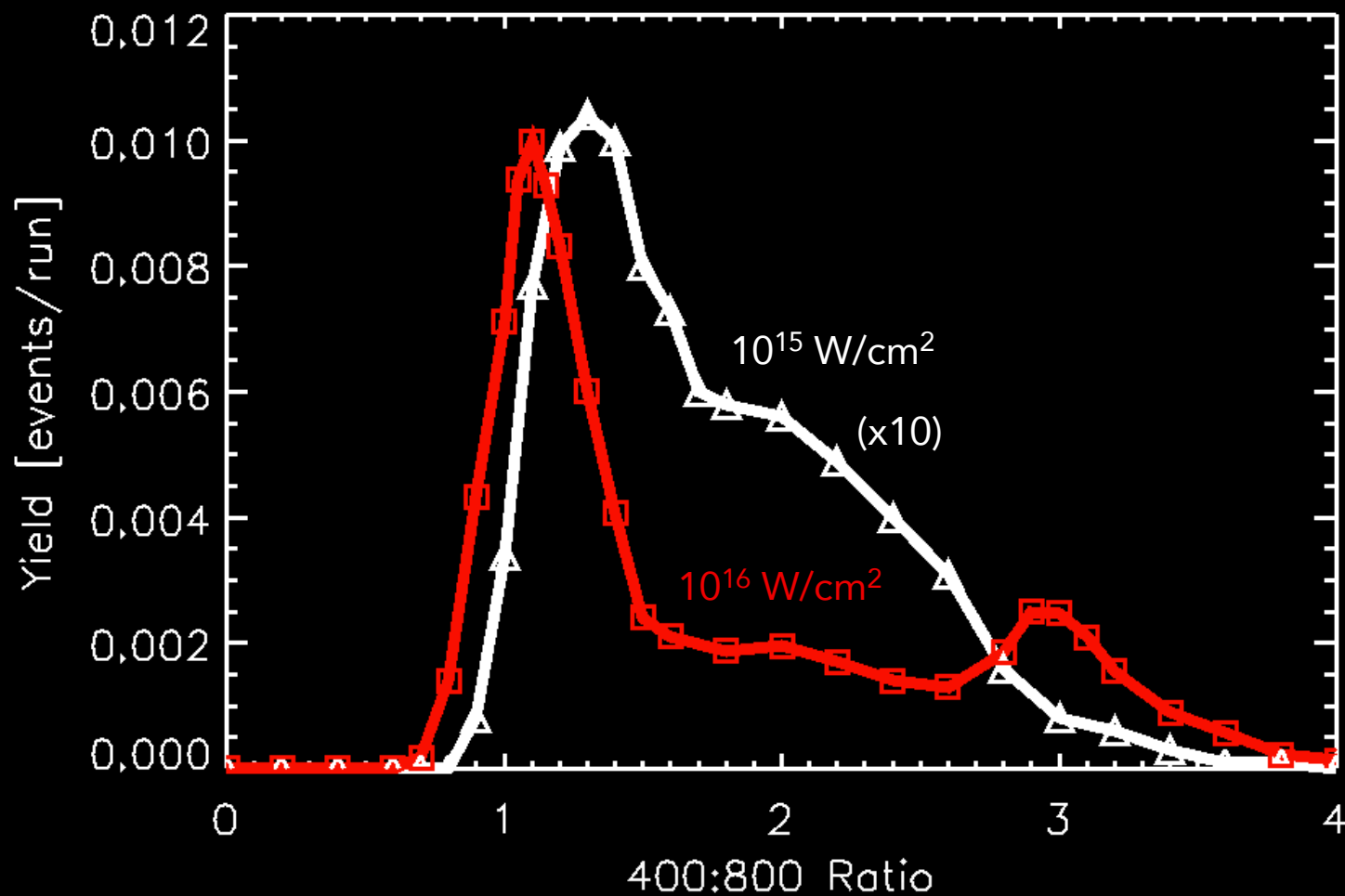
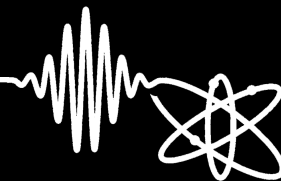
3.0:1 counter-rotating $2\omega:\omega$



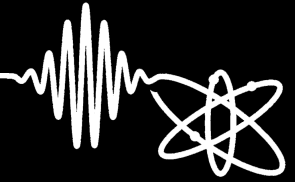
helium ionization yield curves



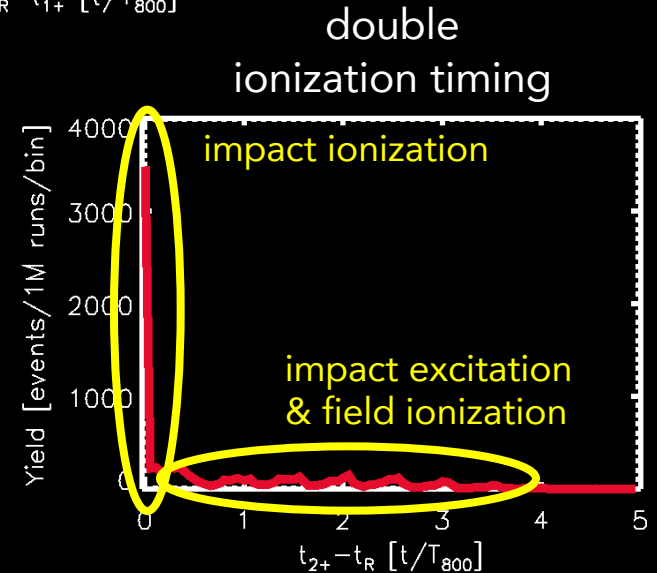
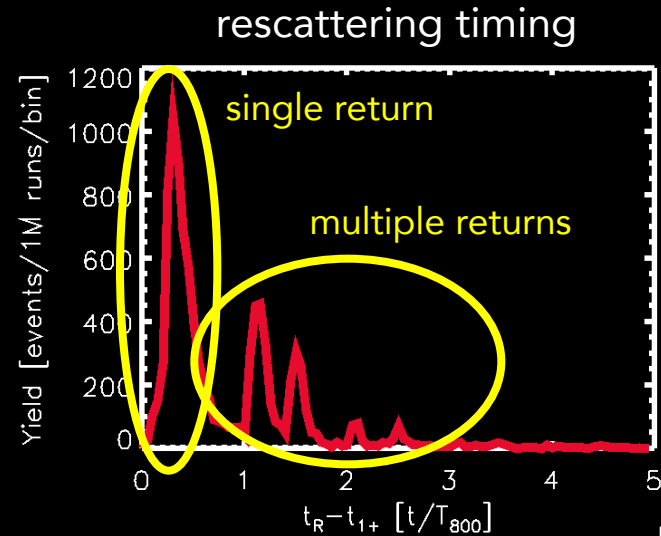
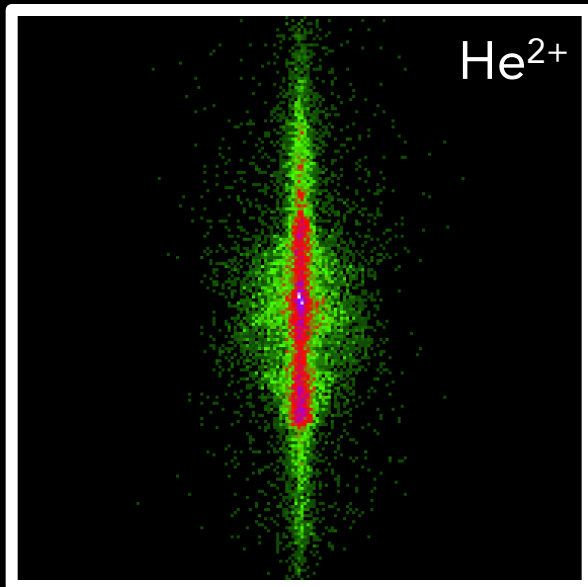
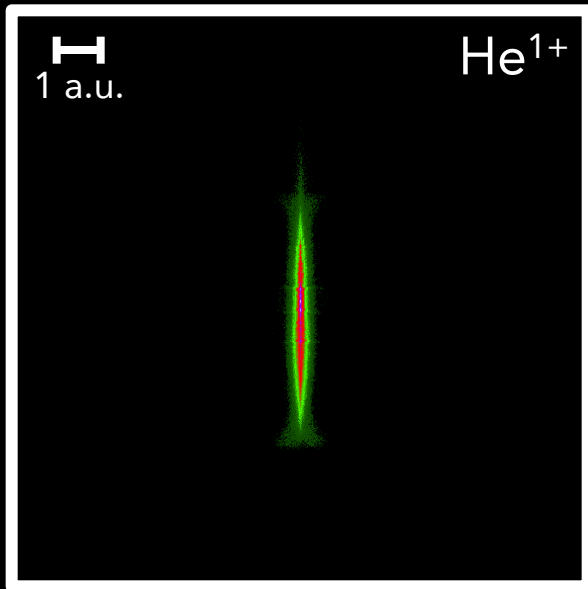
yield vs 400:800 ratio



