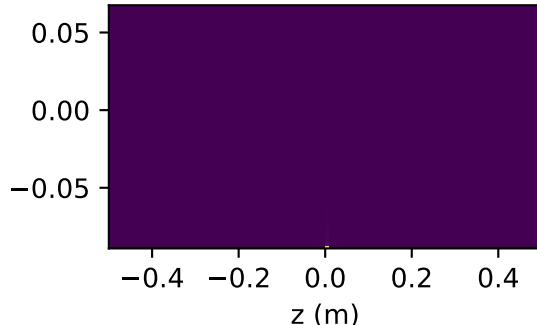


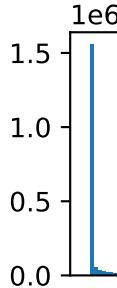
Stage	Section	Element	Type	Parameter	Value	Unit	Comment
0	Facility	Global	Name	Name	LhARA		
0	Facility	Global	Reference particle	Kinetic energy	15	MeV	
0	Facility	Global	Vacuum chamber	Mother volume radius	0.5	m	
1	Source	Source	Parameterised TNSA	SourceMode	0		Gaussian kinetic energy
1	Source	Source	Parameterised TNSA	SigmaX	0.000004	m	Gaussian width, x
1	Source	Source	Parameterised TNSA	SigmaY	0.000004	m	Gaussian width, y
1	Source	Source	Parameterised TNSA	Emin	1	MeV	Minimum of energy distribution
1	Source	Source	Parameterised TNSA	Emax	25	MeV	Maximum of energy distribution
1	Source	Source	Parameterised TNSA	nPnts	1000		Number of points to sample for integration of PDF
1	Source	Source	Parameterised TNSA	MinCTheta	0.999691		Maximum theta for flat cos theta
1	Source	Source	Parameterised TNSA	Power	2.5E+15	W	Laser power
1	Source	Source	Parameterised TNSA	Energy	70	J	Laser energy
1	Source	Source	Parameterised TNSA	Wavelength	0.8	um	Laser wavelength
1	Source	Source	Parameterised TNSA	Duration	2.80E-14	s	Laser pulse duration
1	Source	Source	Parameterised TNSA	Thickness	4E-07	m	Target thickness
1	Source	Source	Parameterised TNSA	Intensity	4.00E+20	W/cm2	Laser intensity
1	Source	Source	Parameterised TNSA	DivAngle	25	degrees	Electron divergence angle
1	Interface	Drift		Length	0.05	m	Length of first, compensated, drift
1	Interface	Aperture	Circular	Radius	0.002	m	Inner bore of entry to nozzle
1	Interface	Drift		Length	0.05	m	Length of first, compensated, drift
1	Interface	Aperture	Circular	Radius	0.00287	m	Inner bore of exit from nozzle
1	Capture	Drift		Length	0.15	m	Drift to solenoid
1	Capture	Solenoid	Length, strength	Length	0.857	m	Length of solenoid
1	Capture	Solenoid	Length, strength	Strength	2.491695	rad/m	ks
1	Capture	Drift		Length	0.15	m	Drift out of solenoid
1	Capture	Drift		Length	0.15	m	Drift to next solenoid
1	Capture	Solenoid	Length, strength	Length	0.857	m	Length of solenoid
1	Capture	Solenoid	Length, strength	Strength	1.018747	rad/m	ks
1	Capture	Drift		Length	0.15	m	Drift out of solenoid
1	Energy selection	Drift		Length	0.183783	m	Drift before first cavity
1	Energy selection	Cavity	Cylindrical	Gradient	5	MV/m	Gradient
1	Energy selection	Cavity	Cylindrical	Frequency	200	MHz	Frequency
1	Energy selection	Cavity	Cylindrical	Phase	0	degrees	Phase of reference particle
1	Energy selection	Drift		Length	0.183783	m	Drift after first cavity
1	Energy selection	Drift		Length	0.15	m	Drift to next solenoid
1	Energy selection	Solenoid	Length, strength	Length	0.857	m	
1	Energy selection	Solenoid	Length, strength	Strength	1.448565	rad/m	
1	Energy selection	Drift		Length	0.15	m	Drift out of solenoid
1	Energy selection	Drift		Length	1.771	m	Drift to energy-selection collimator
1	Energy selection	Drift		Length	0.005	m	Space for energy-selection collimator
1	Energy selection	Aperture	Circular	Radius	0.0025	m	Collimator
1	Energy selection	Drift		Length	0.005	m	Space for energy-selection collimator
1	Energy selection	Drift		Length	0.06461	m	
1	Energy selection	Drift		Length	0.13539	m	
1	Energy selection	Drift		Length	0.01	m	Space for energy-selection collimator?
1	Energy selection	Drift		Length	0.0546	m	
1	Energy selection	Drift		Length	0.183783	m	Drift before second cavity
1	Energy selection	Cavity	Cylindrical	Gradient	5	MV/m	Gradient
1	Energy selection	Cavity	Cylindrical	Frequency	200	MHz	Frequency
1	Energy selection	Cavity	Cylindrical	Phase	0	degrees	Phase of reference particle
1	Energy selection	Drift		Length	0.183783	m	Drift after second cavity
1	Matching	Drift		Length	0.15	m	Drift to next solenoid
1	Matching	Solenoid	Length, strength	Length	0.857	m	
1	Matching	Solenoid	Length, strength	Strength	1.788859	rad/m	
1	Matching	Drift		Length	0.15	m	Drift out of solenoid
1	Matching	Drift		Length	0.3	m	
1	Matching	Drift		Length	0.15	m	Drift to next solenoid
1	Matching	Solenoid	Length, strength	Length	0.857	m	
1	Matching	Solenoid	Length, strength	Strength	1.60434	rad/m	
1	Matching	Drift		Length	0.15	m	Drift out of solenoid
1	Matching	Drift		Length	2.5	m	
1	Matching	Drift		Length	0.15	m	Drift to next solenoid
1	Matching	Solenoid	Length, strength	Length	0.857	m	
1	Matching	Solenoid	Length, strength	Strength	1.244814	rad/m	
1	Matching	Drift		Length	0.15	m	Drift out of solenoid
1	Matching	Drift		Length	0.3	m	
1	Matching	Drift		Length	0.15	m	Drift to next solenoid
1	Matching	Solenoid	Length, strength	Length	0.857	m	
1	Matching	Solenoid	Length, strength	Strength	1.165967	rad/m	
1	Matching	Drift		Length	0.15	m	Drift out of solenoid
1	Arc	Drift		Length	0.2	m	
1	Arc	Dipole	Sector (Length, angle)	Length	0.8	m	
1	Arc	Dipole	Sector (Length, angle)	Angle	45	degrees	
1	Arc	Drift		Length	0.2	m	
1	Arc	Dquad		Length	0.1	m	
1	Arc	Dquad		kq	22.544	m^-2	
1	Arc	Drift		Length	0.4	m	
1	Arc	Fquad		Length	0.1	m	
1	Arc	Fquad		kq	31.3768	m^-2	
1	Arc	Drift		Length	0.2	m	
1	Arc	Dquad		Length	0.1	m	
1	Arc	Dquad		kq	31.5123	m^-2	
1	Arc	Drift		Length	0.195	m	
1	Arc	Drift		Length	0.01	m	
1	Arc	Drift		Length	0.195	m	
1	Arc	Dquad		Length	0.1	m	
1	Arc	Dquad		kq	31.5123	m^-2	
1	Arc	Drift		Length	0.2	m	
1	Arc	Fquad		Length	0.1	m	
1	Arc	Fquad		kq	31.3768	m^-2	
1	Arc	Drift		Length	0.4	m	
1	Arc	Dquad		Length	0.1	m	
1	Arc	Dquad		kq	22.544	m^-2	
1	Arc	Drift		Length	0.2	m	
1	Arc	Dipole	Sector (Length, angle)	Length	0.8	m	
1	Arc	Dipole	Sector (Length, angle)	Angle	45	degrees	
1	Arc	Drift		Length	0.2	m	
1	Arc	Drift		Length	2	m	

# LhARA:1:Source:Source

delta

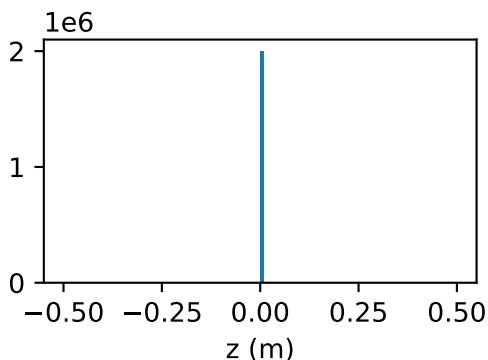


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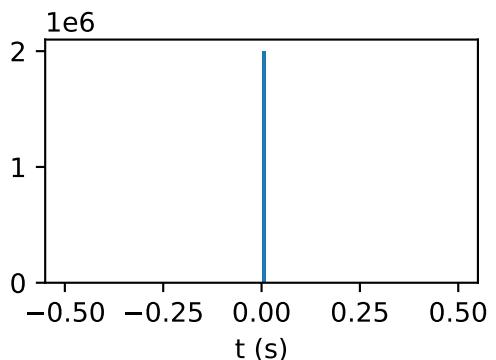
Delta

Number



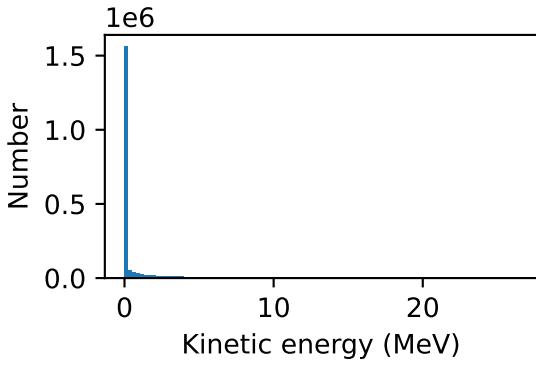
$z$  (m)

Number



$t$  (s)

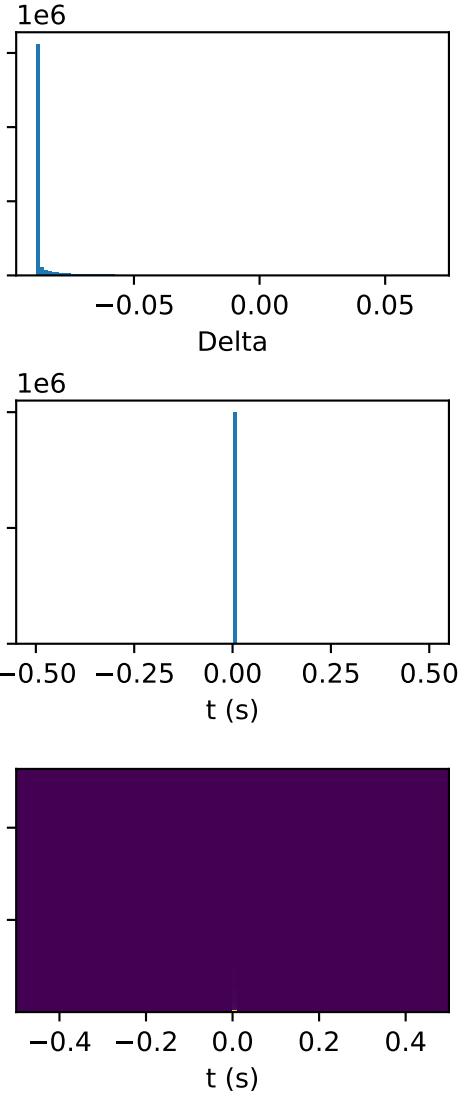
Number



Kinetic energy (MeV)

Kinetic energy (MeV)

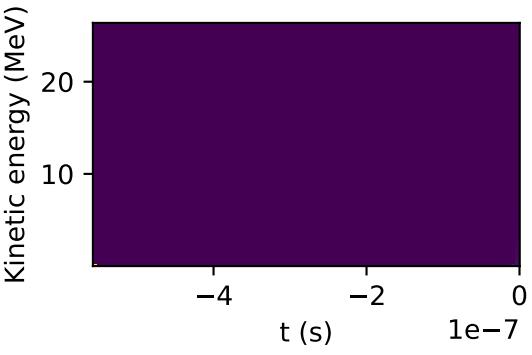
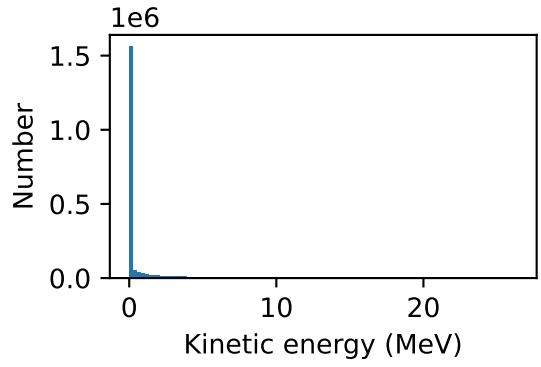
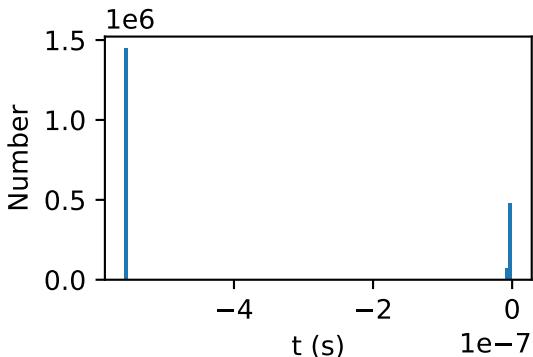
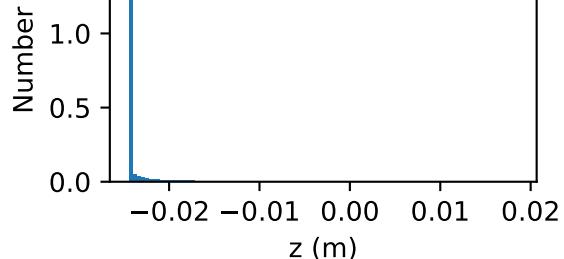
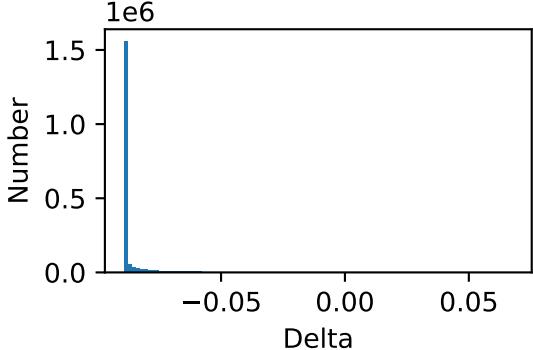
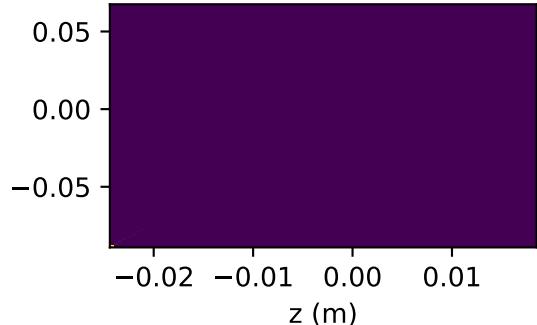
Number



$t$  (s)

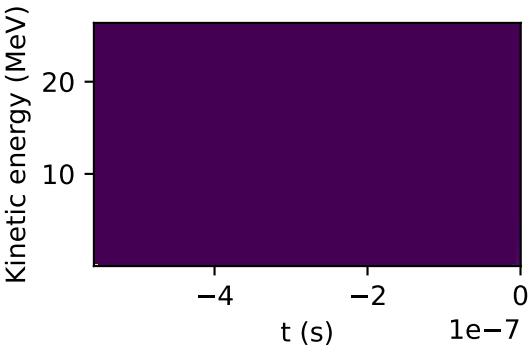
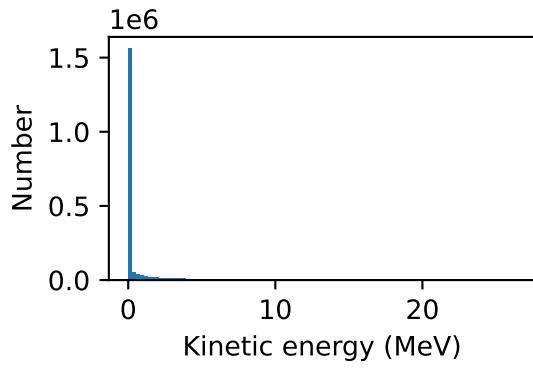
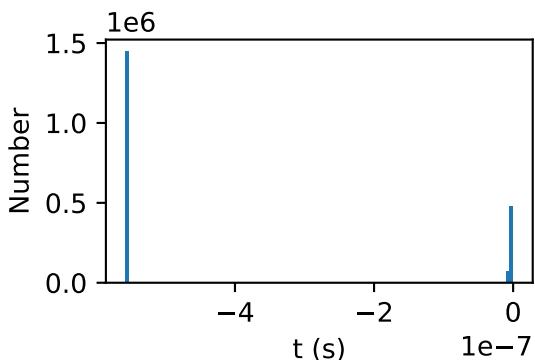
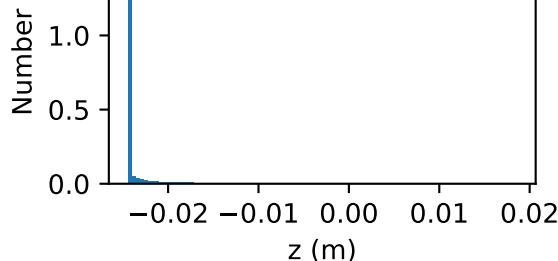
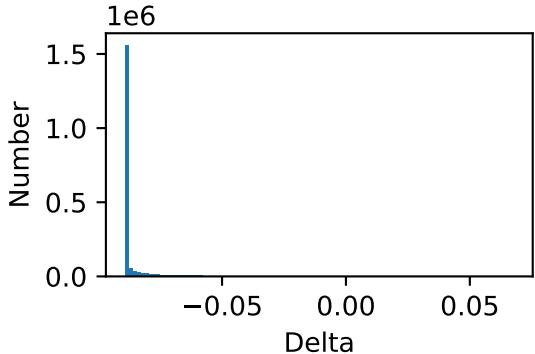
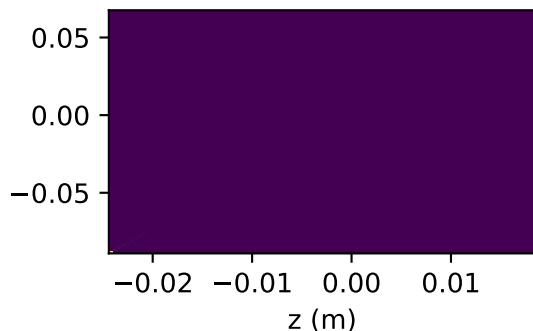
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delta