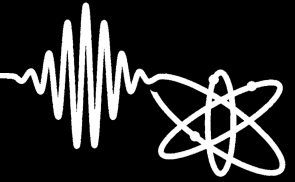
electron momenta & timing (linear 800nm)



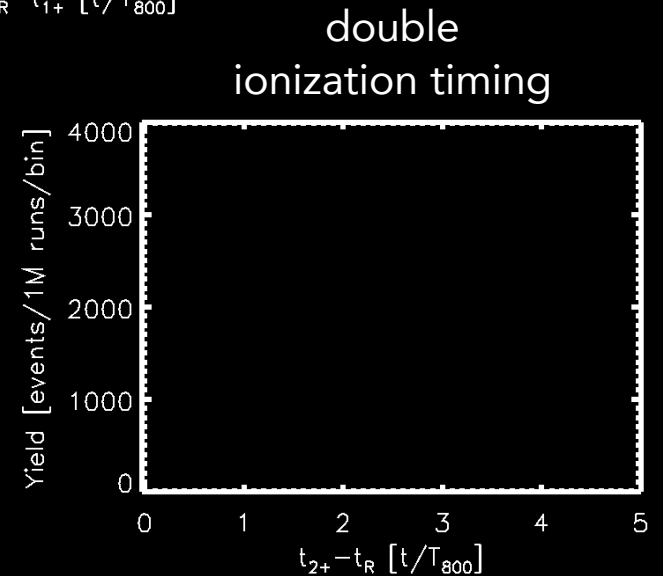
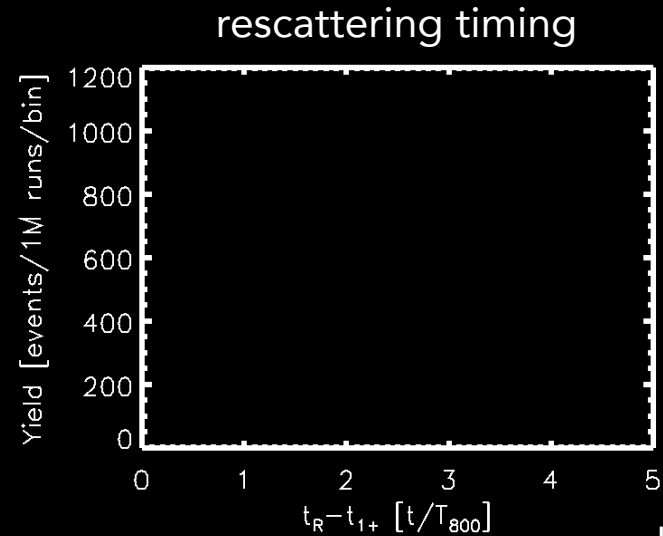
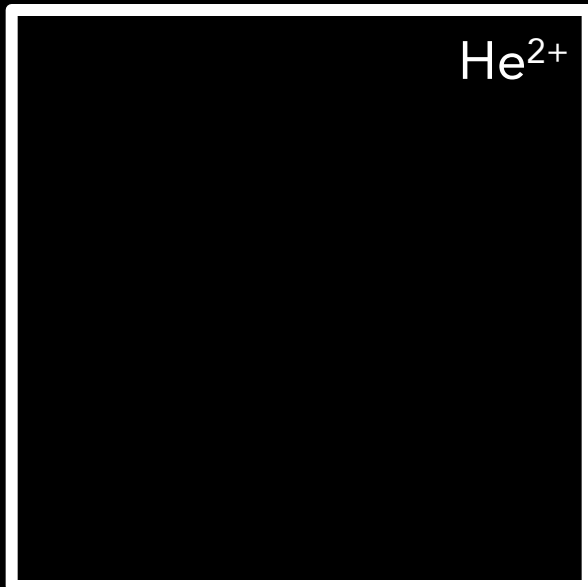
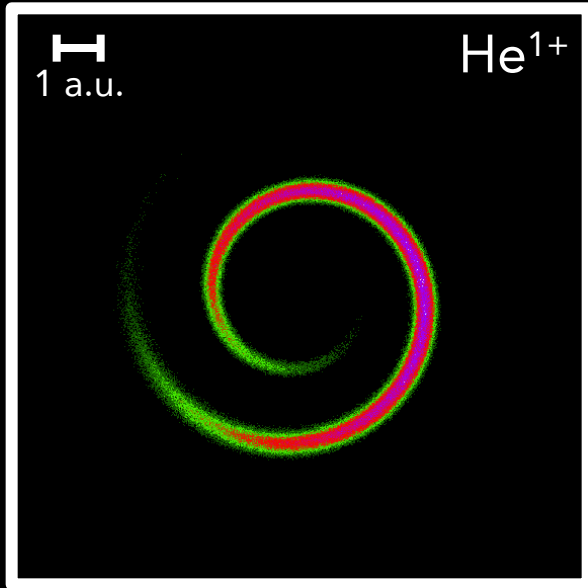
transverse electron momenta



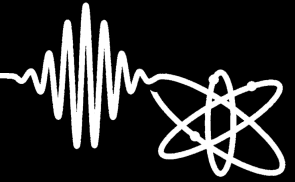
electron momenta & timing (circular 800nm)



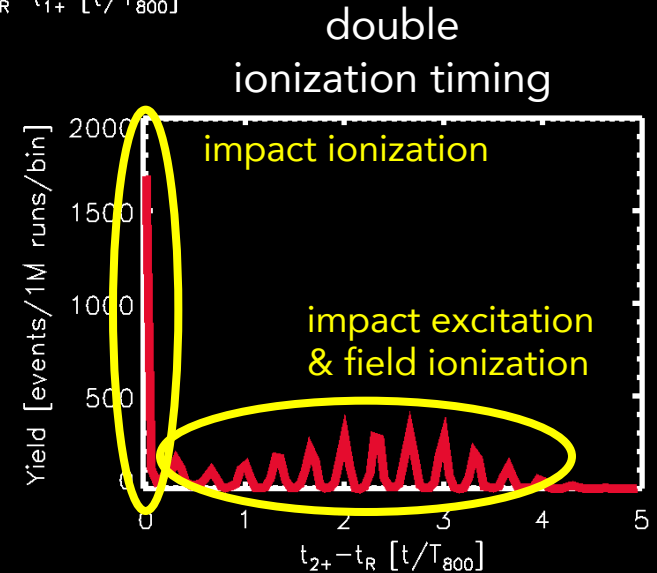
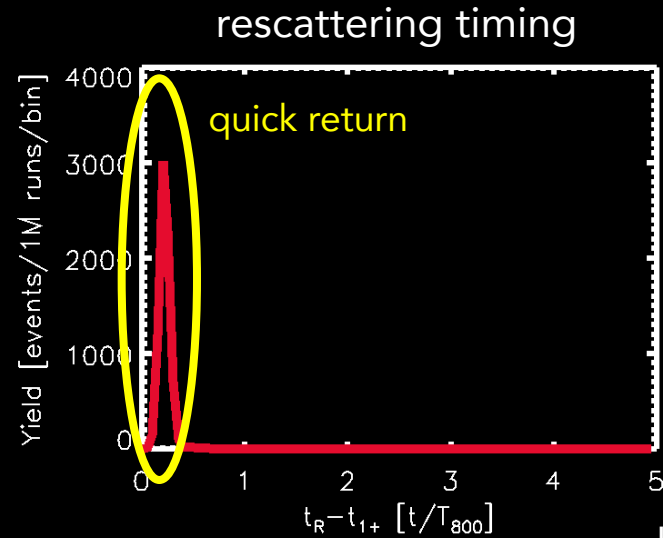
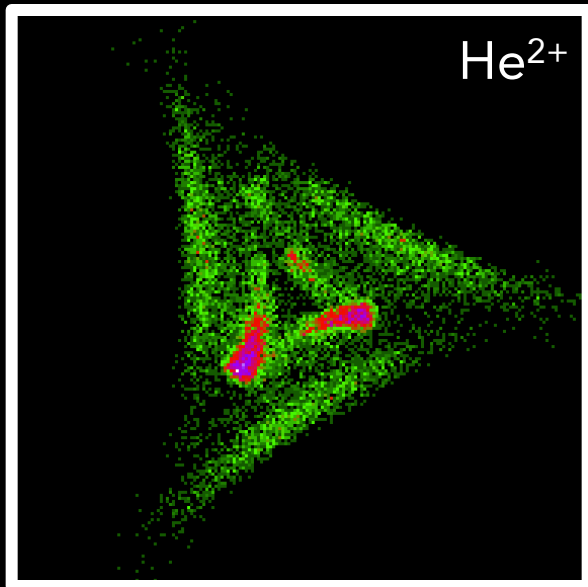
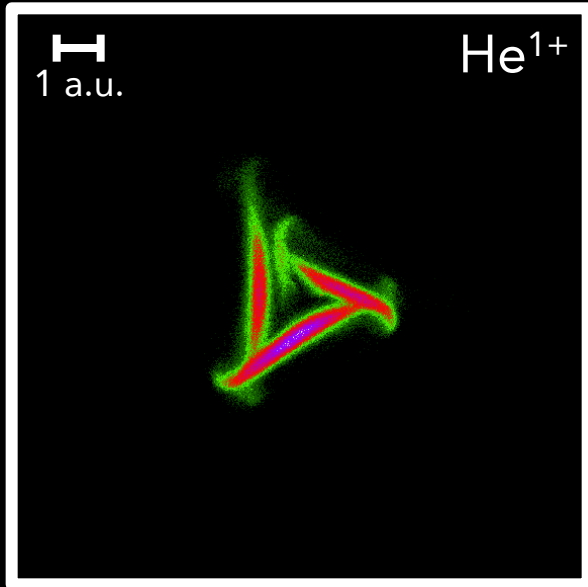
transverse electron momenta



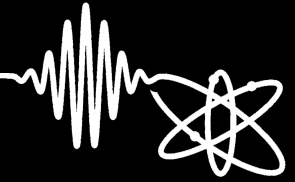
electron momenta & timing (400:800 1:1)



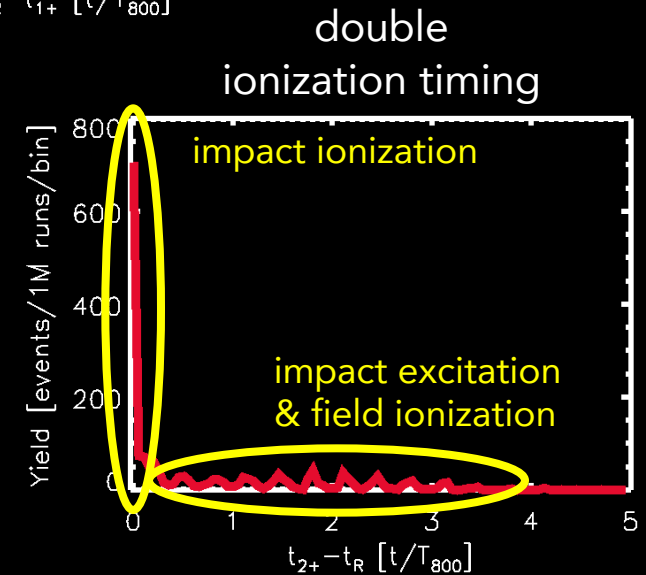
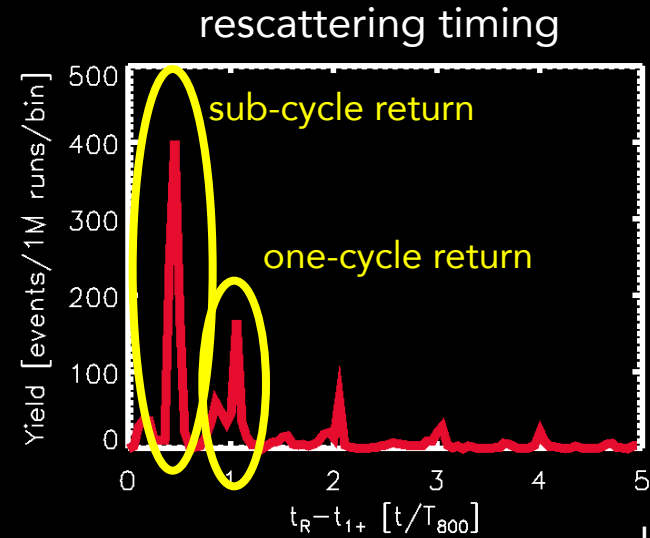
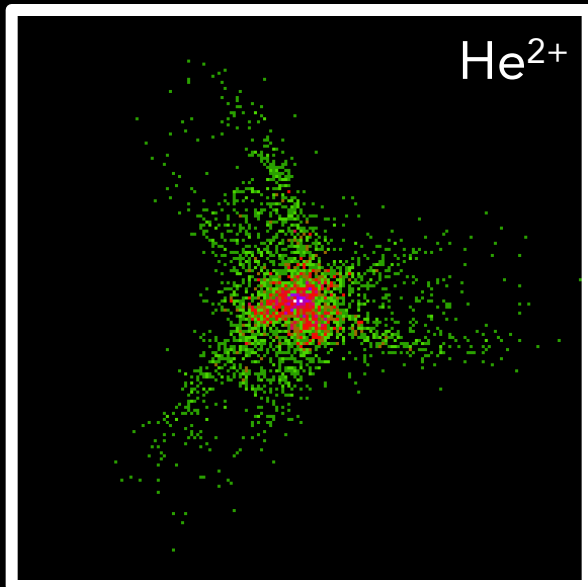
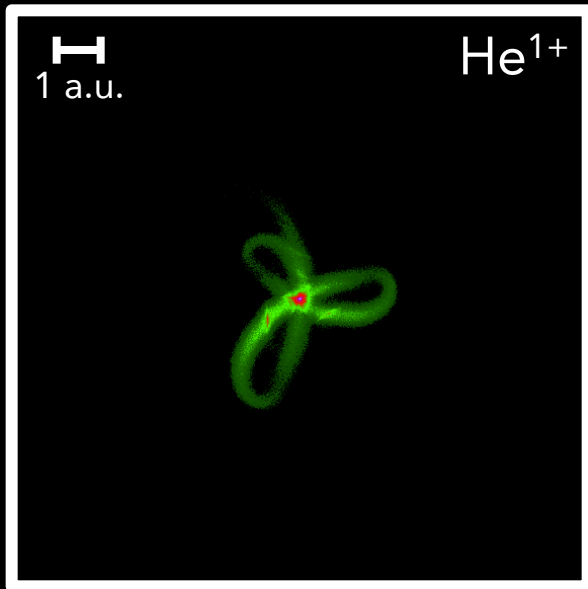
transverse electron momenta