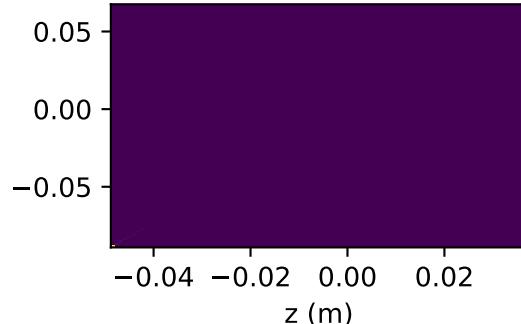
# LhARA:1:Interface:Aperture:Circular:1

delta



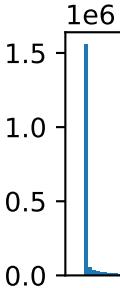
# LhARA:1:Interface:Drift:2

delta



$1e6$

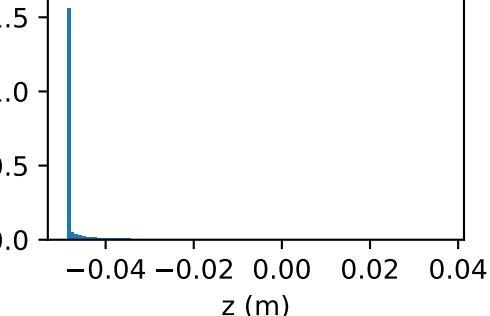
Number



Delta

Number

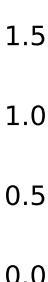
$1e6$



$z$  (m)

Number

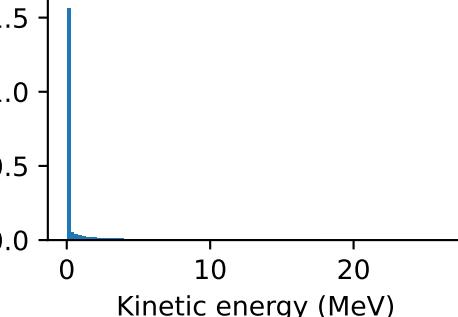
$1e6$



$t$  (s)

Number

$1e6$



Kinetic energy (MeV)

Kinetic energy (MeV)



$-1.00$

$-0.75$

$-0.50$

$-0.25$

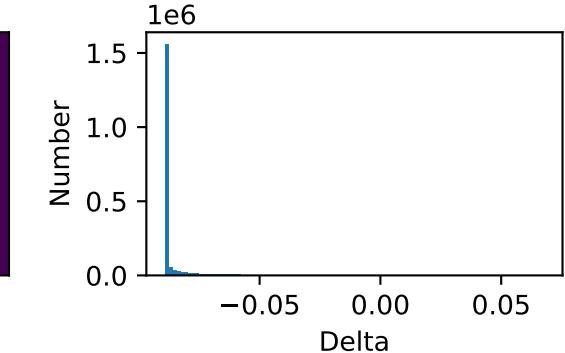
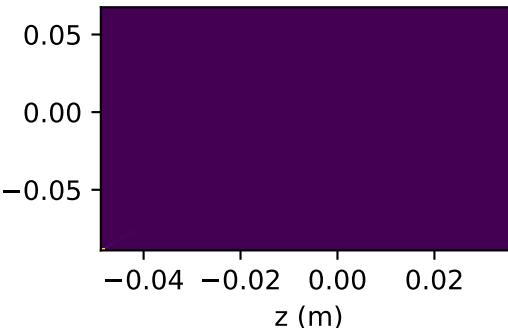
$0.00$

$t$  (s)

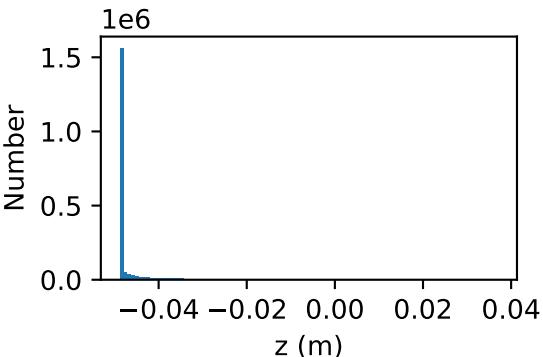
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# LhARA:1:Interface:Aperture:Circular:2

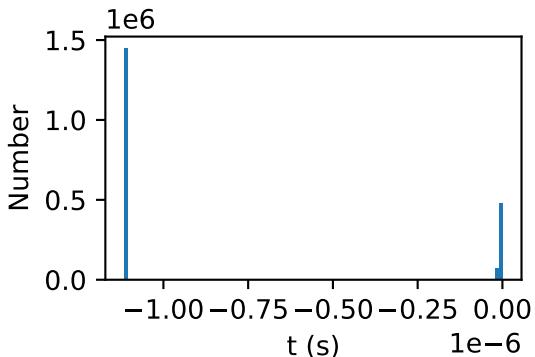
delta



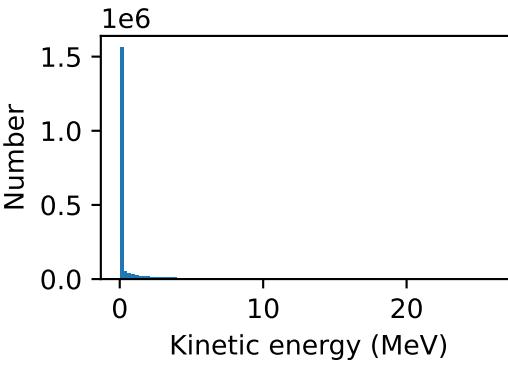
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Number

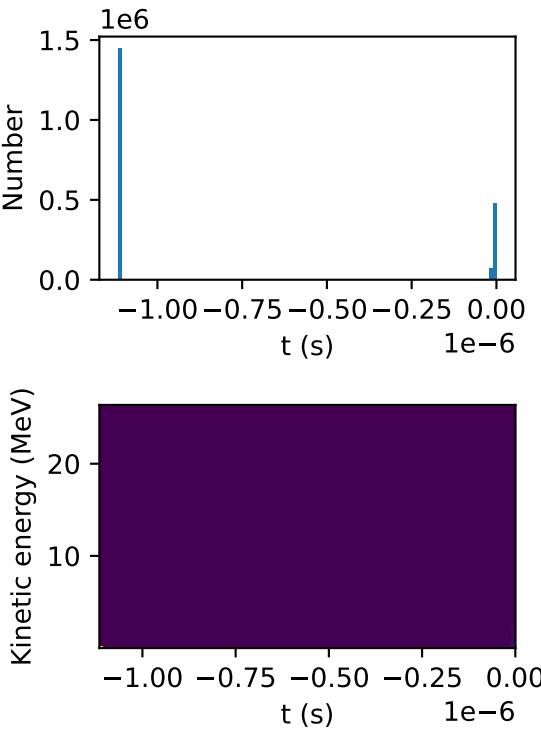


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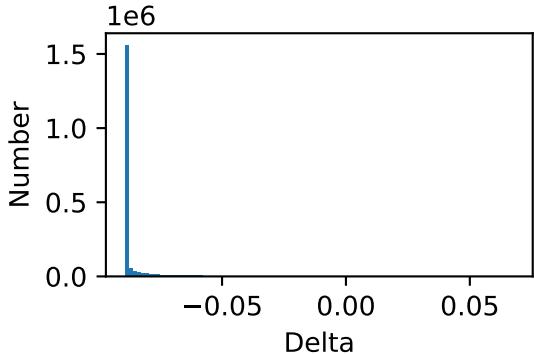
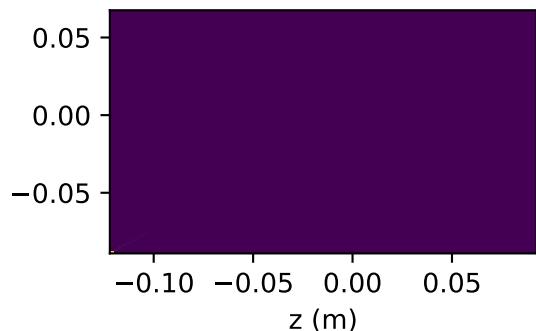
Kinetic energy (MeV)

Number

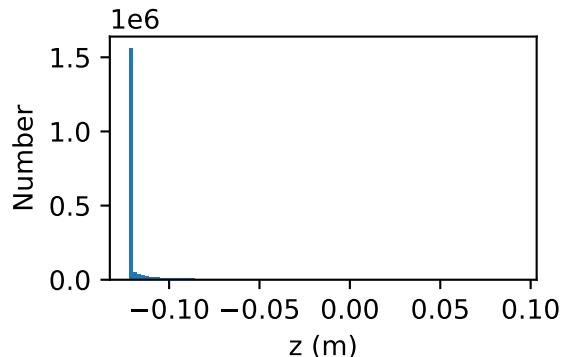


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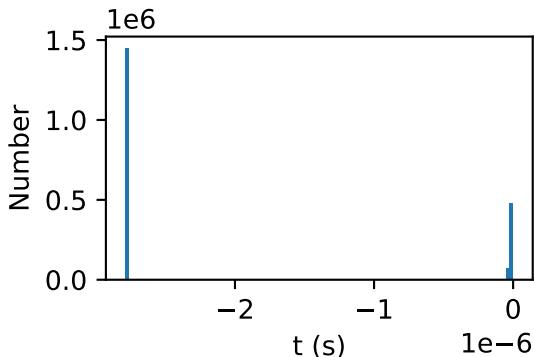
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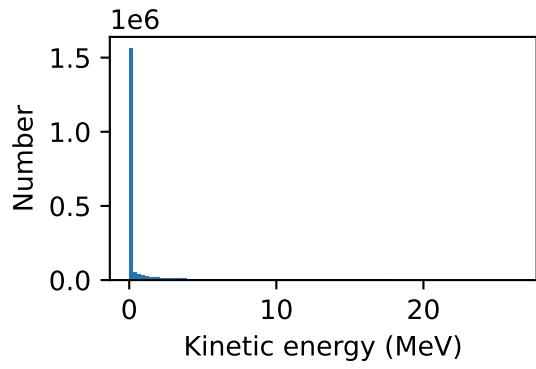
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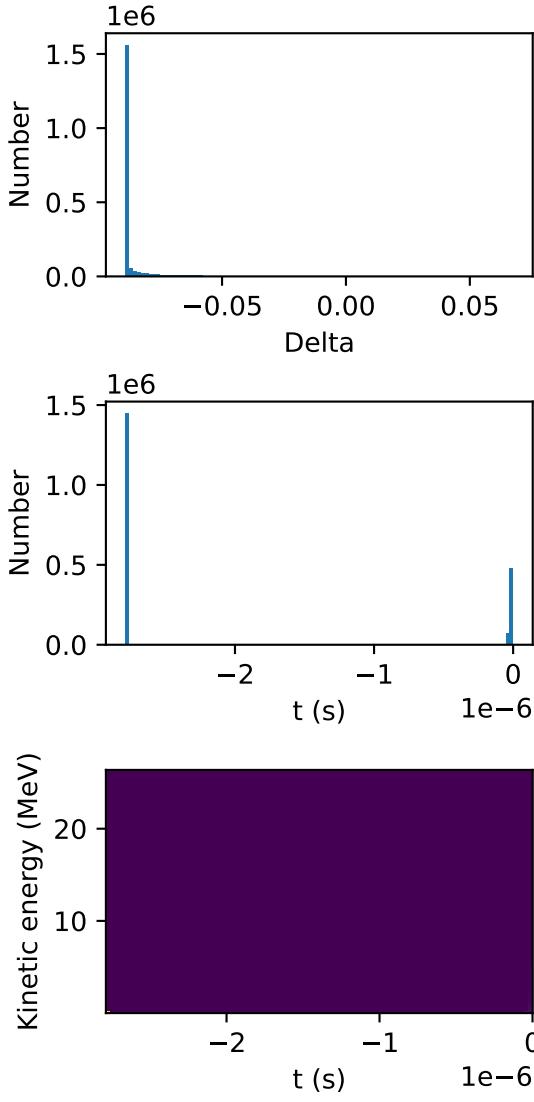
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Number

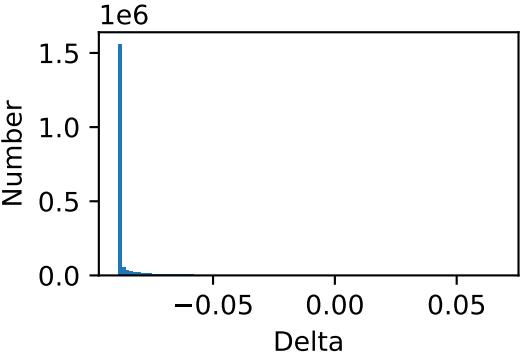
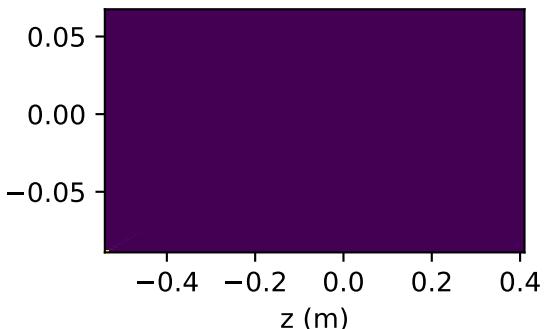


Kinetic energy (MeV)

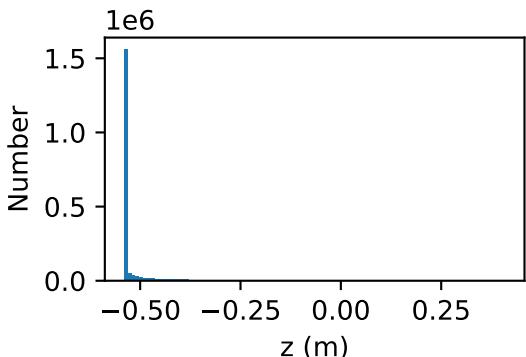


# LhARA:1:Capture:Solenoid:1

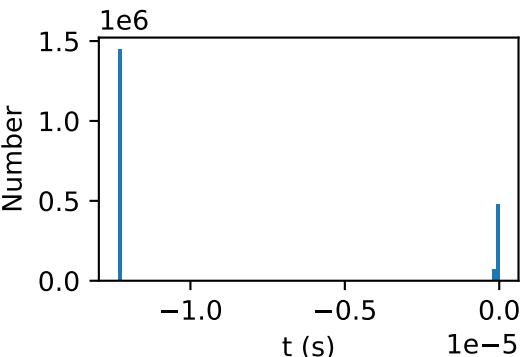
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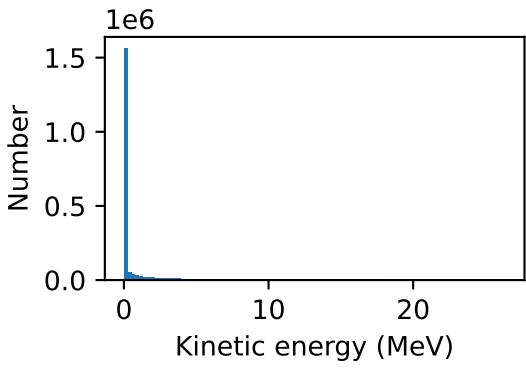
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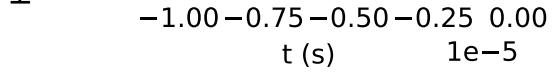
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Number

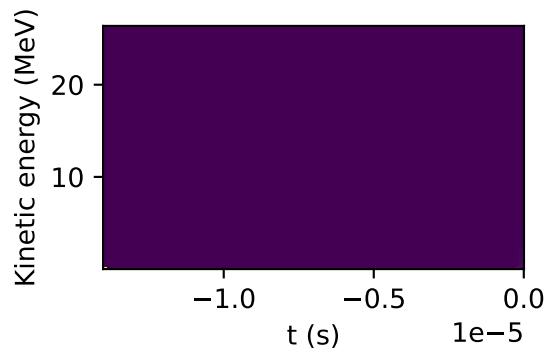
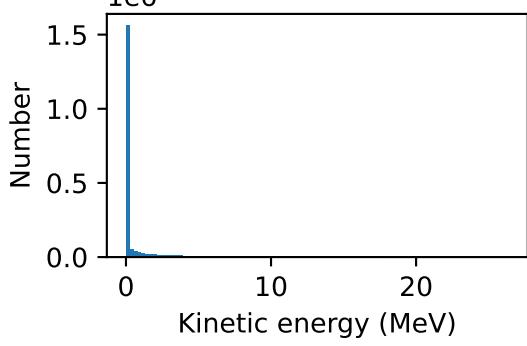
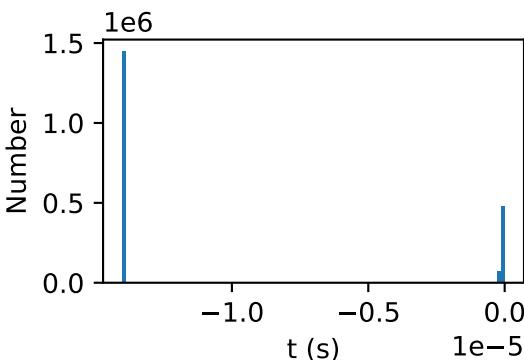
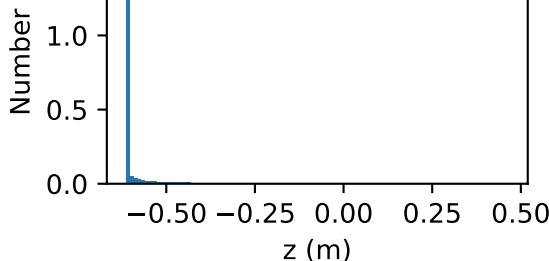
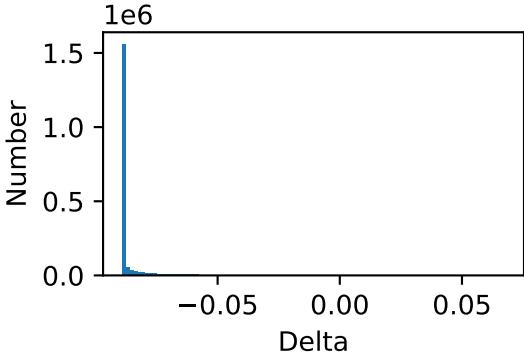
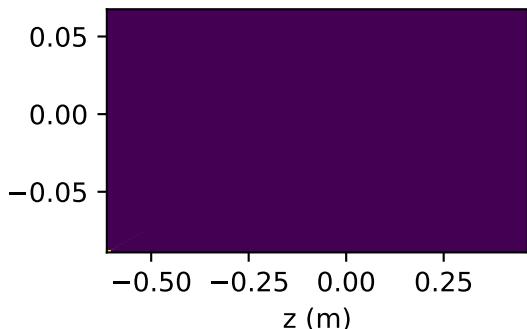


Kinetic energy (MeV)

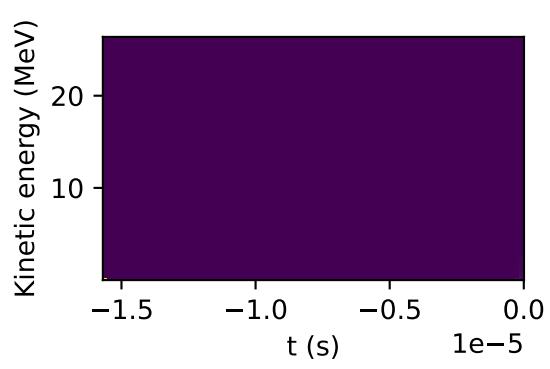
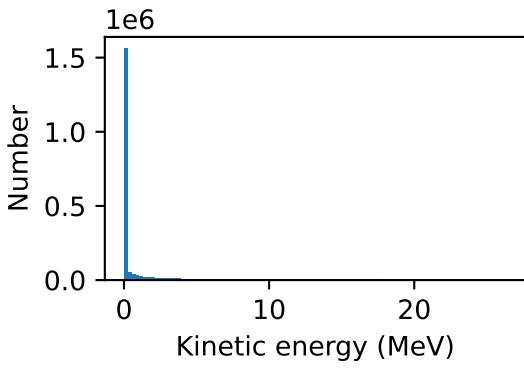
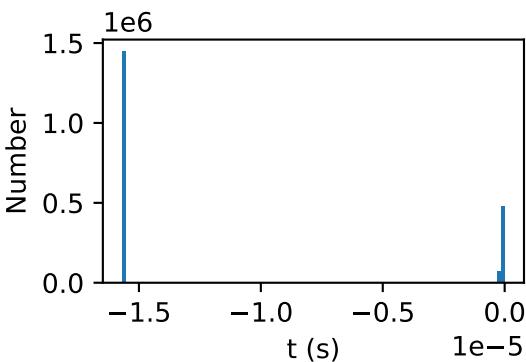
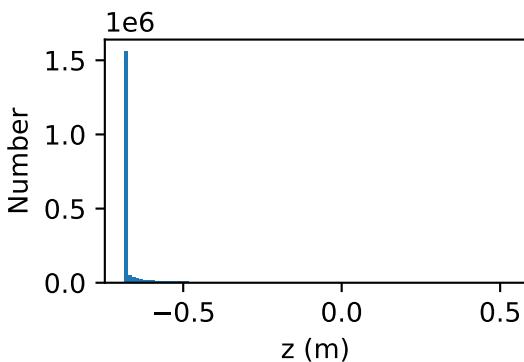
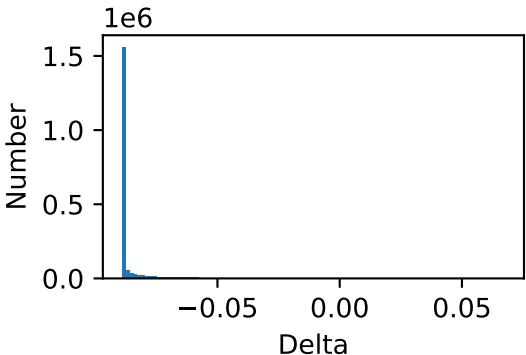
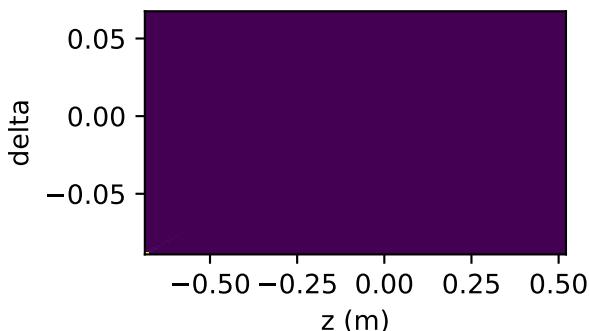


# LhARA:1:Capture:Drift:2

delta

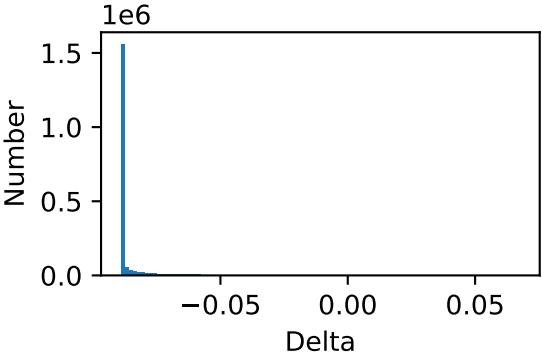
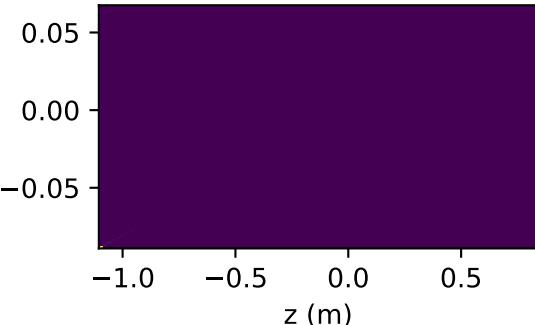


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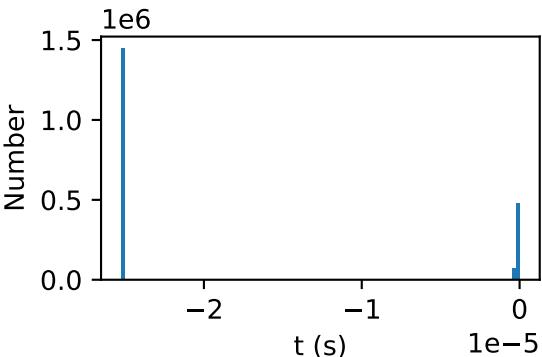
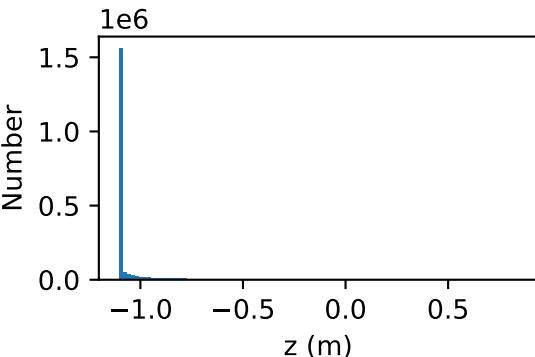


# LhARA:1:Capture:Solenoid:2

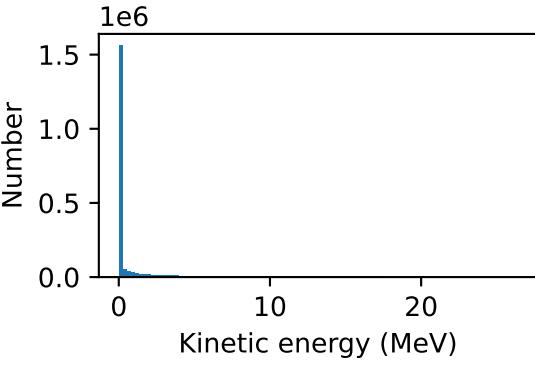
delta



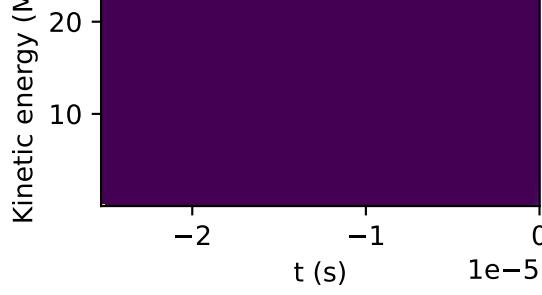
Number



Number

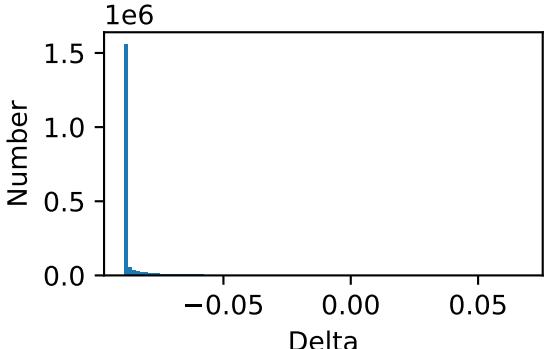
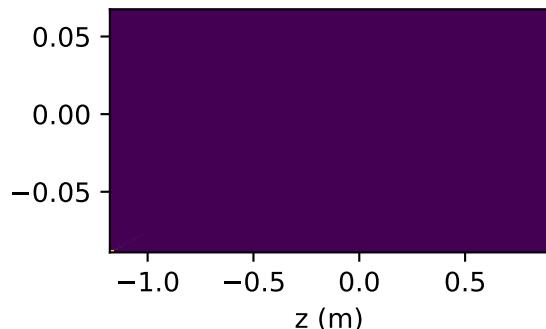


Kinetic energy (MeV)

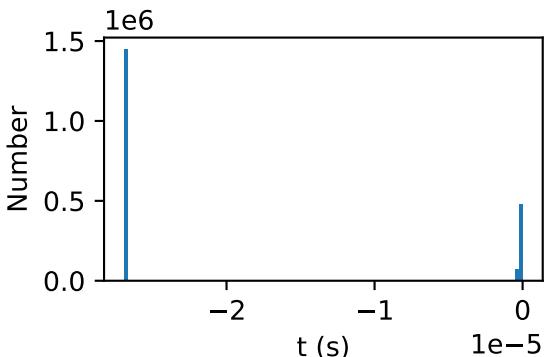
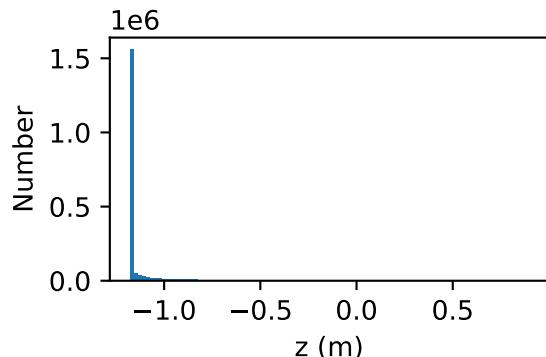


# LhARA:1:Capture:Drift:4

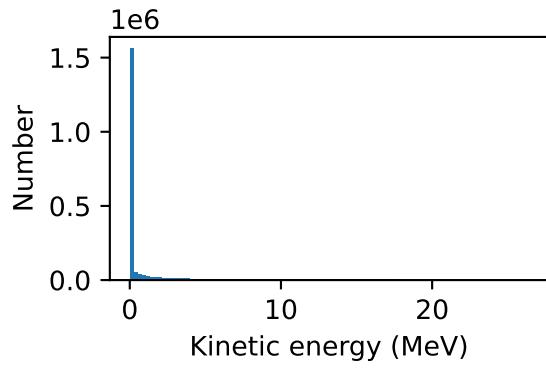
delta



Number

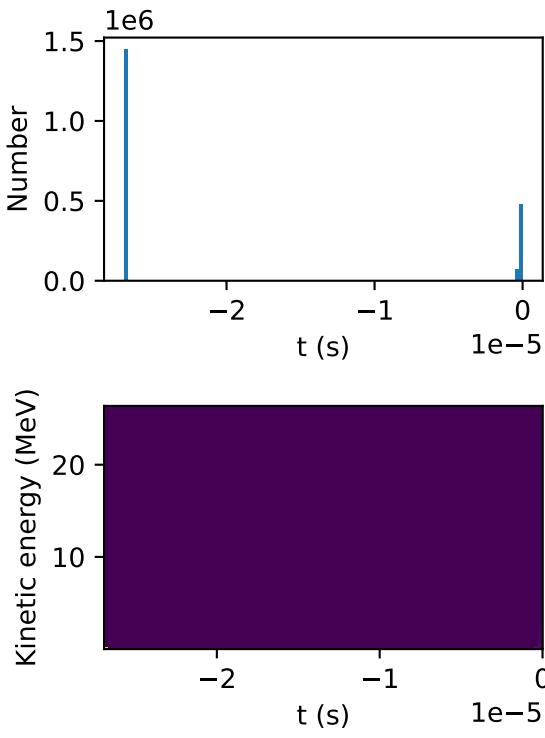


Number



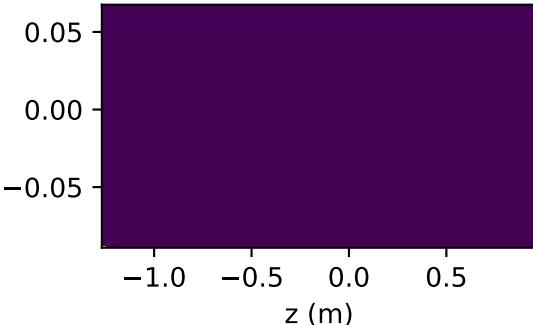
Kinetic energy (MeV)

Number



# LhARA:1:Energy selection:Drift:1

delta



$z$  (m)

$1e6$

Number

$1e6$

Number

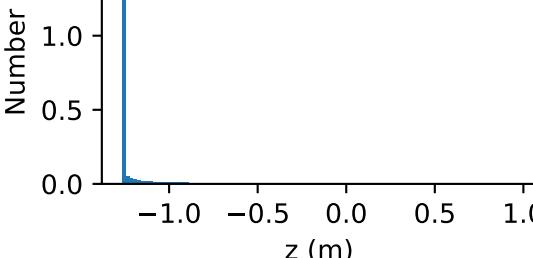
0.0

0.5

1.0

1.5

Delta



$z$  (m)

$1e6$

Number

0.0

0.5

1.0

1.5

Delta

Number

0.0

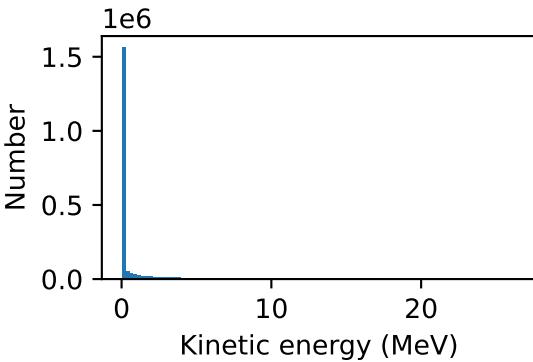
-1

-2

-3

$t$  (s)

$1e-5$



Kinetic energy (MeV)

Number

$1e6$

1.5

1.0

0.5

0.0

0.0

20

10

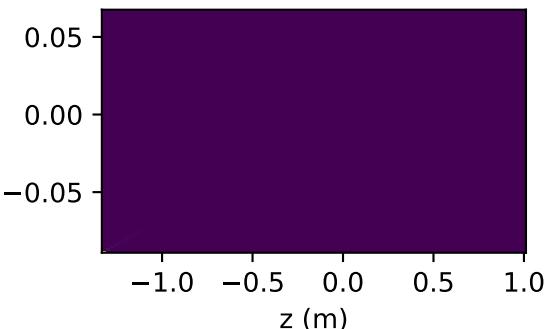
0

$t$  (s)

$1e-5$

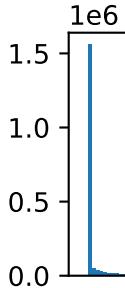
# LhARA:1:Energy selection:Cavity:1

delta



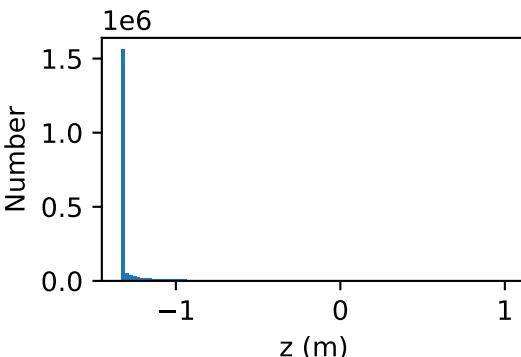
$1e6$

Number



Delta

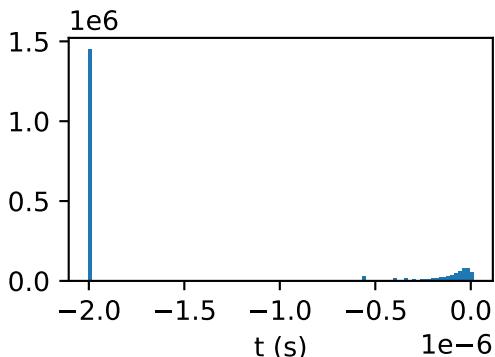
Number



$z$  (m)

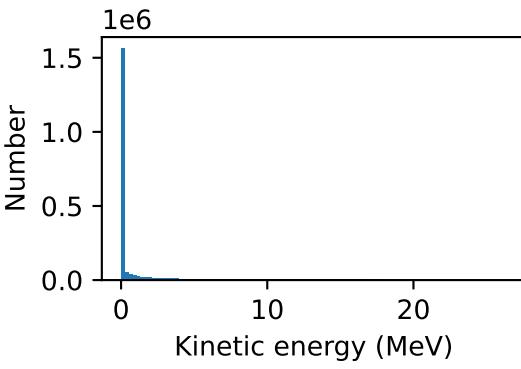
$1e6$

Number



$t$  (s)

Number

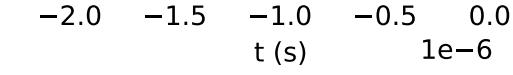


Kinetic energy (MeV)

Kinetic energy (MeV)

20  
10

0.0

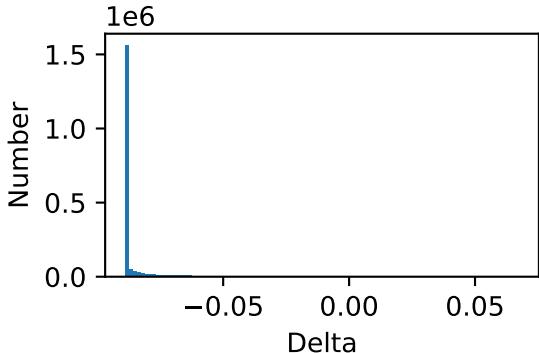
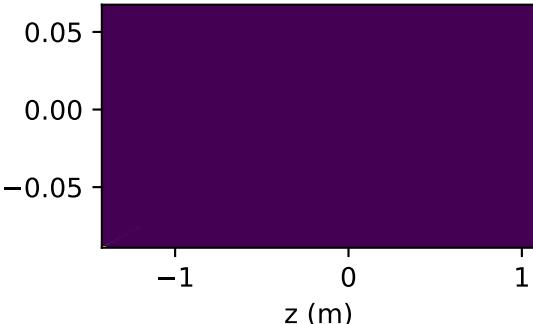


$t$  (s)

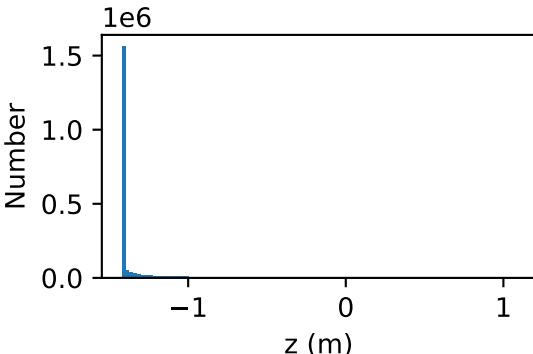
$1e-6$

# LhARA:1:Energy selection:Drift:2

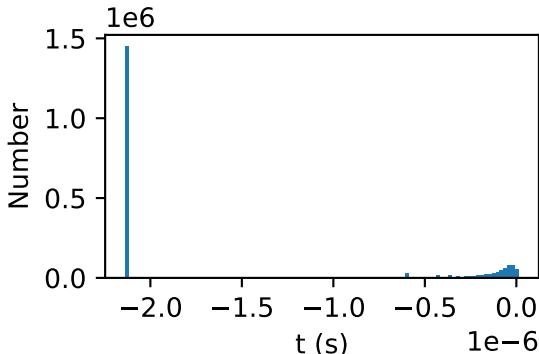
delta



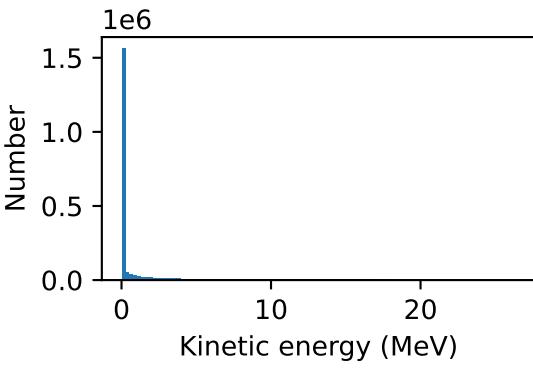
Number



Number



Number



Kinetic energy (MeV)