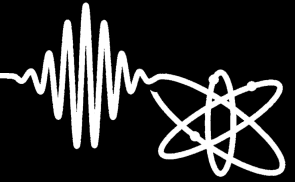
electron momenta & timing (400:800 2:1)



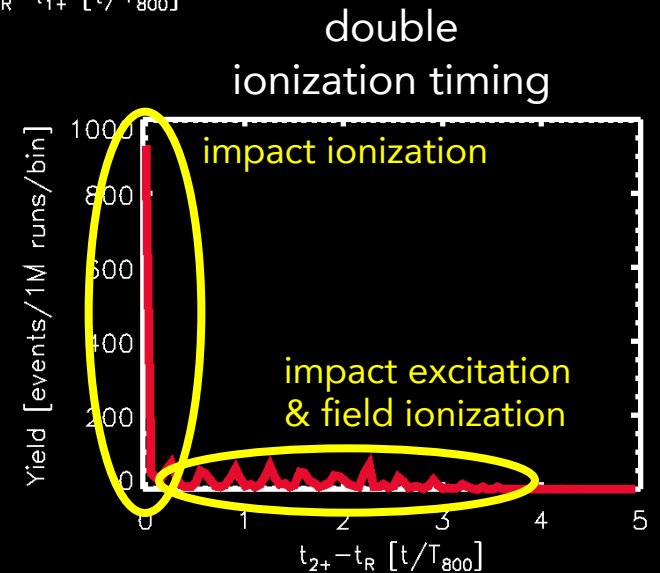
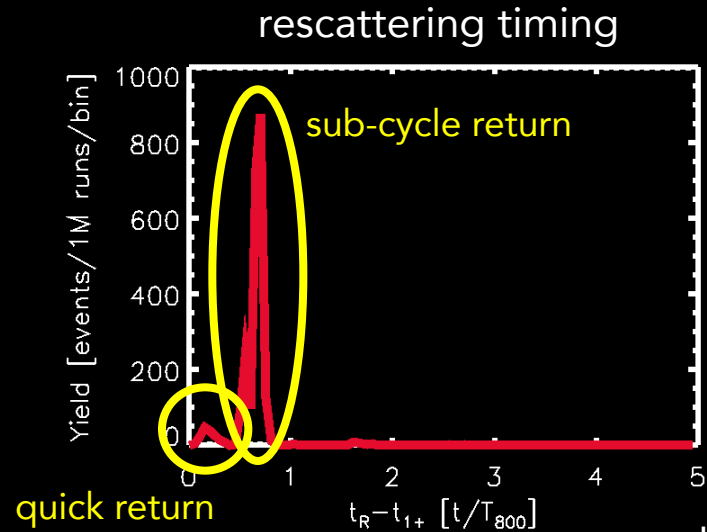
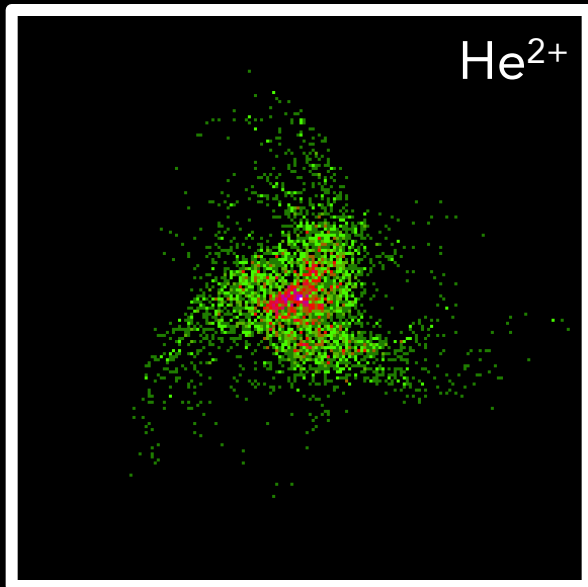
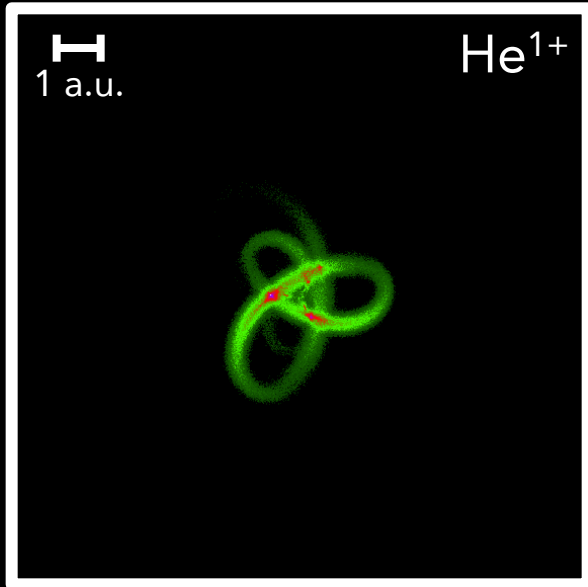
transverse electron momenta