1e6

1.5

1.0

0.5

0.0

1e6

1.5

1.0

0.5

0.0

20

10

0.0

-2.0

-1.5

-1.0

-0.5

0.0

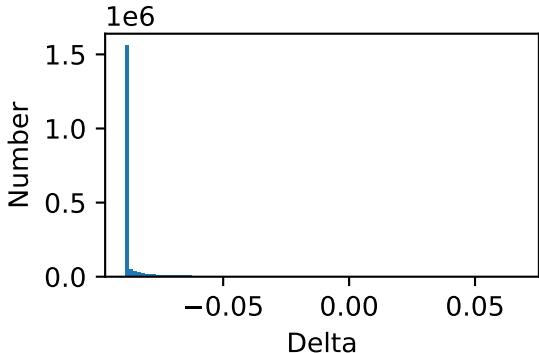
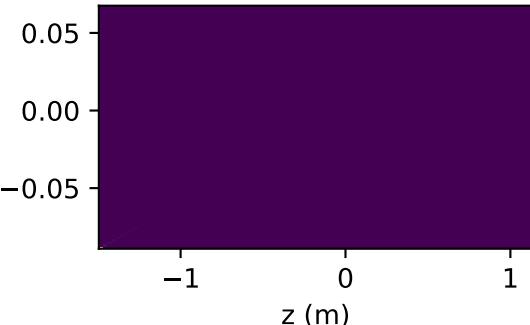
1e-6

t (s)

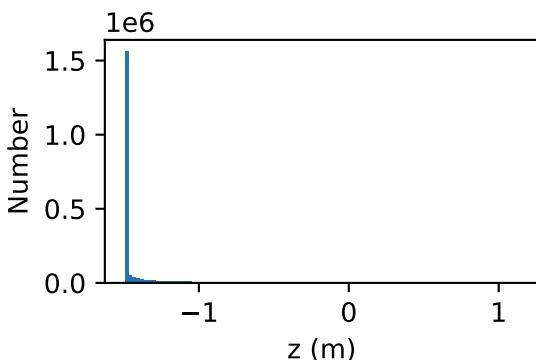
1e-6

# LhARA:1:Energy selection:Drift:3

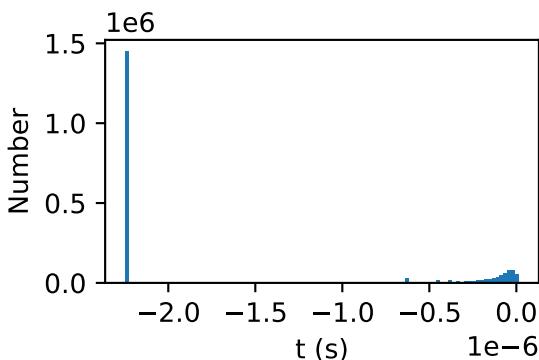
delta



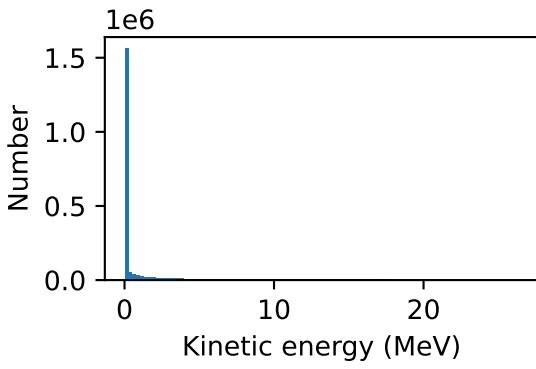
Number



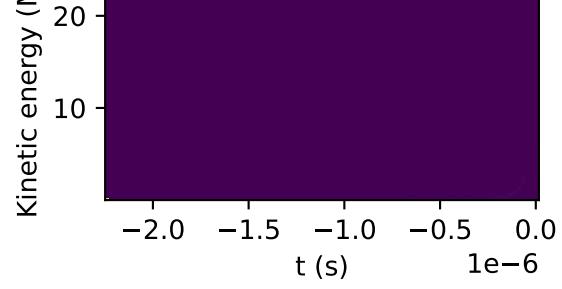
Number



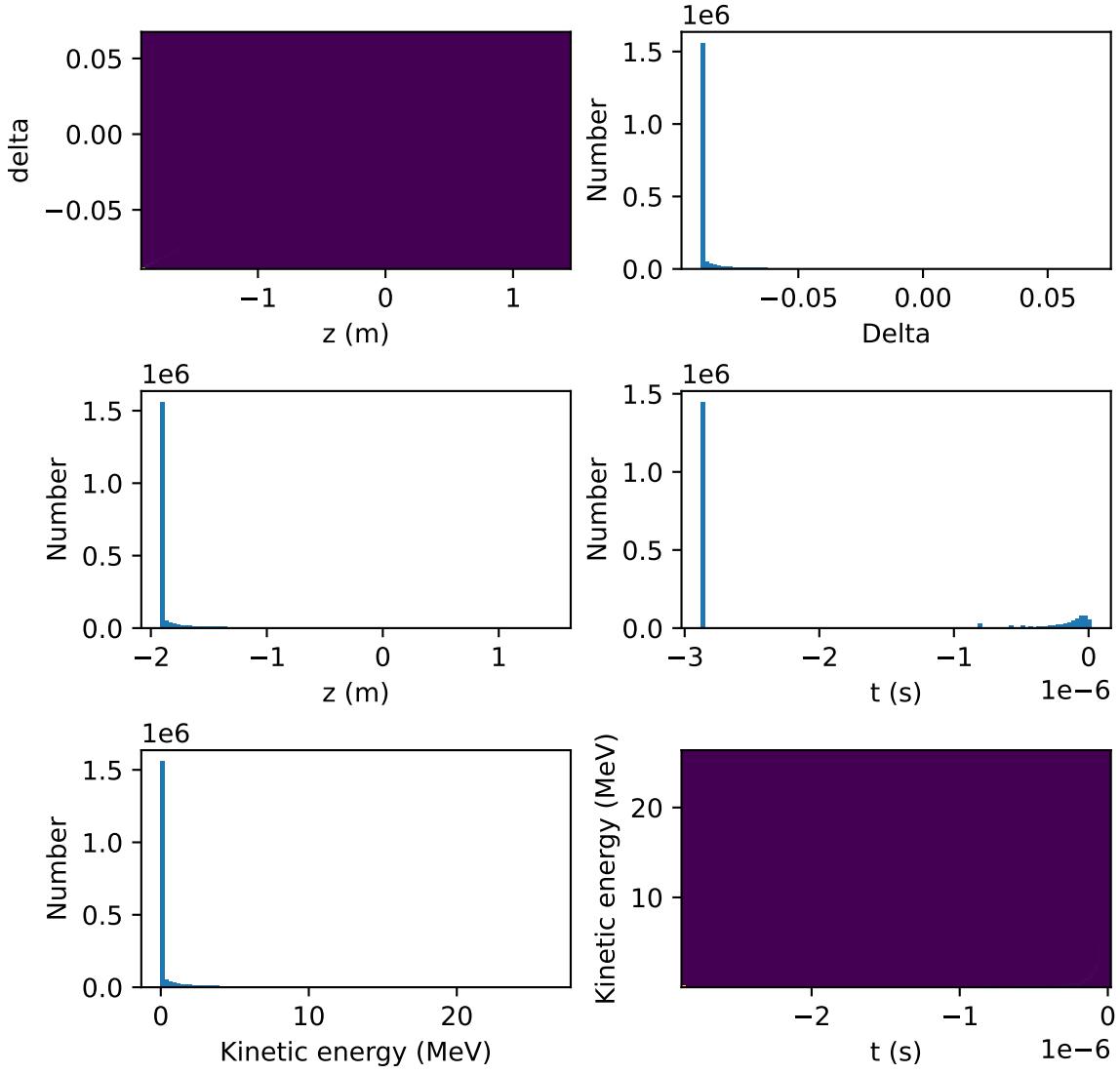
Number



Kinetic energy (MeV)

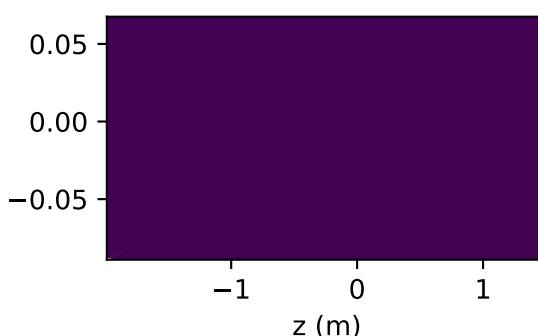


# LhARA:1:Energy selection:Solenoid:1



# LhARA:1:Energy selection:Drift:4

delta



Number

$1e6$

1.5

1.0

0.5

0.0

0.0

-0.05

0.00

0.05

Delta

-1

0

1

$z$  (m)

Number

$1e6$

1.5

1.0

0.5

0.0

0.0

-1

-2

-3

$t$  (s)

$1e-6$

-2

-1

0

$z$  (m)

Number

$1e6$

1.5

1.0

0.5

0.0

0.0

-1

-2

-3

$t$  (s)

$1e-6$

0

Kinetic energy (MeV)

Kinetic energy (MeV)

20

10

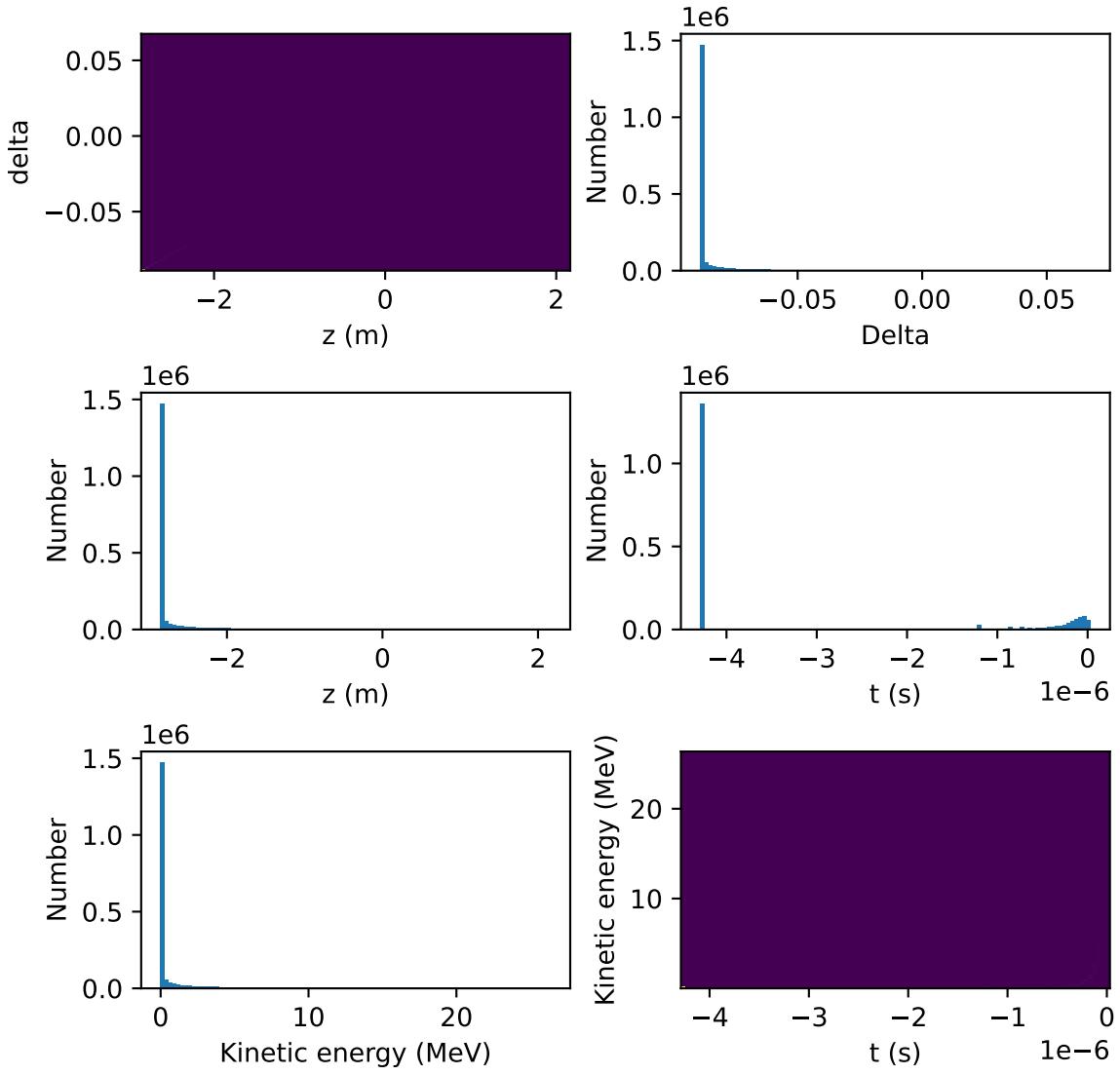
0

0

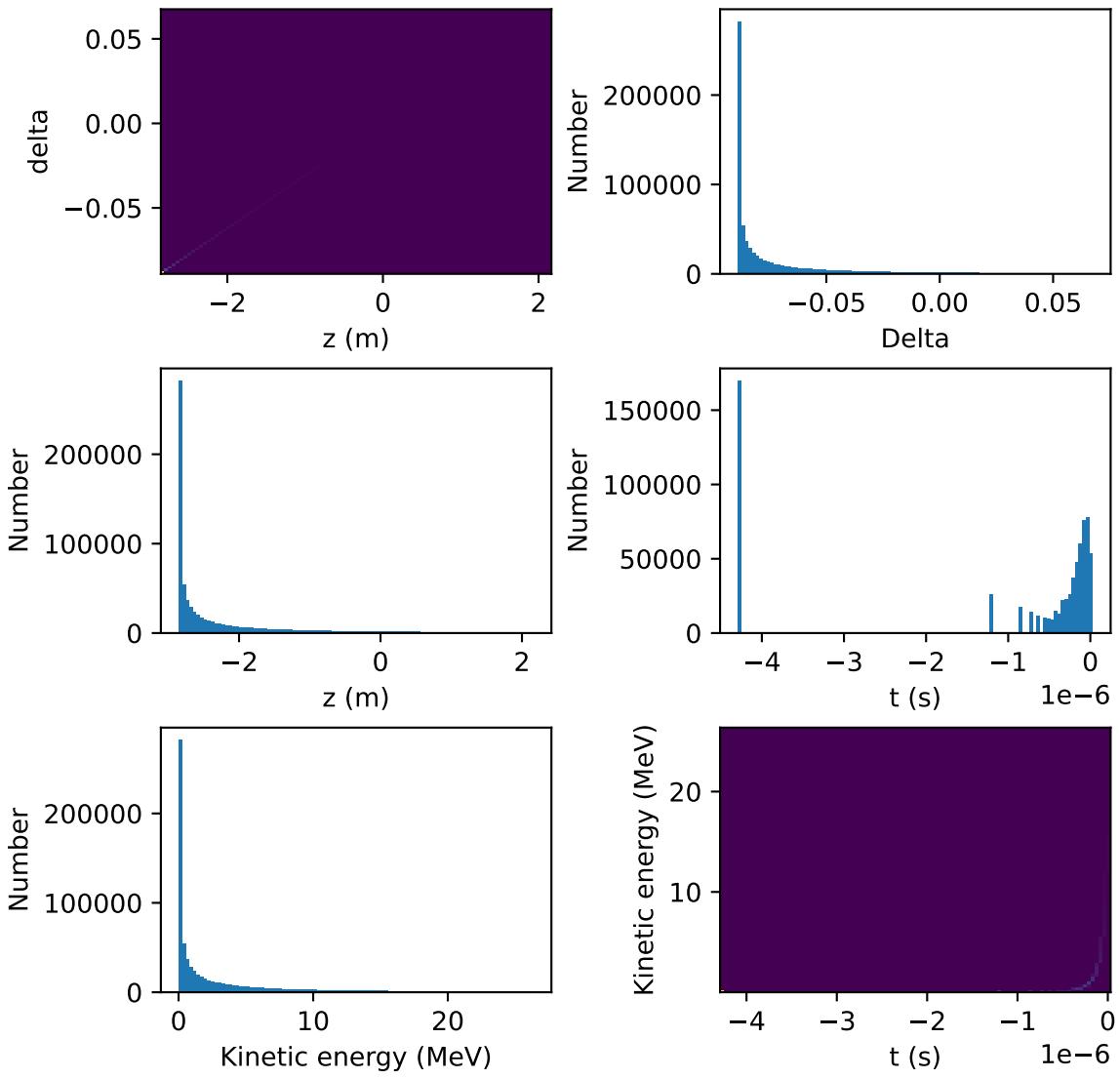
$t$  (s)

$1e-6$

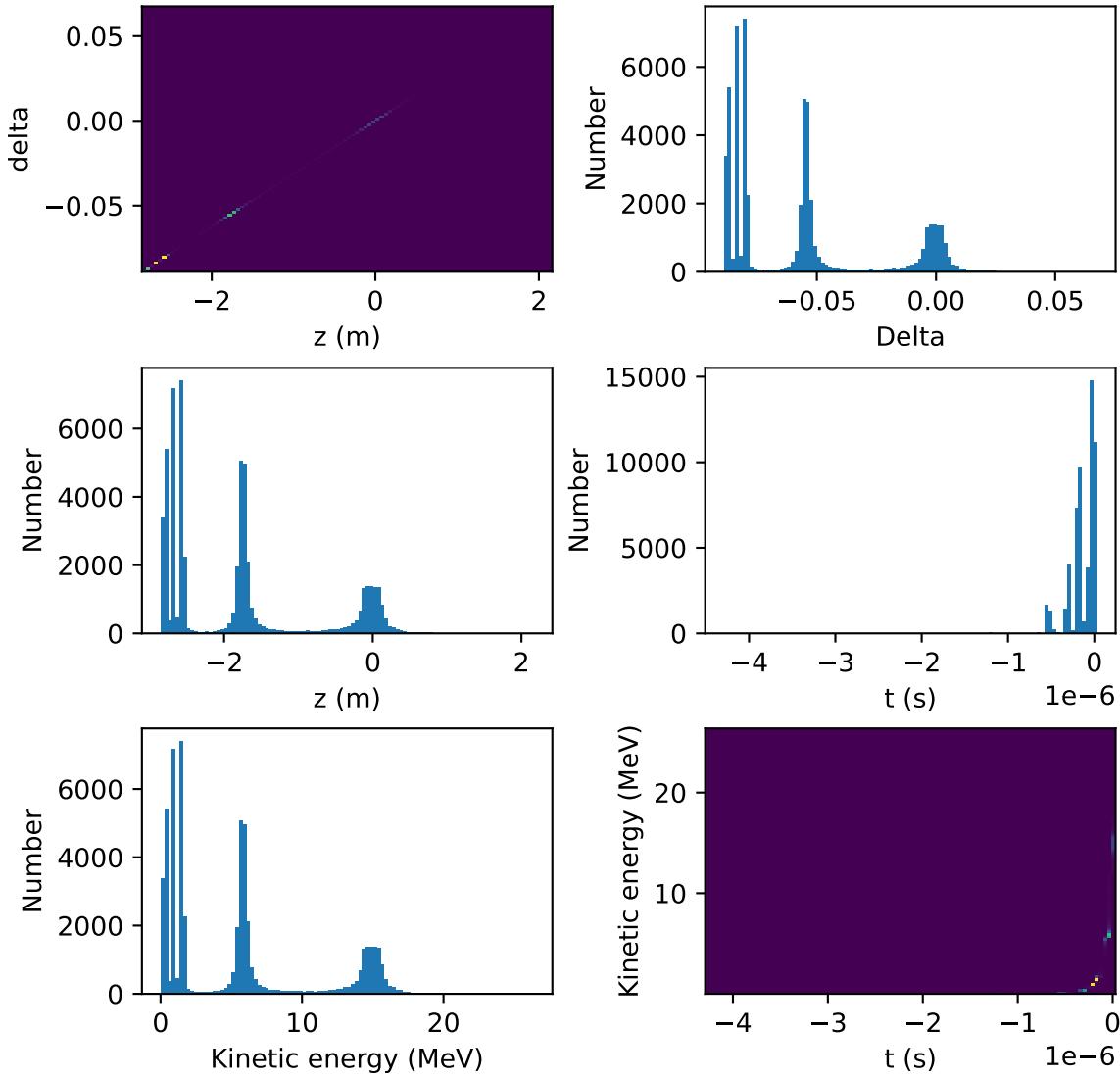
# LhARA:1:Energy selection:Drift:5



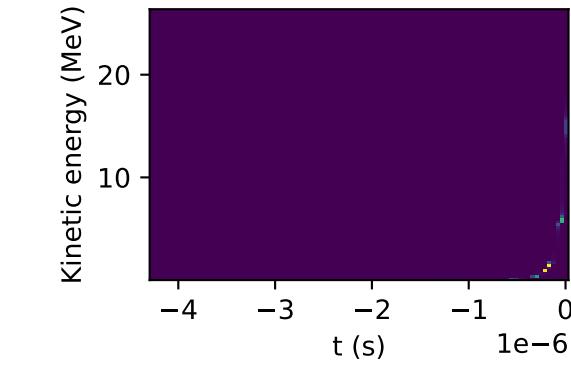
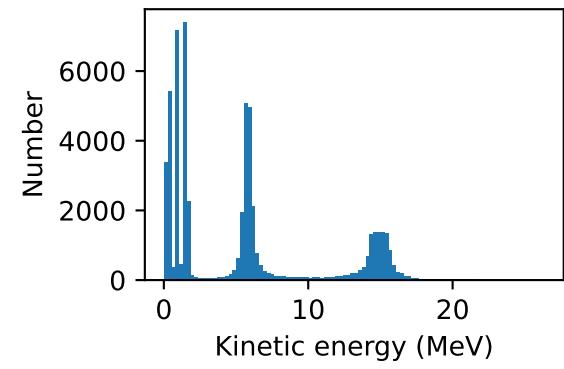
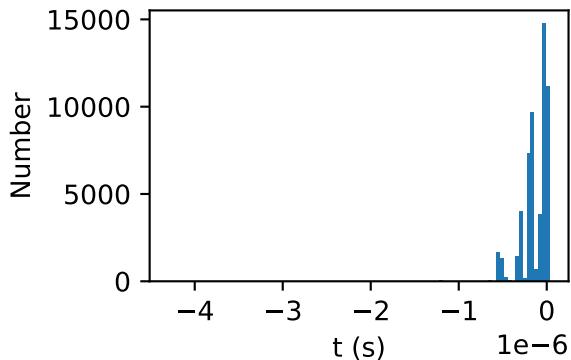
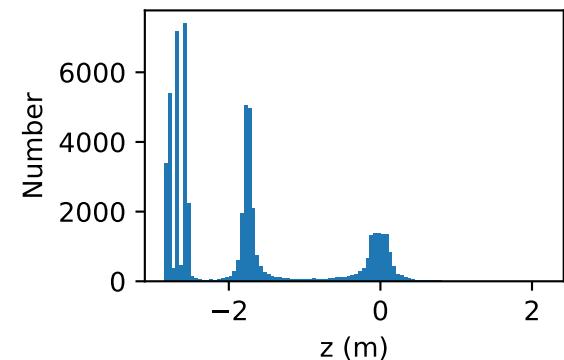
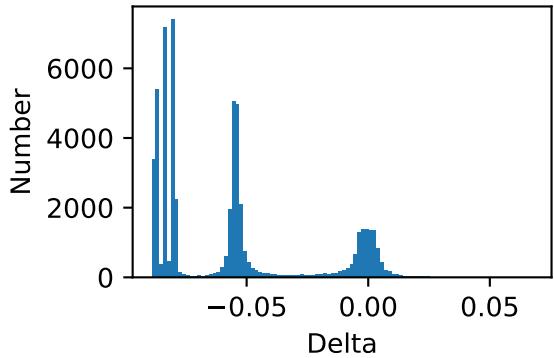
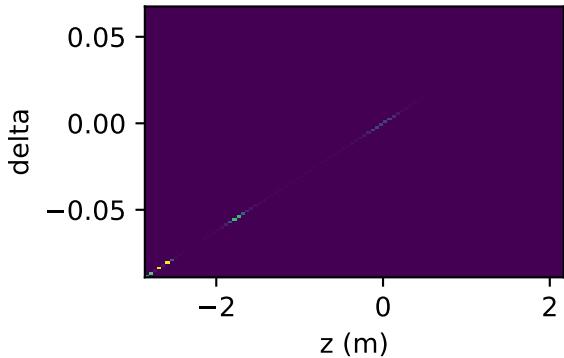
# LhARA:1:Energy selection:Drift:6



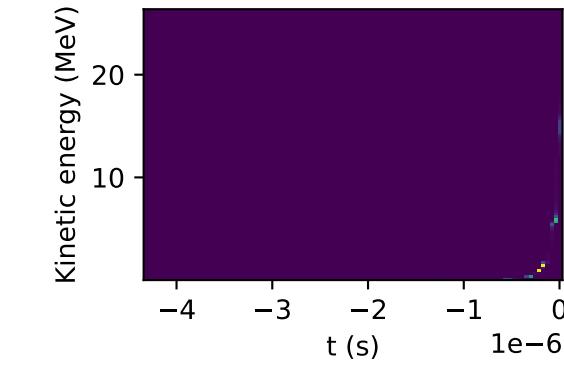
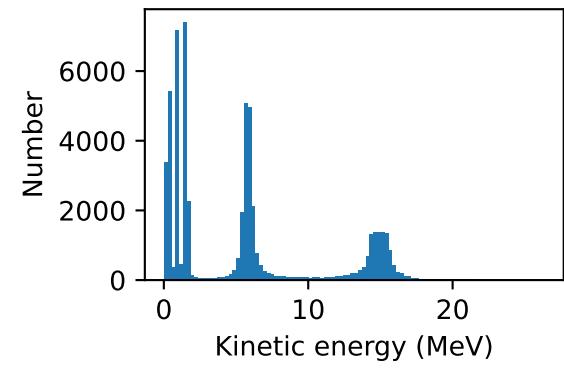
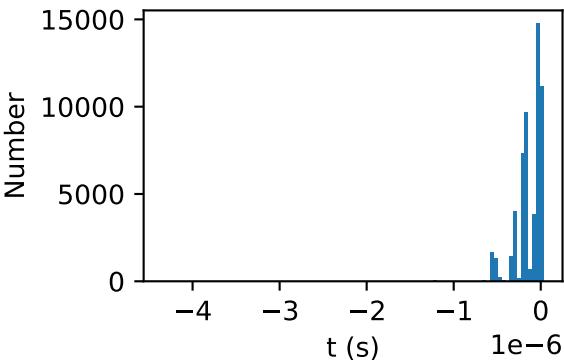
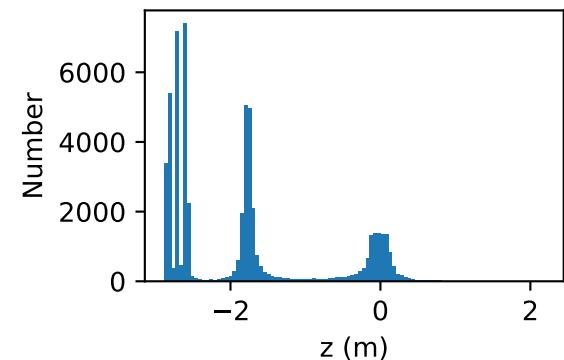
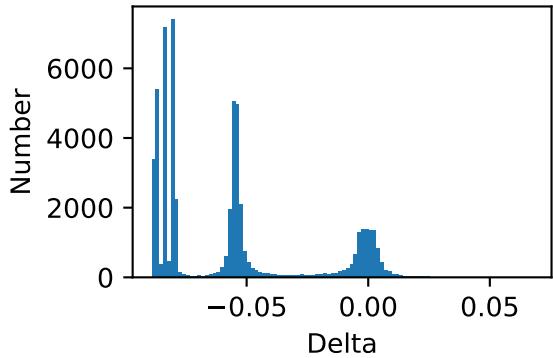
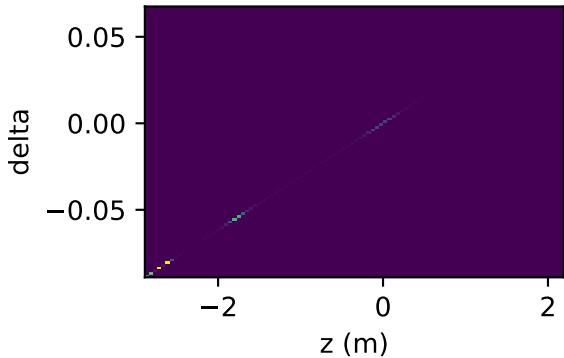
# LhARA:1:Energy selection:Aperture:Circular:1



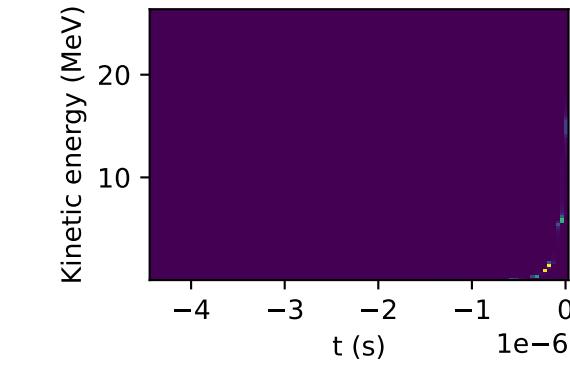
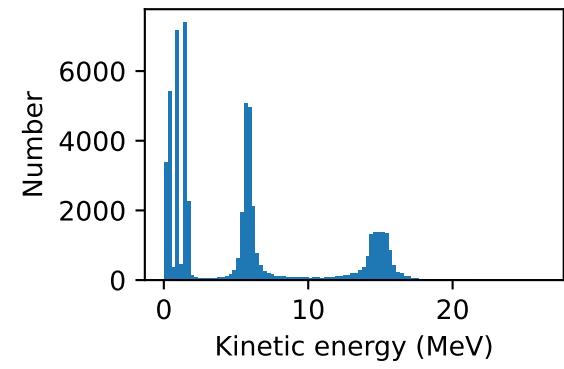
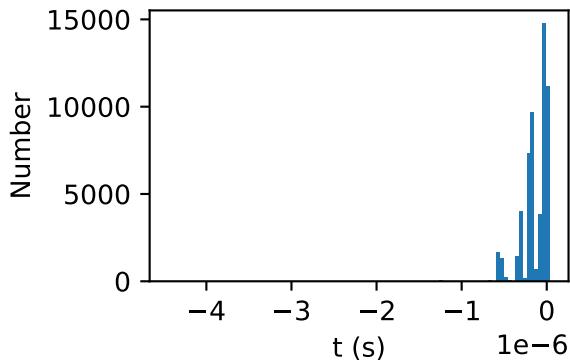
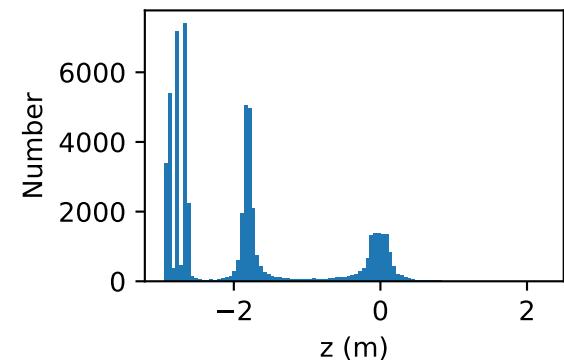
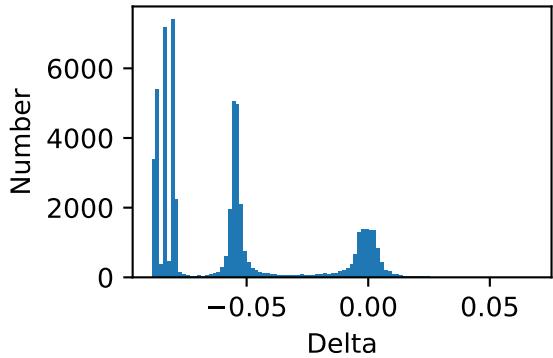
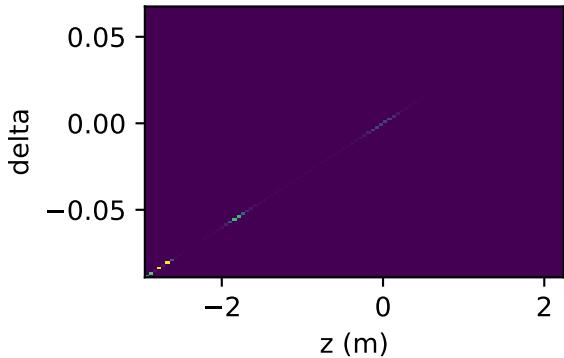
# LhARA:1:Energy selection:Drift:7



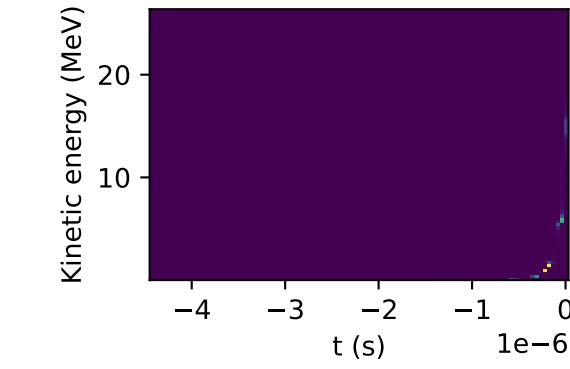
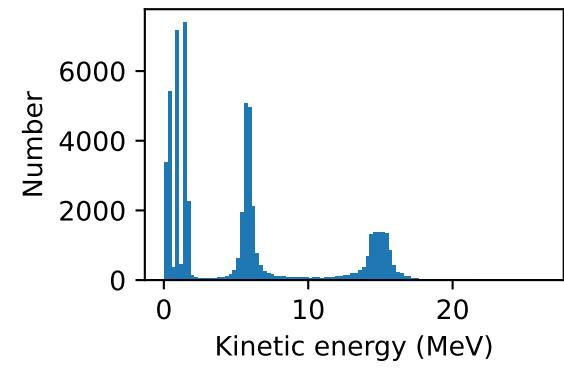
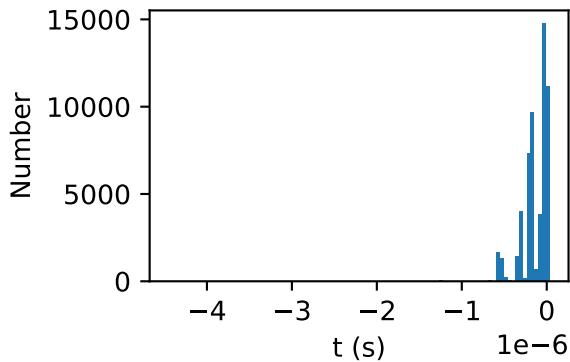
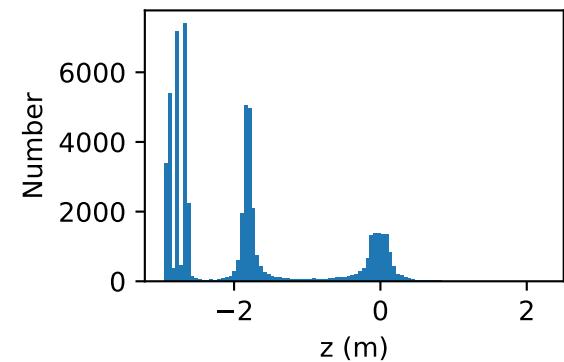
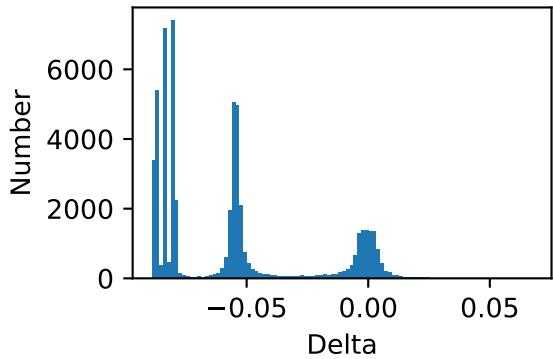
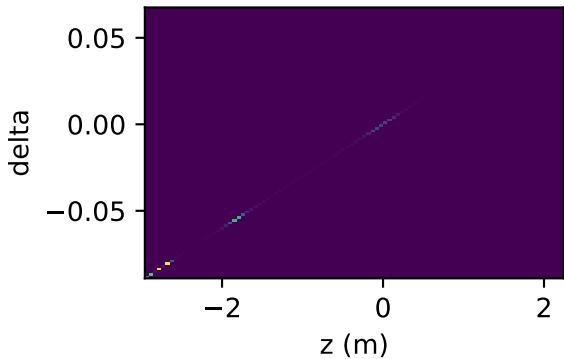
# LhARA:1:Energy selection:Drift:8



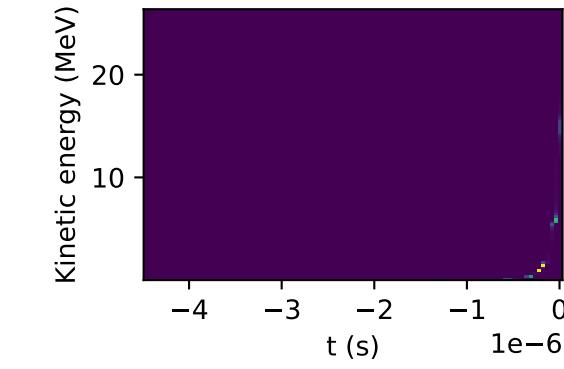
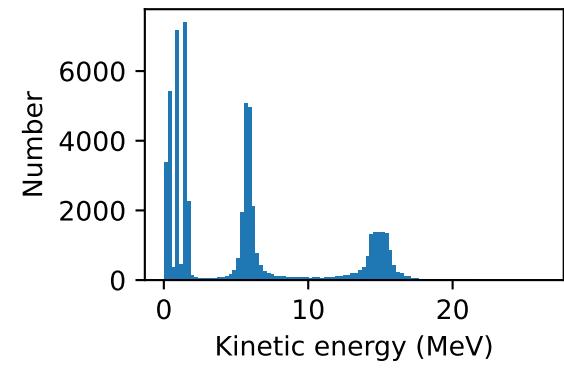
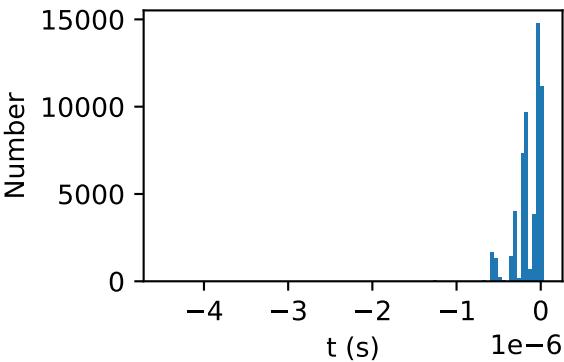
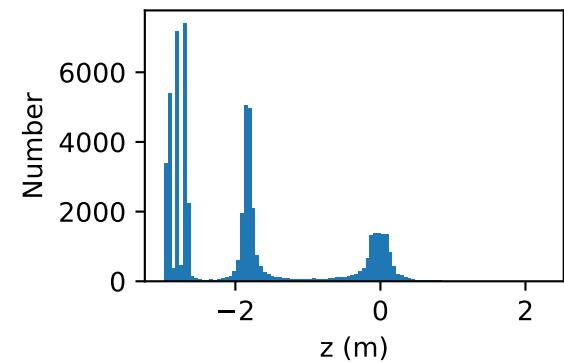
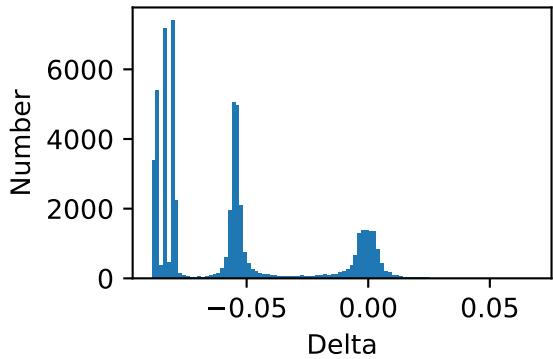
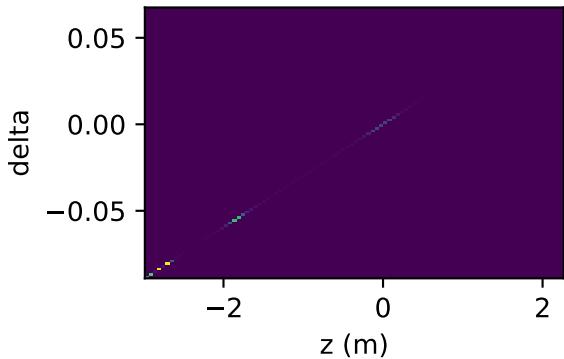
# LhARA:1:Energy selection:Drift:9