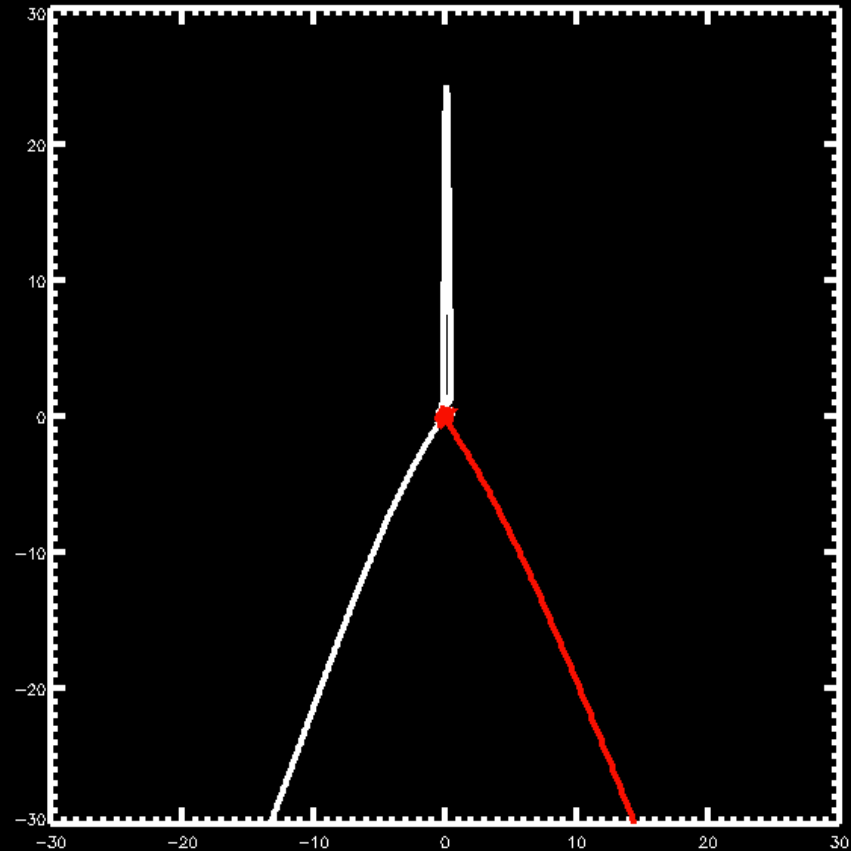
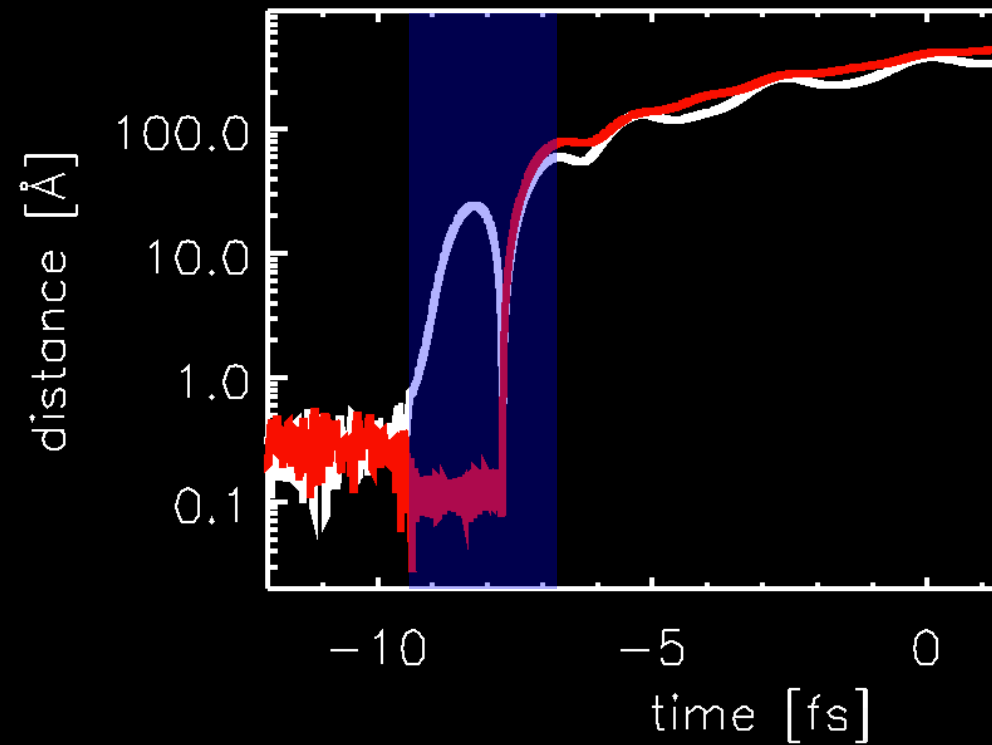
electron momenta & timing (400:800 3:1)