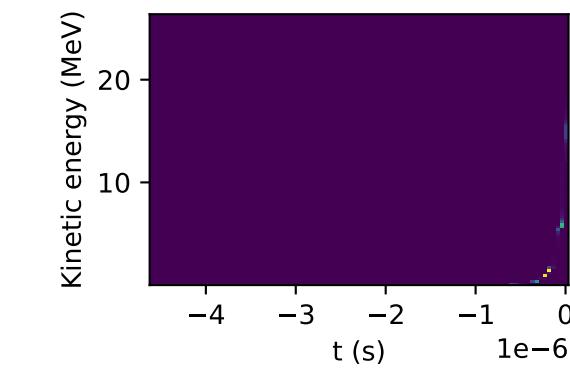
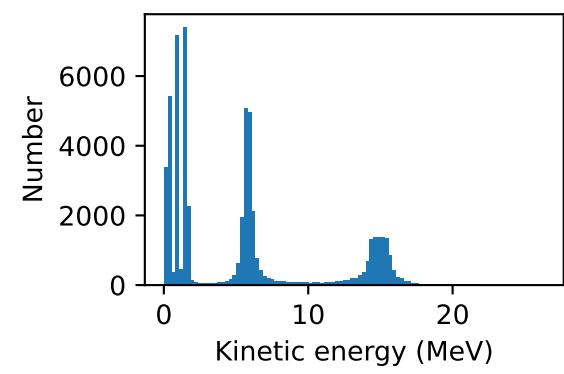
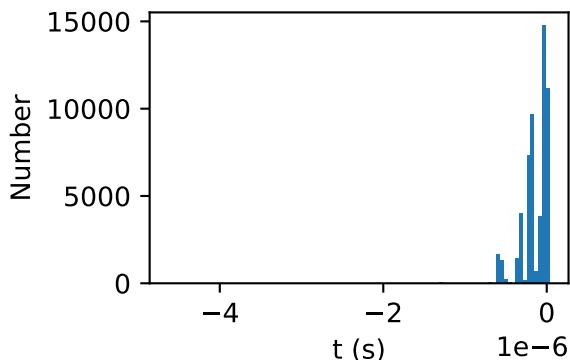
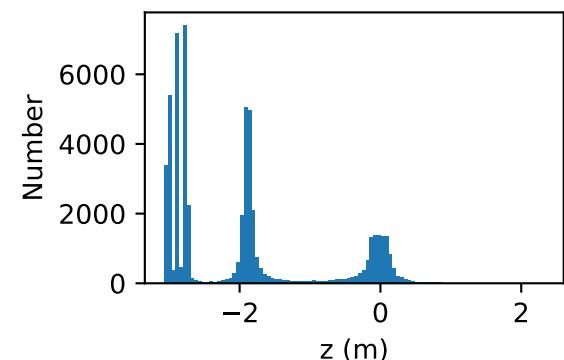
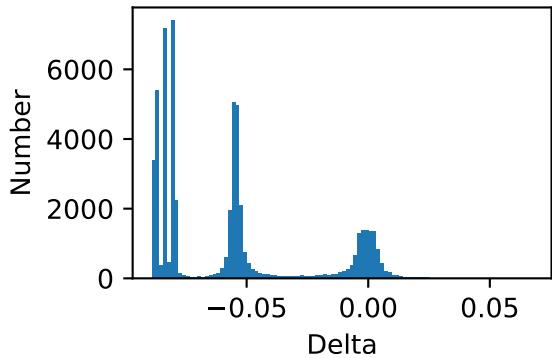
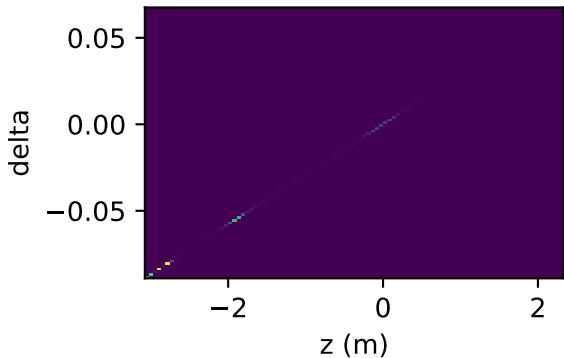
# LhARA:1:Energy selection:Drift:10



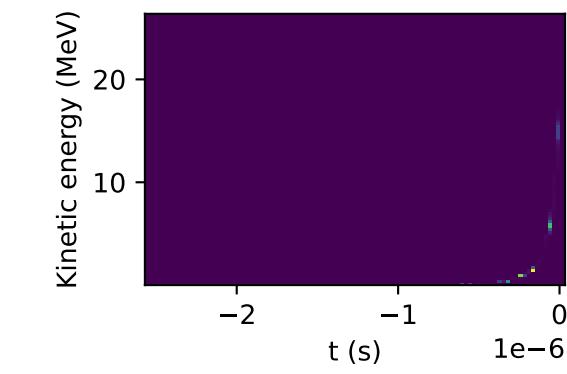
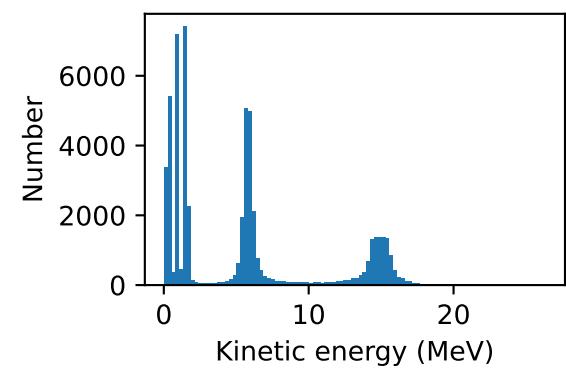
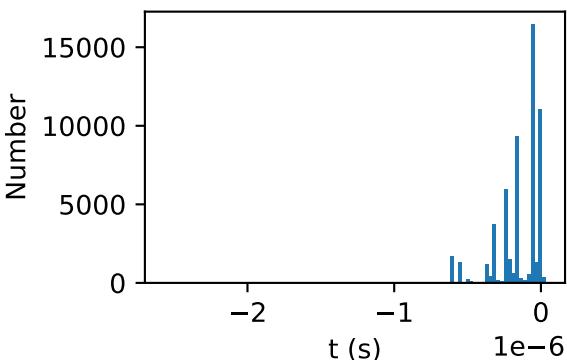
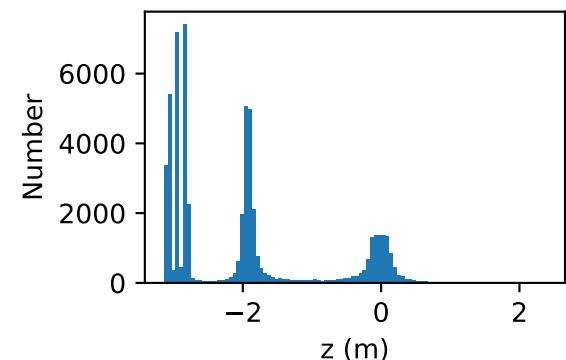
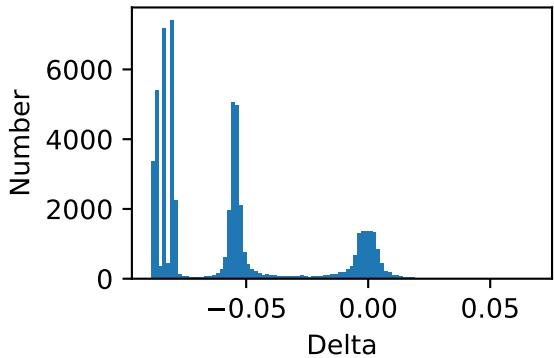
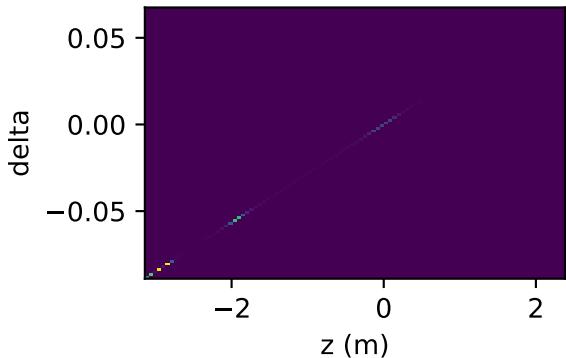
# LhARA:1:Energy selection:Drift:11



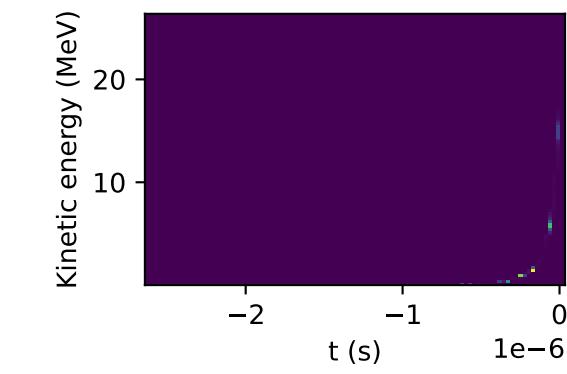
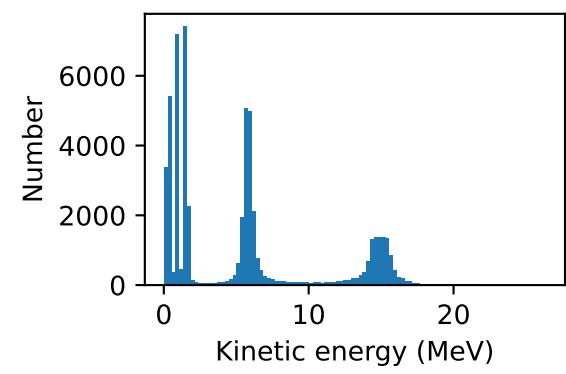
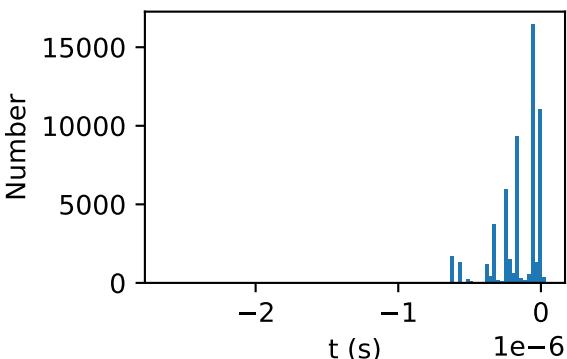
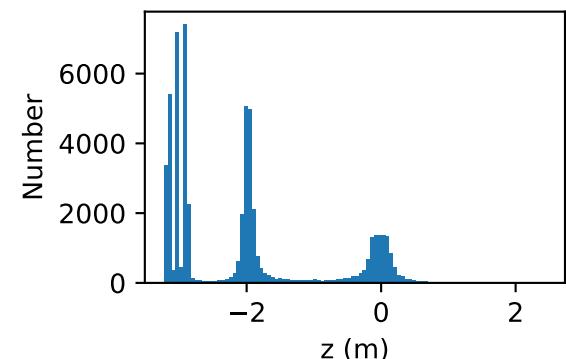
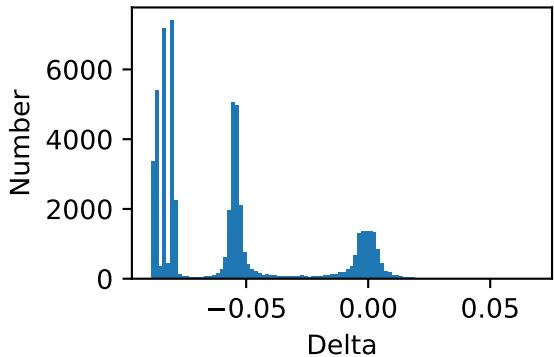
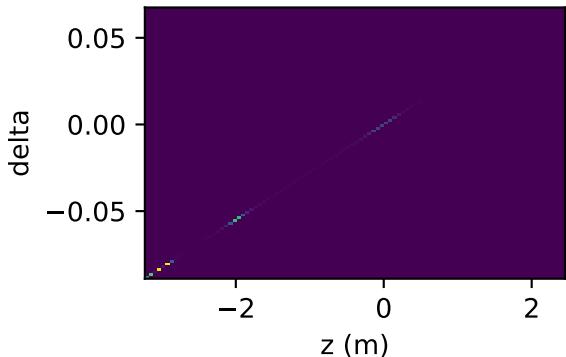
# LhARA:1:Energy selection:Drift:12



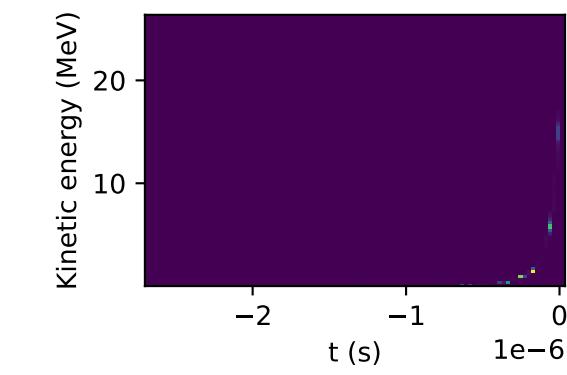
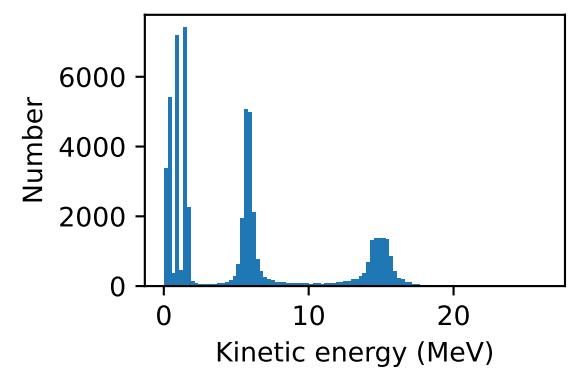
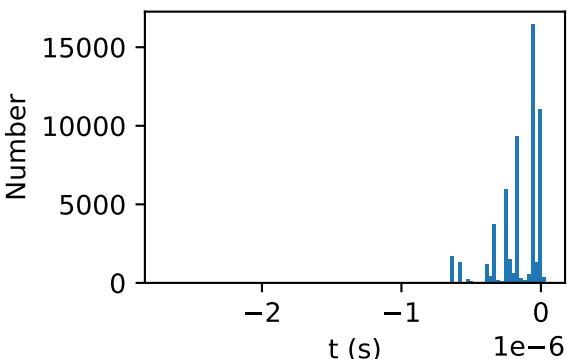
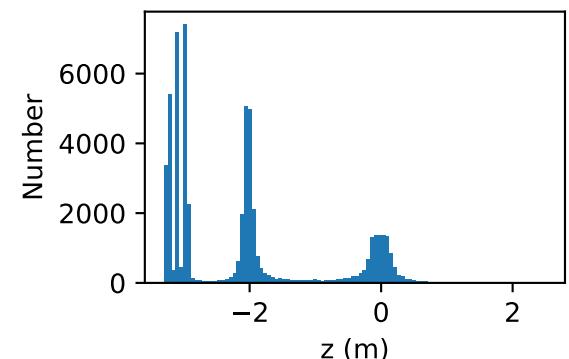
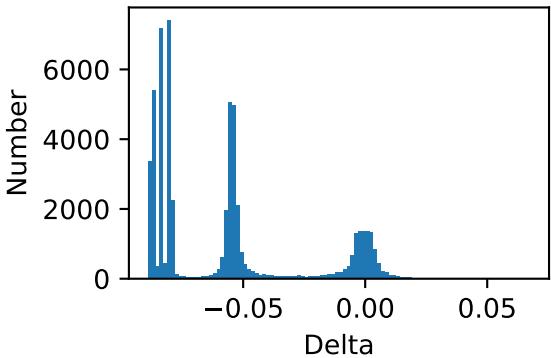
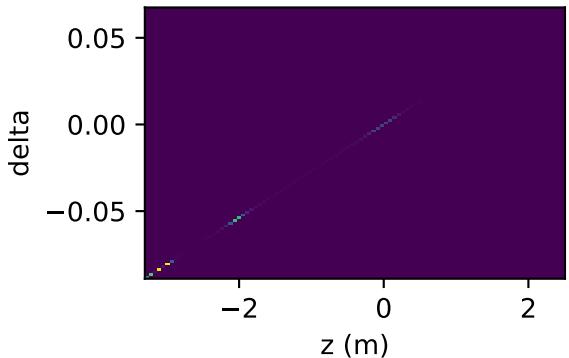
# LhARA:1:Energy selection:Cavity:2