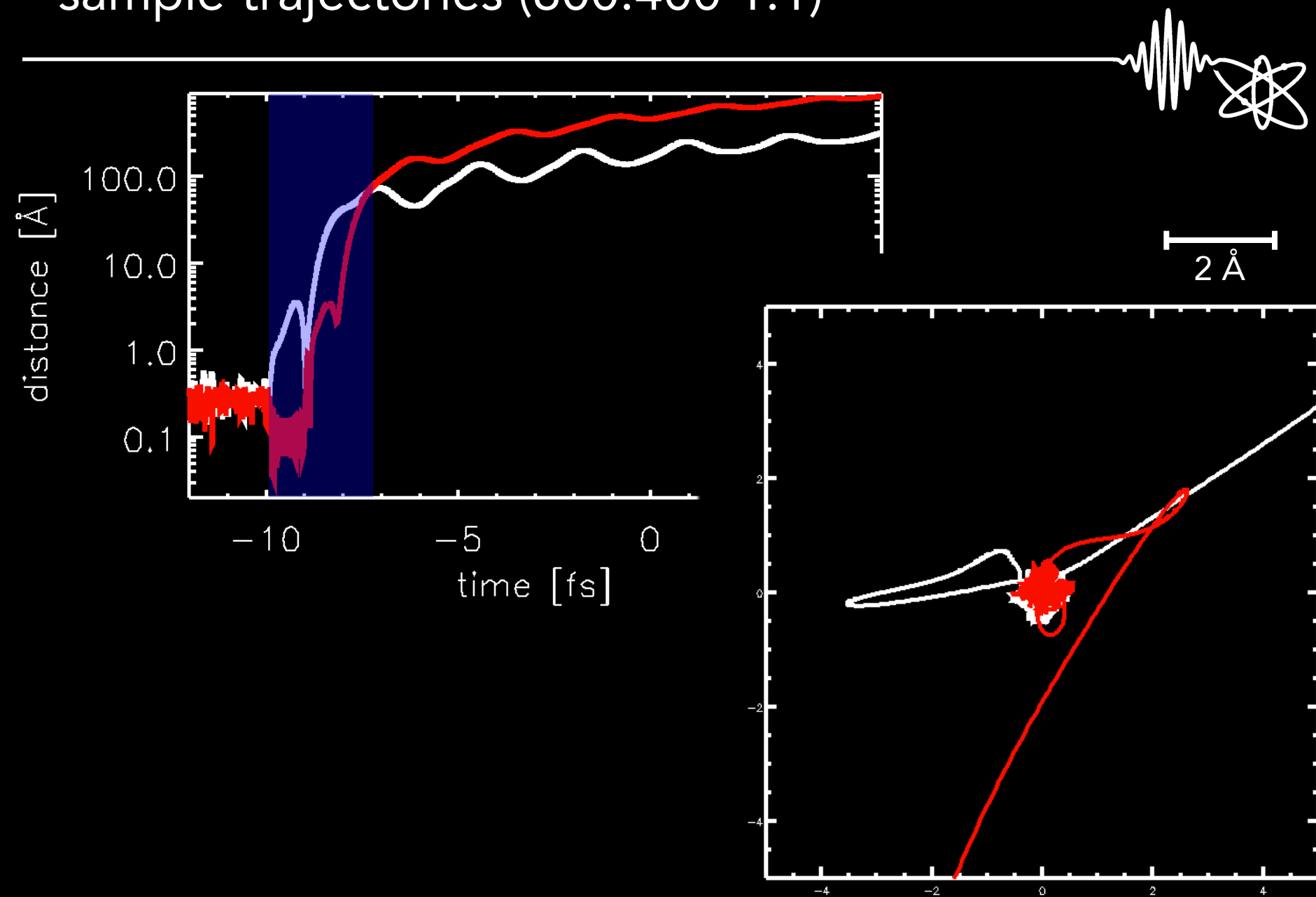
transverse electron momenta



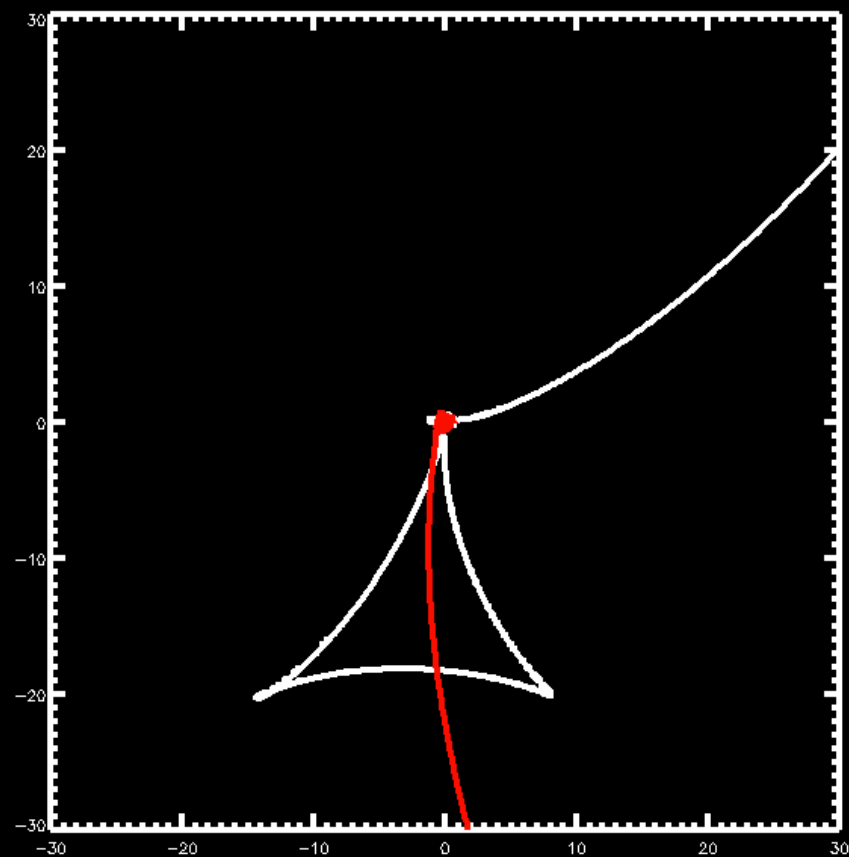
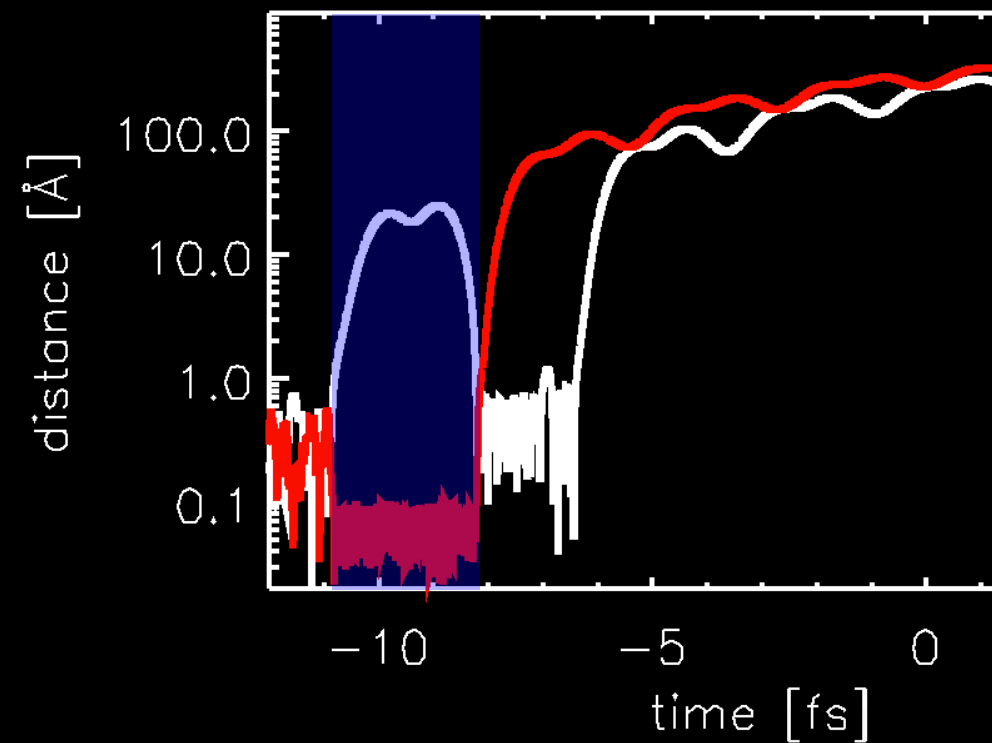
sample trajectories (linear 800nm)



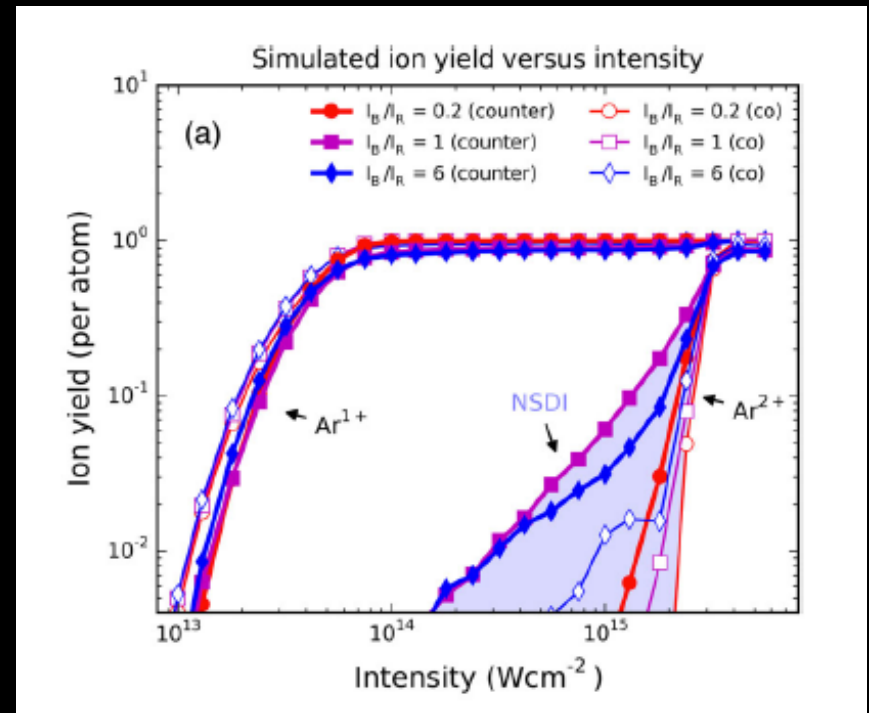
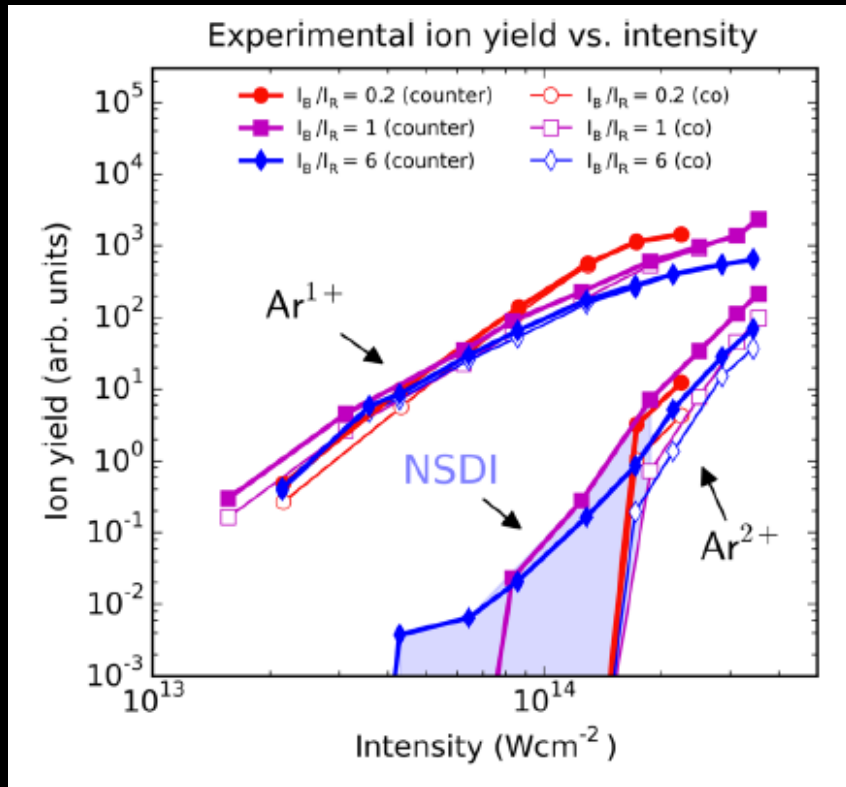
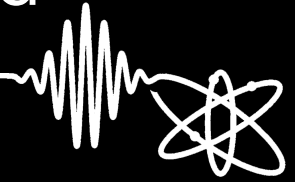
sample trajectories (800:400 1:1)



sample trajectories (800:400 2:1)



experimental confirmation of non-seq DI yield



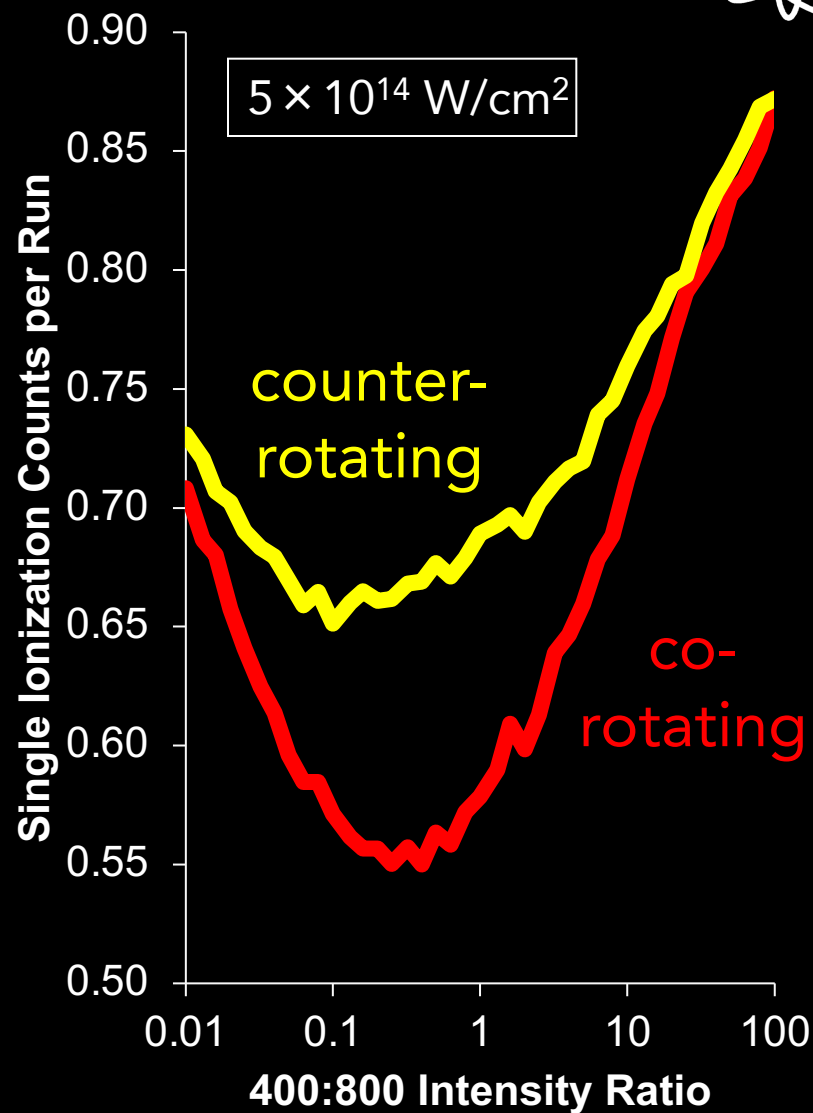
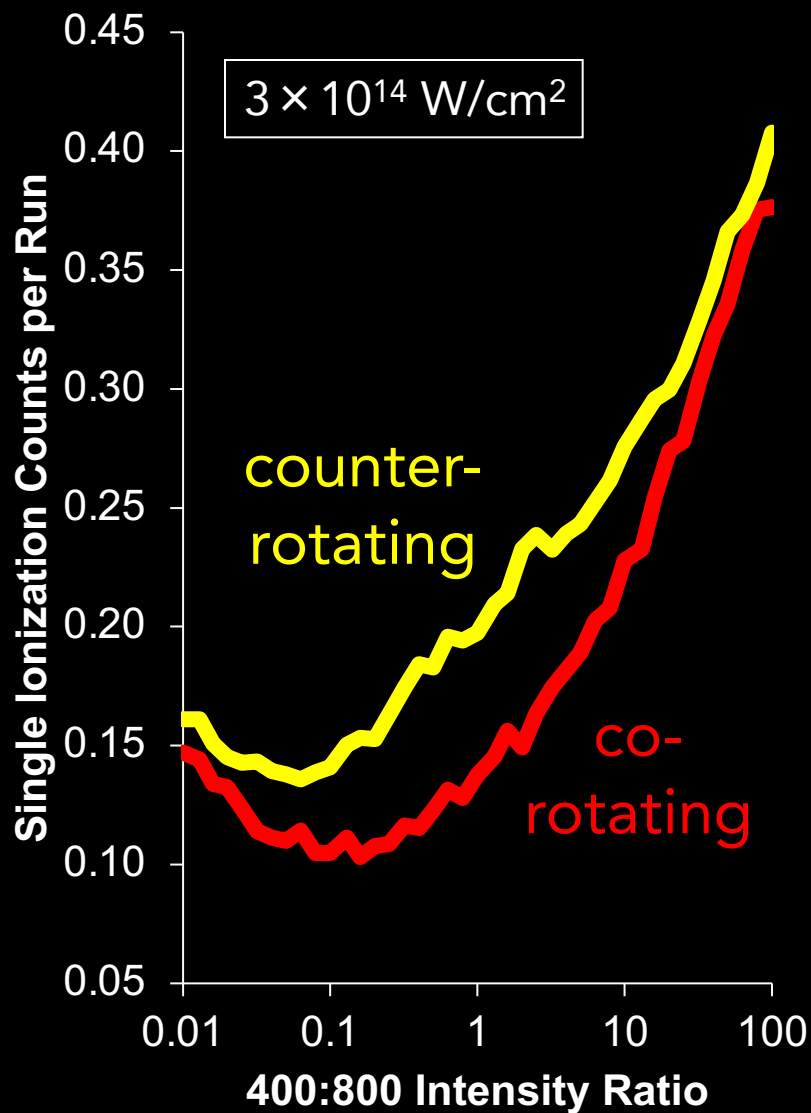
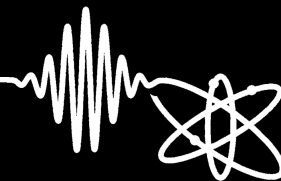
Mancuso, Dorney, Hickstein, Chaloupka, Ellis, Dollar, Knut, Grychtol, Zusin, Gentry, Gopalakrishnan, Kapteyn, Murnane, Physical Review Letters (September 2016)

also: Eckart, Richter, Kunitski, Hartung, Rist, Henrichs, Schlott, Kang, Bauer, Sann, Schmidt, Schöffler, Jahnke, Dörner, Physical Review Letters (September 2016)