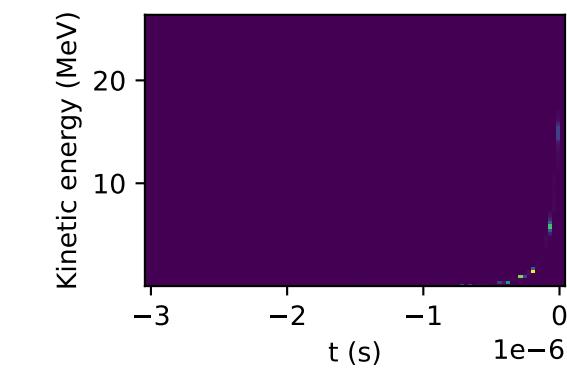
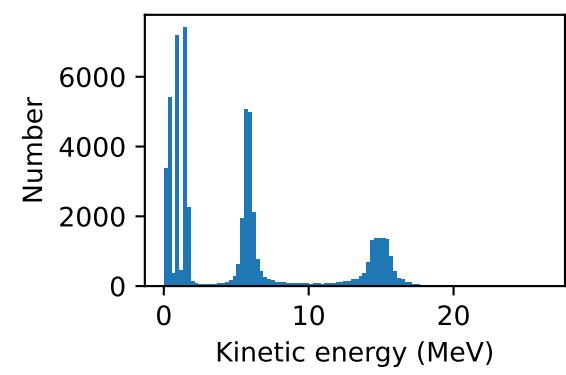
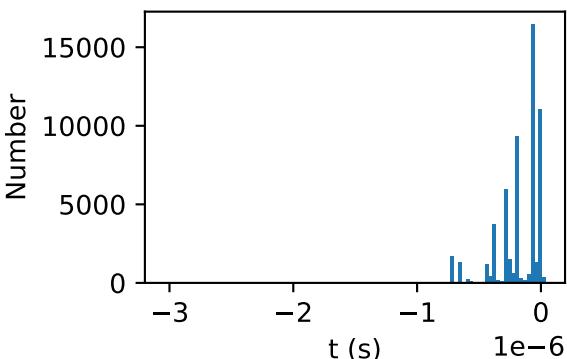
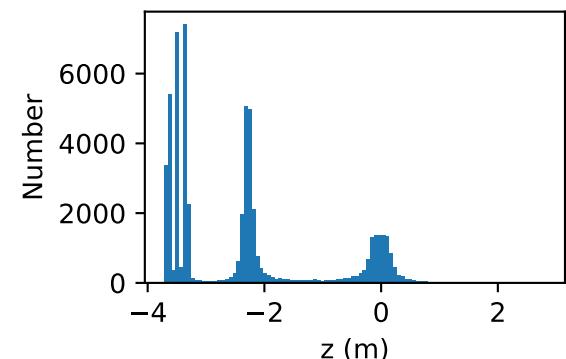
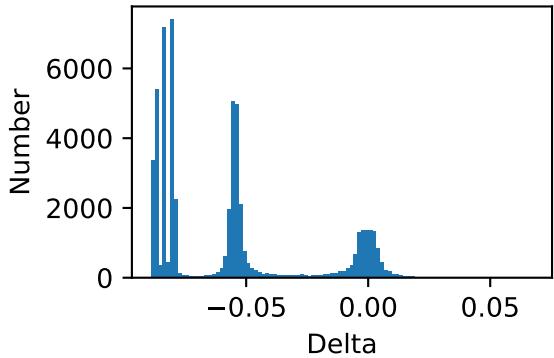
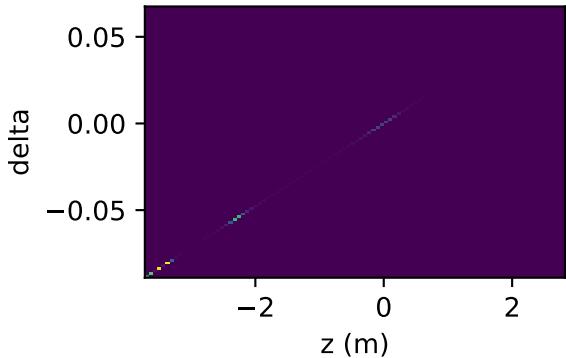
# LhARA:1:Energy selection:Drift:13



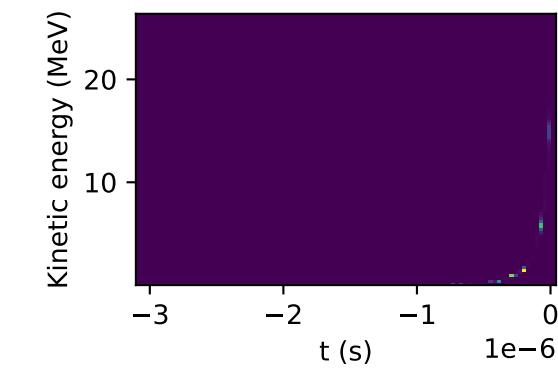
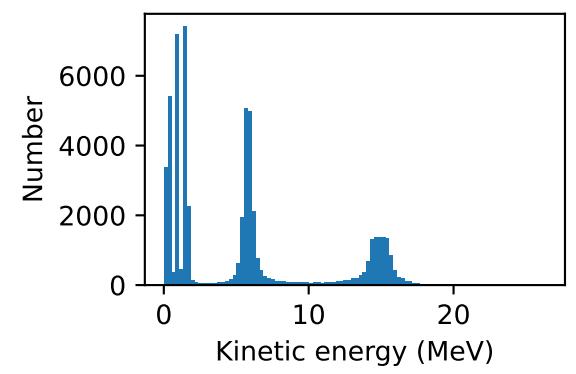
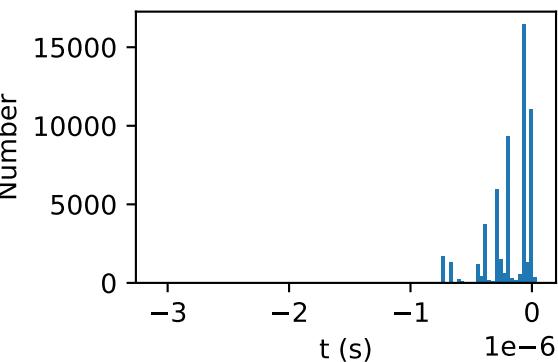
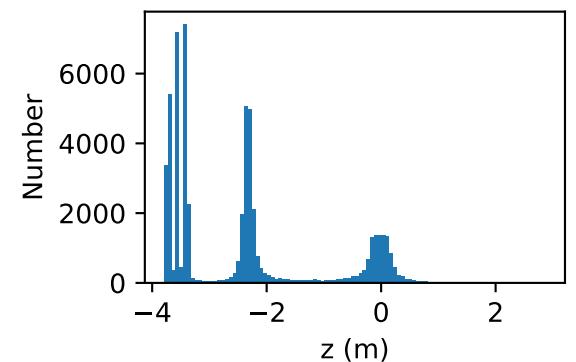
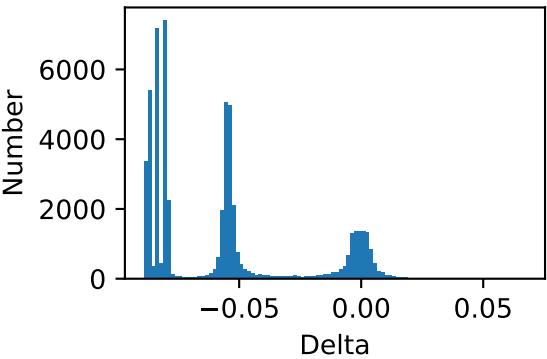
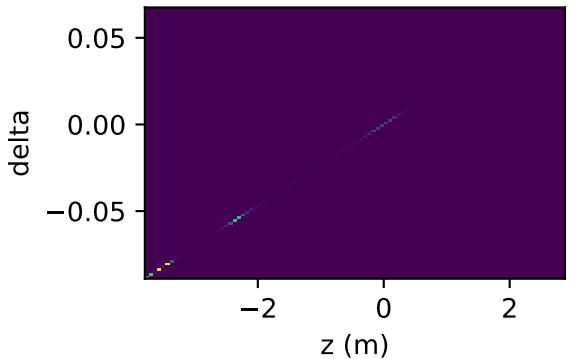
# LhARA:1:Matching:Drift:1



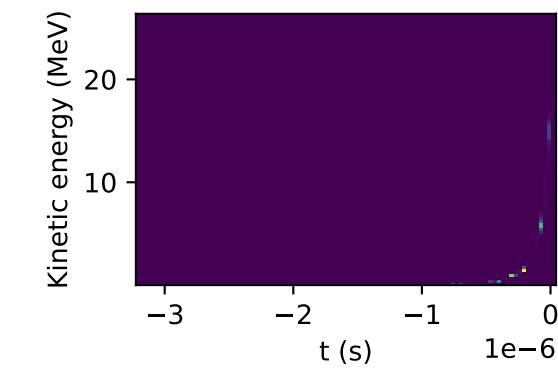
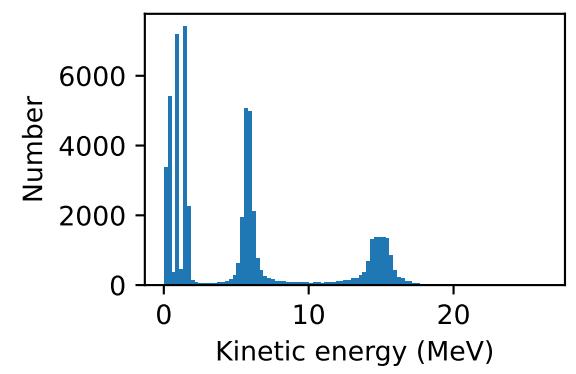
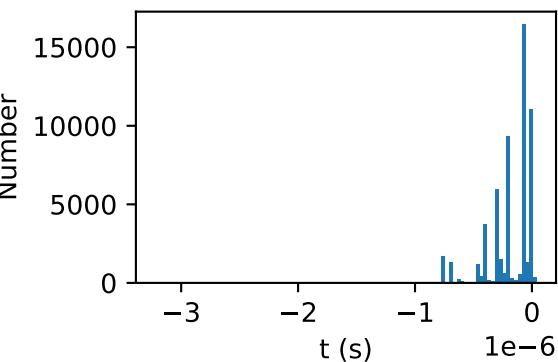
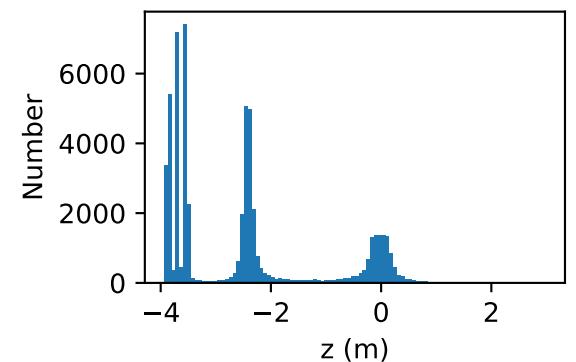
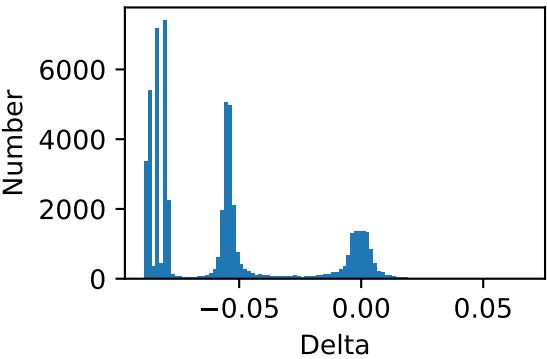
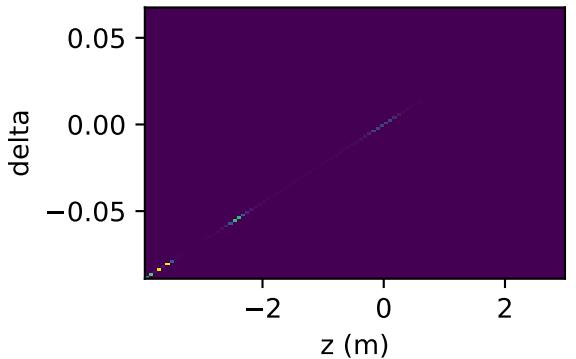
# LhARA:1:Matching:Solenoid:1



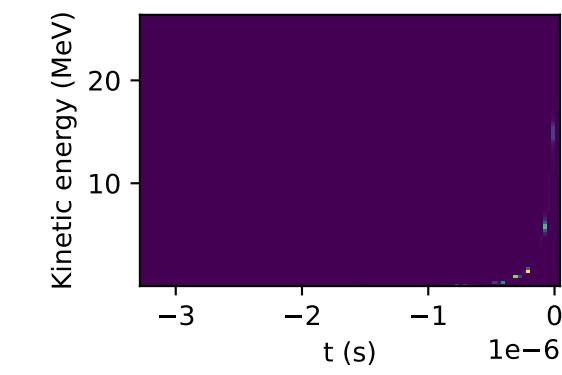
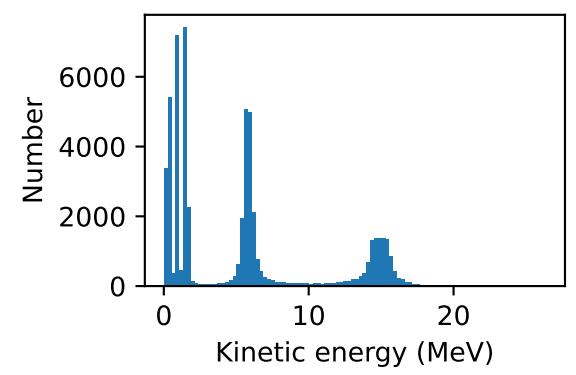
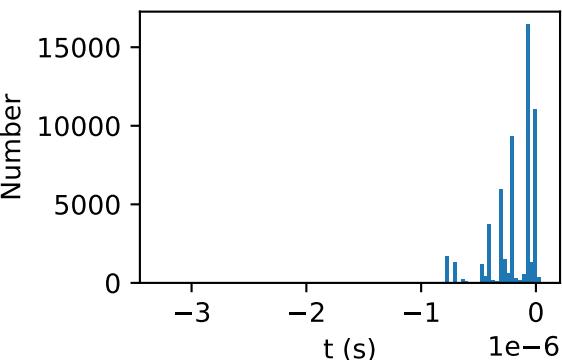
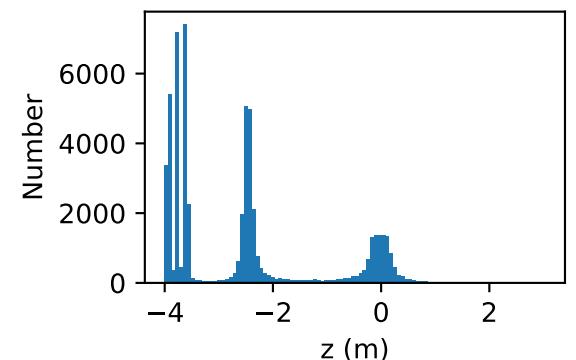
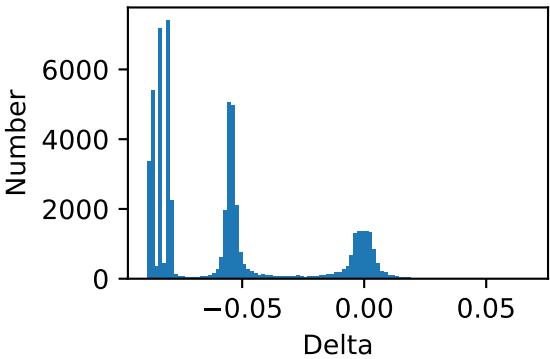
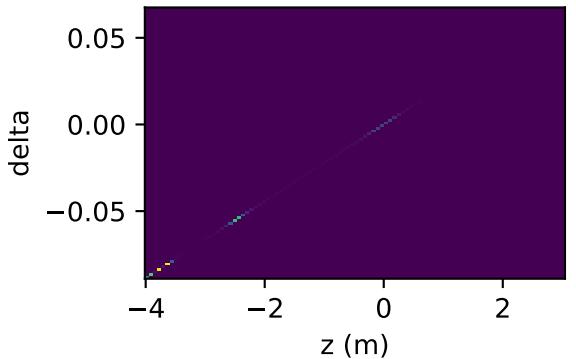
# LhARA:1:Matching:Drift:2



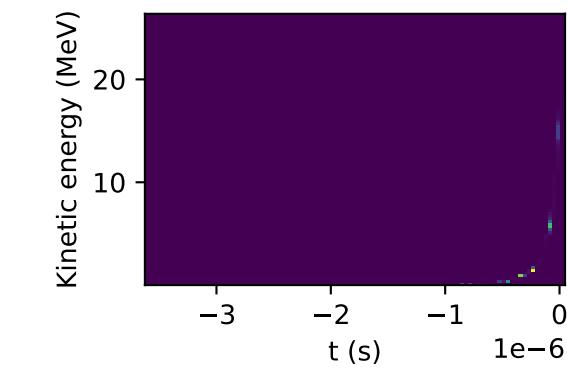
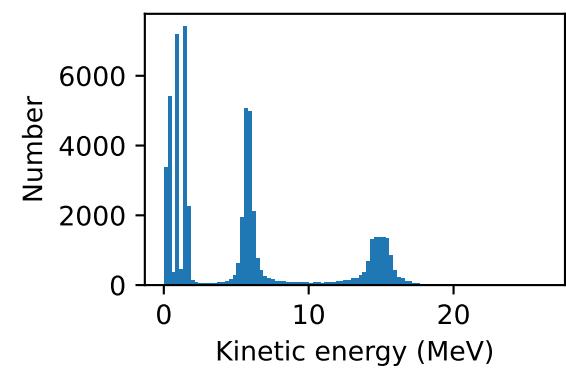
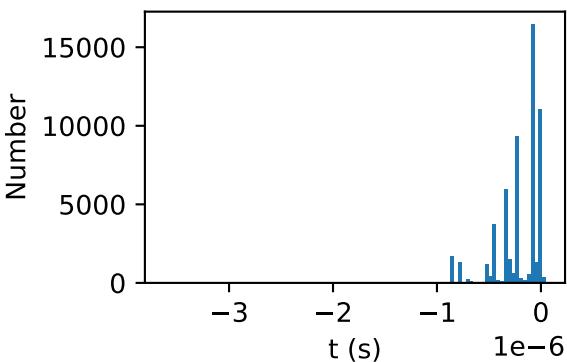
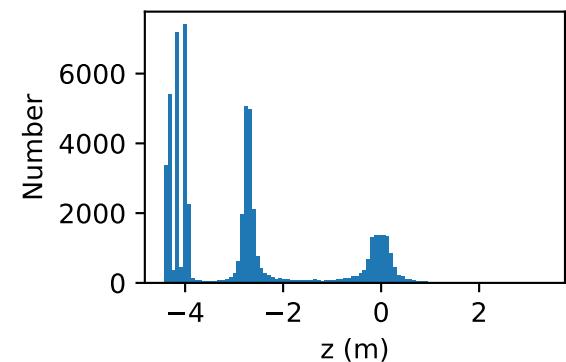
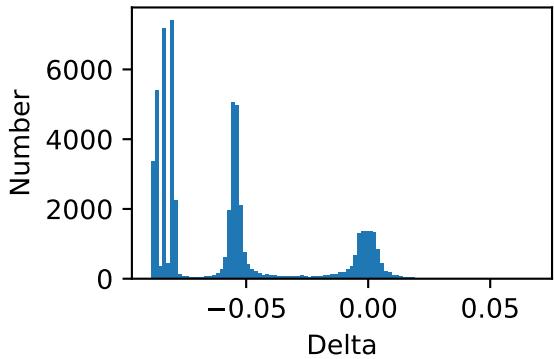
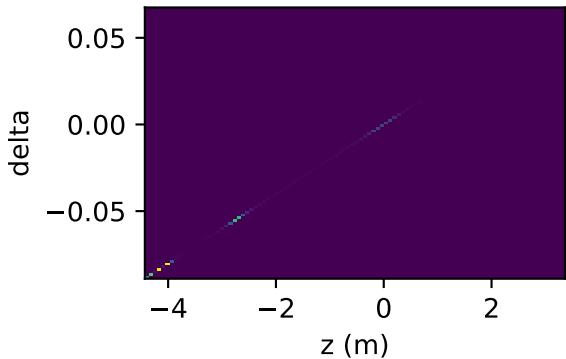
# LhARA:1:Matching:Drift:3