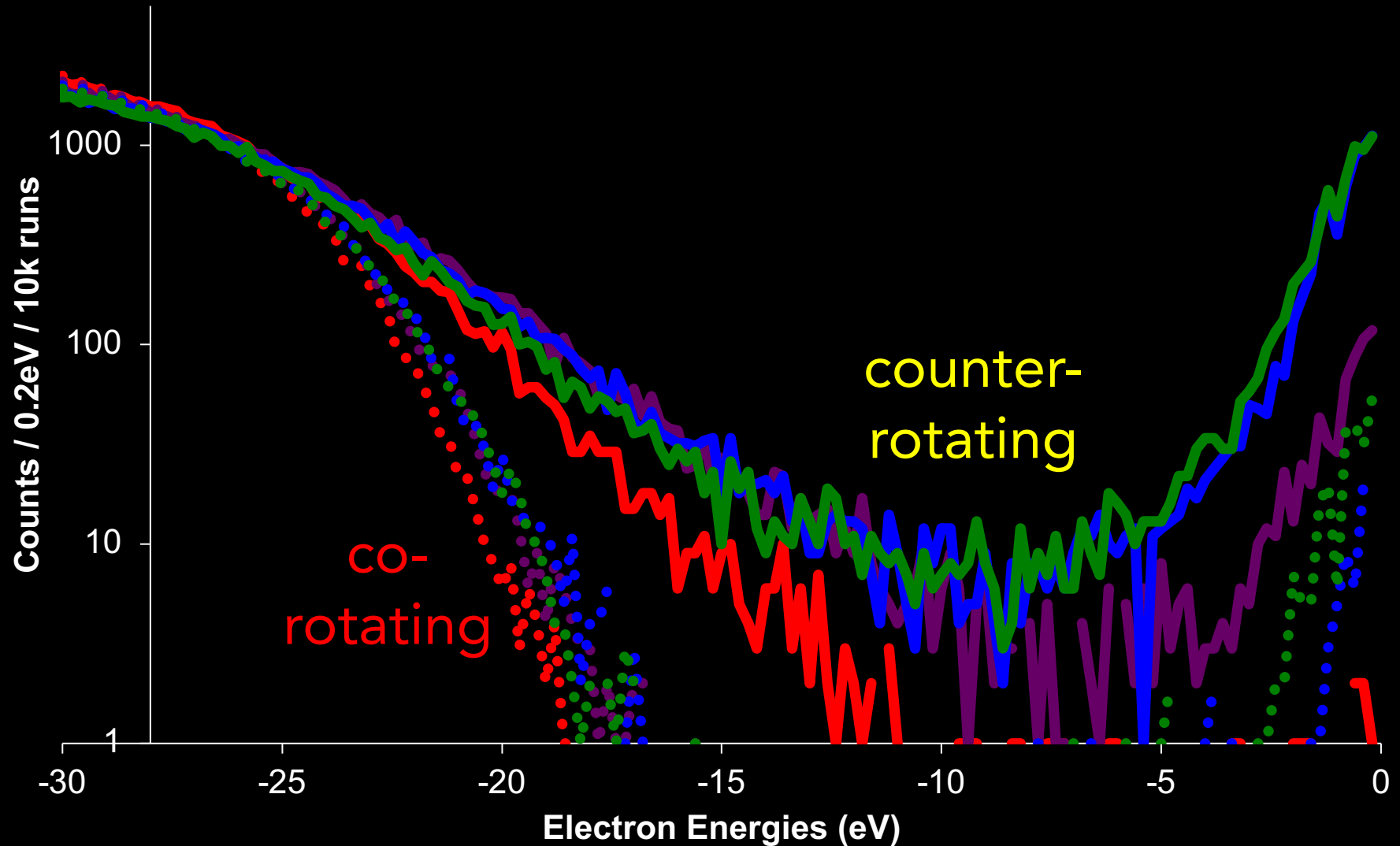
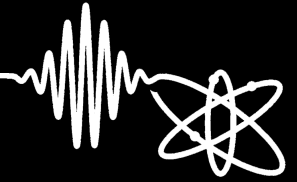


Questions?

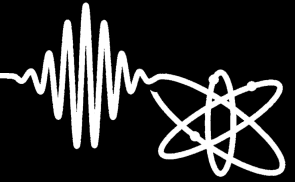
unusual single ionization behavior



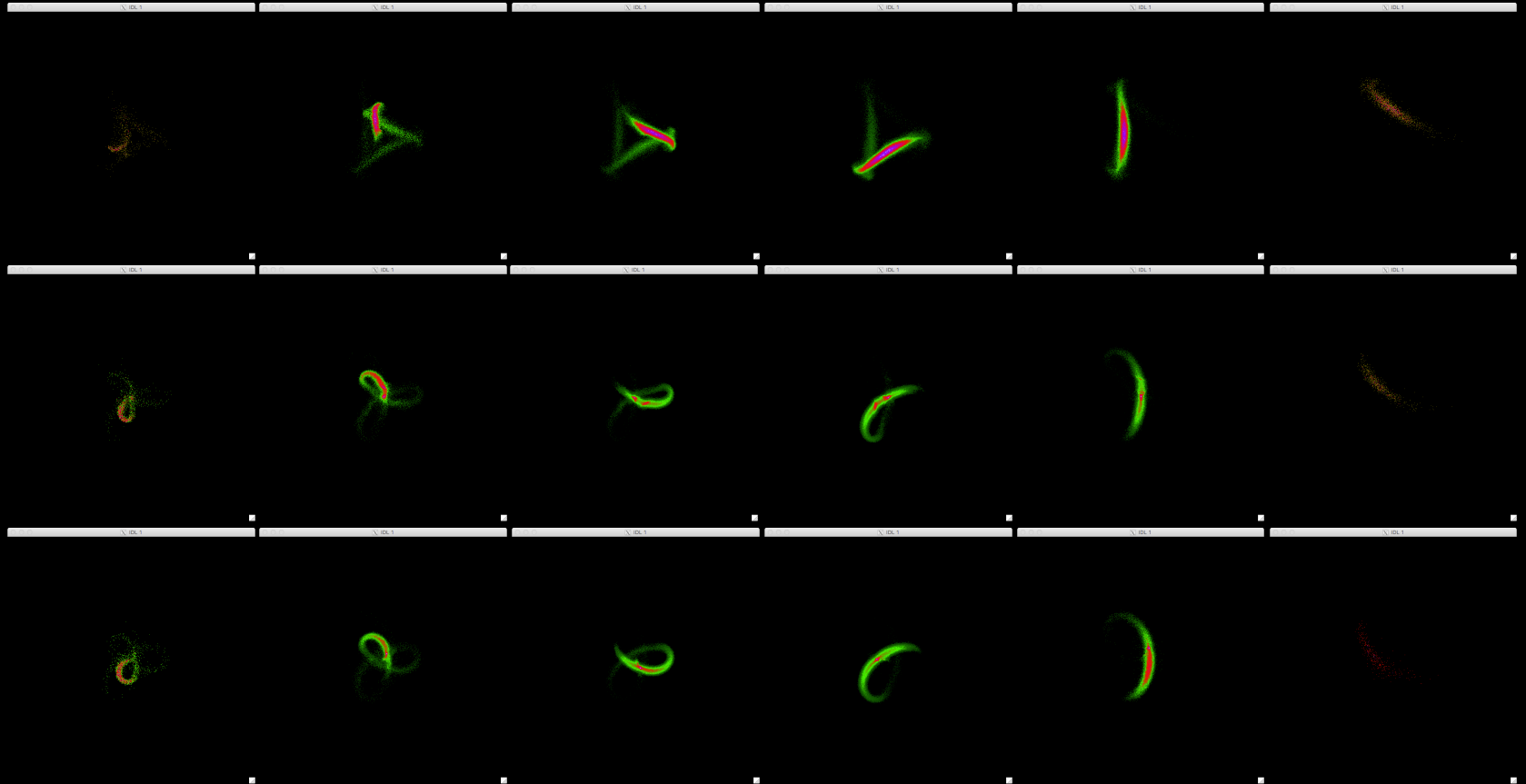
unusual single ionization behavior



single ionization momenta & timing



-12.00fs -11.11fs -10.22fs -9.33fs -8.44fs -7.56fs -6.67fs



double ionization momenta & timing