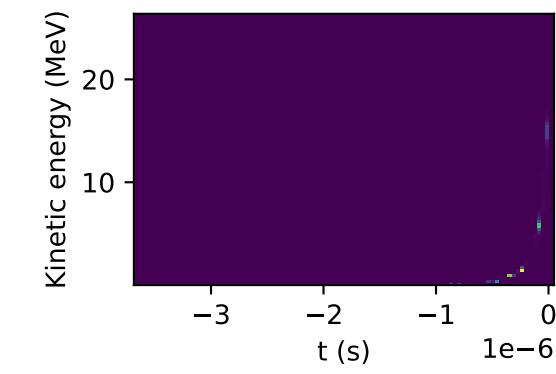
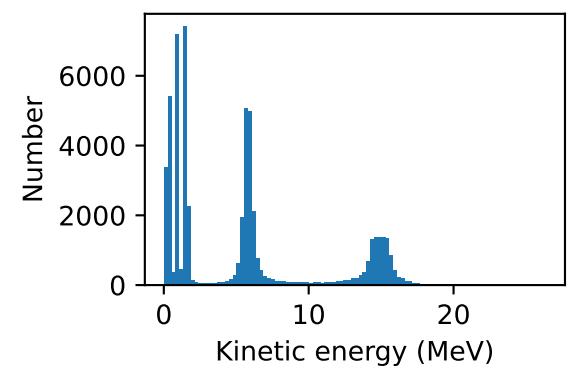
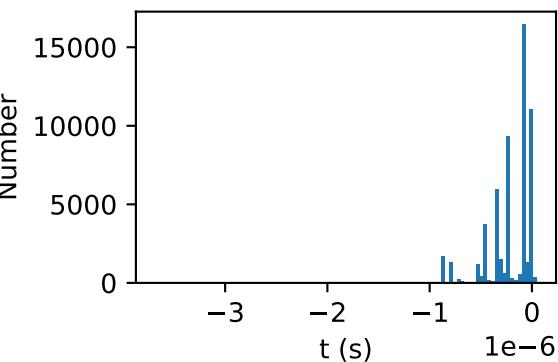
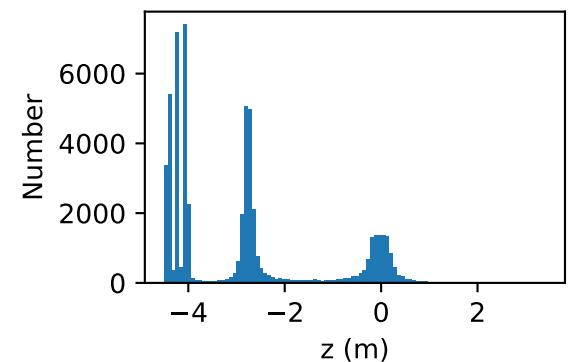
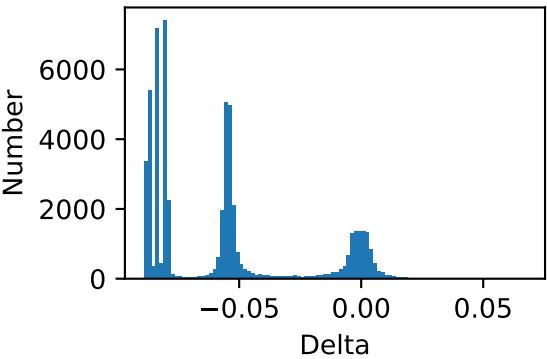
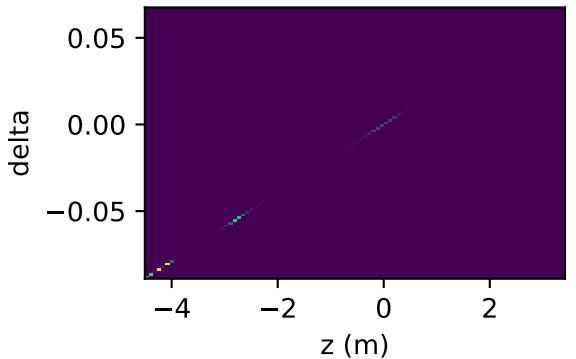
# LhARA:1:Matching:Drift:4



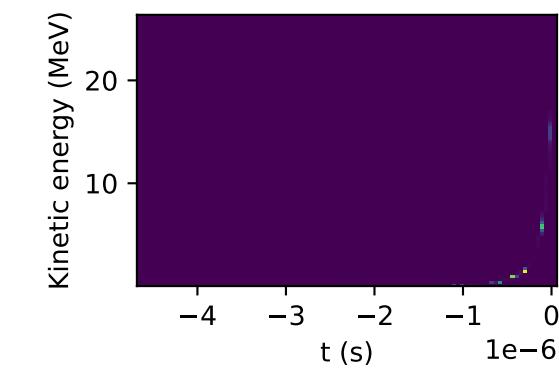
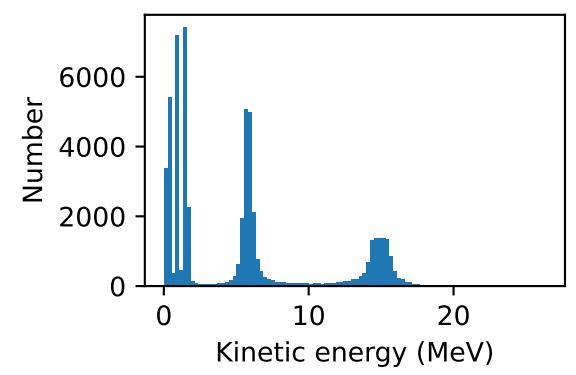
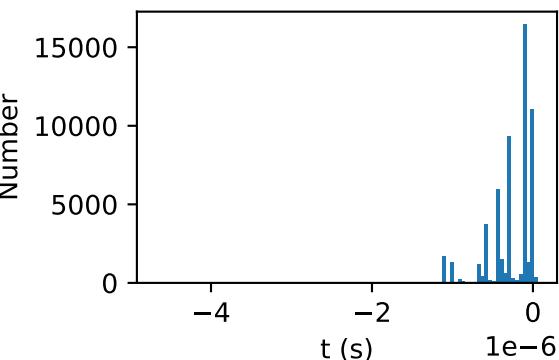
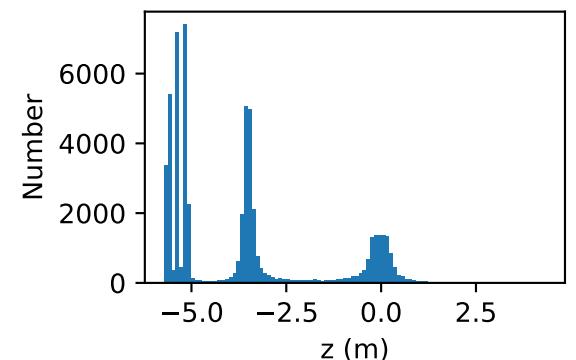
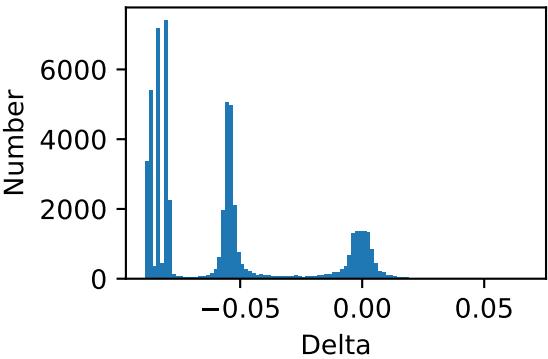
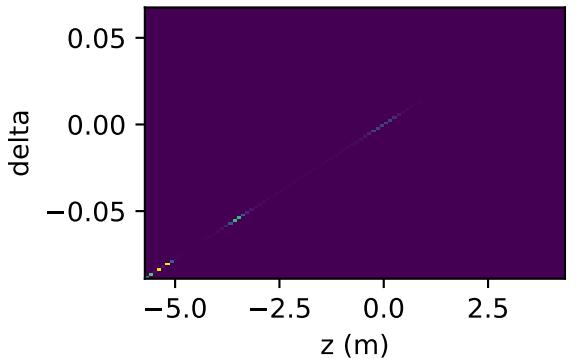
# LhARA:1:Matching:Solenoid:2



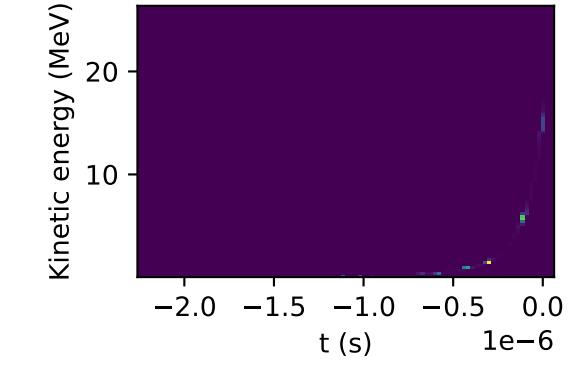
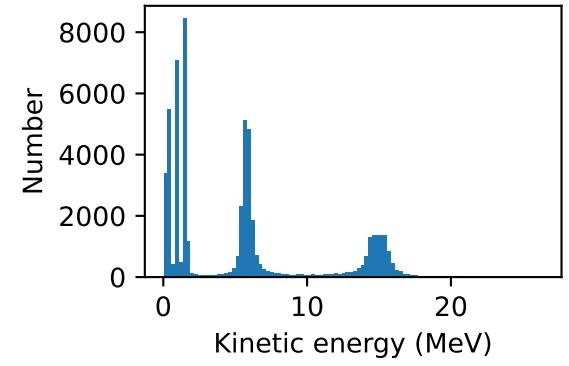
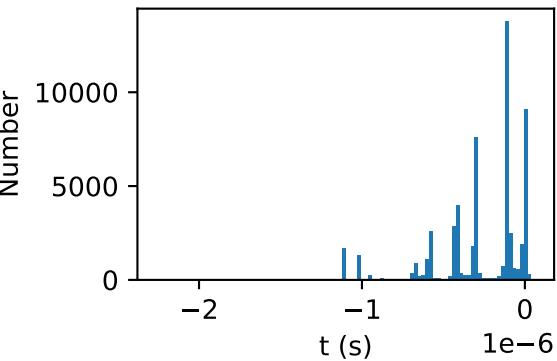
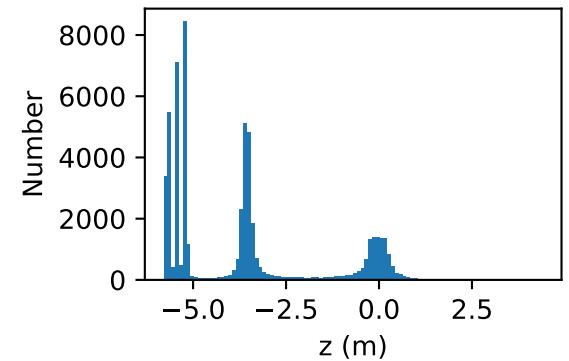
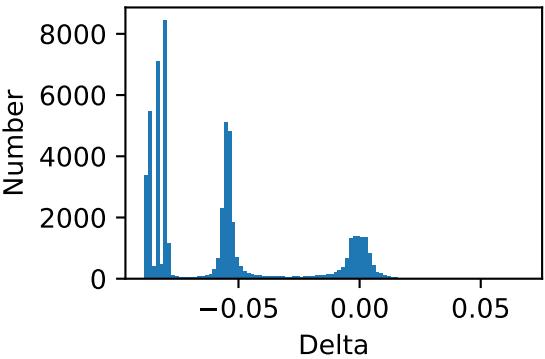
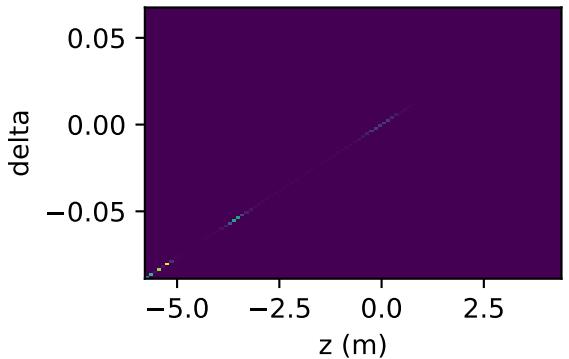
# LhARA:1:Matching:Drift:5



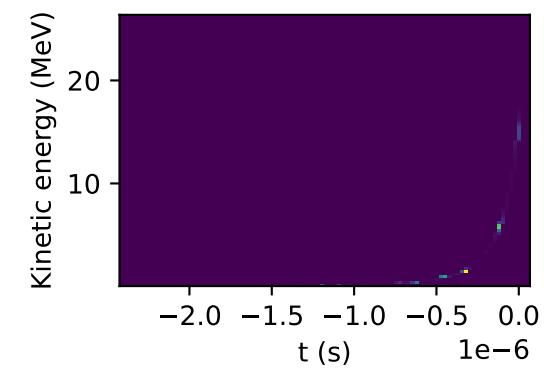
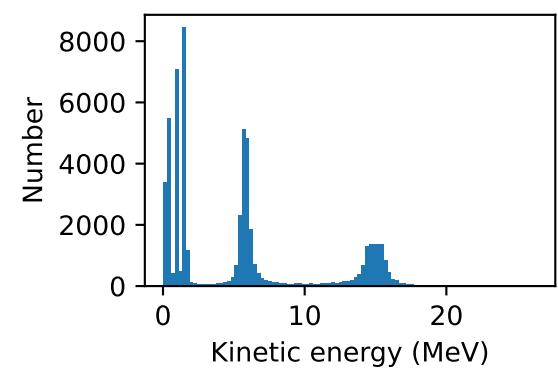
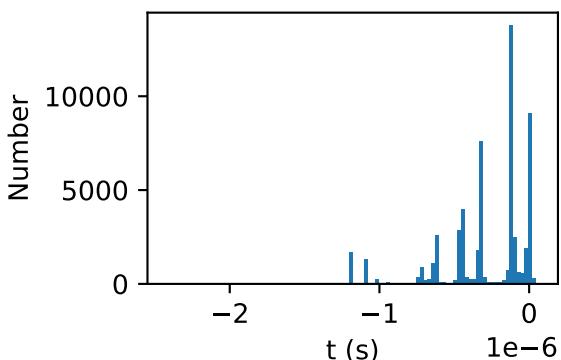
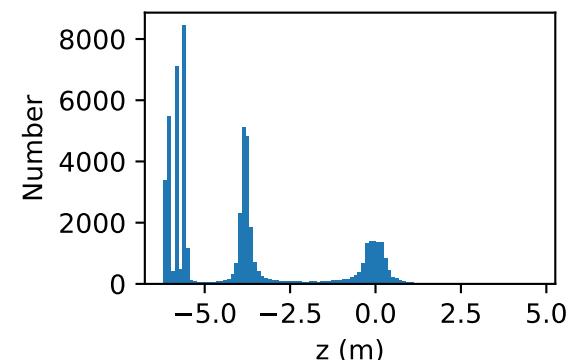
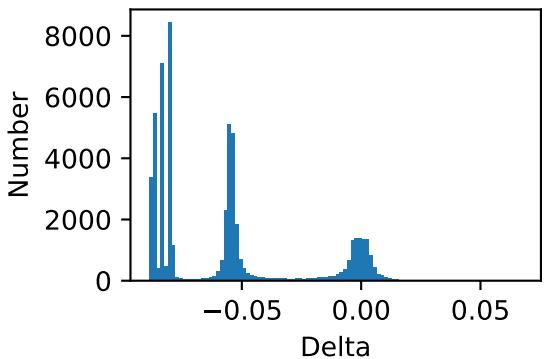
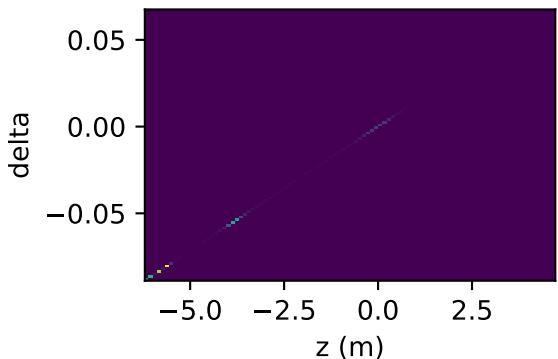
# LhARA:1:Matching:Drift:6



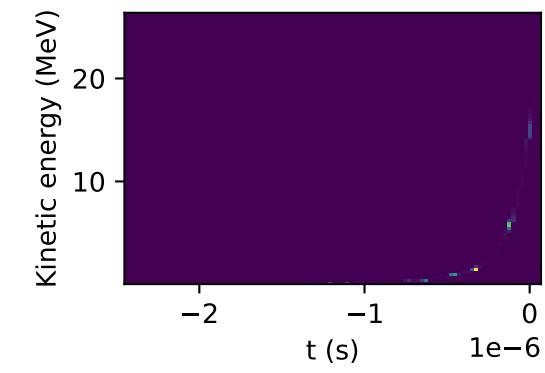
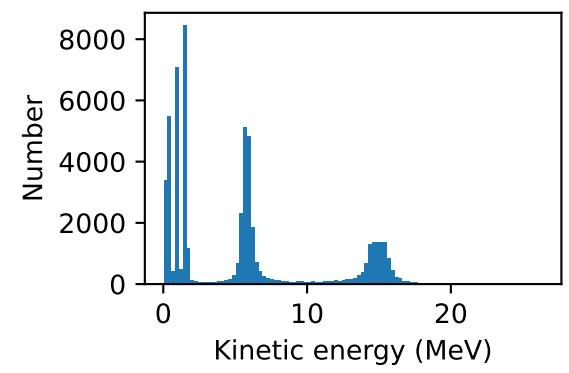
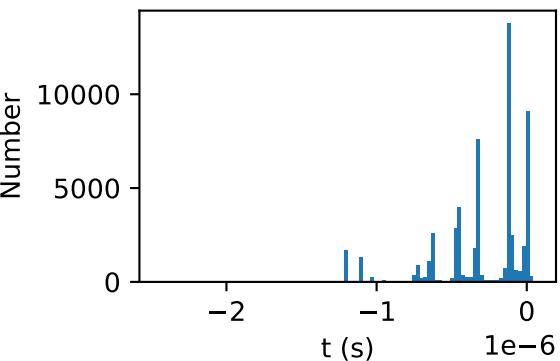
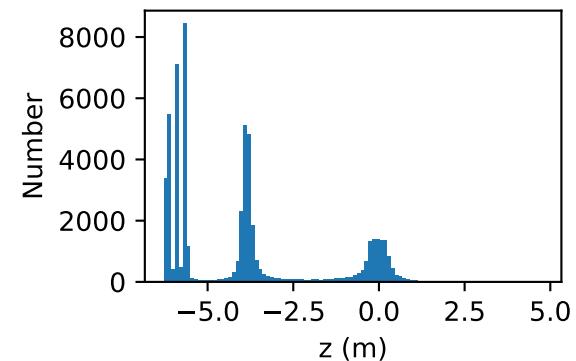
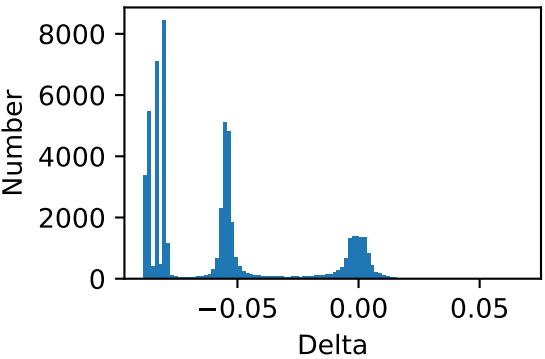
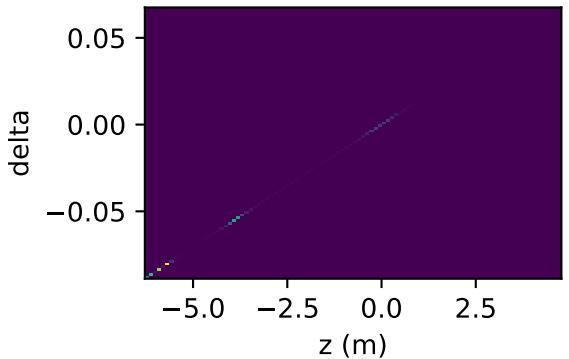
# LhARA:1:Matching:Drift:7



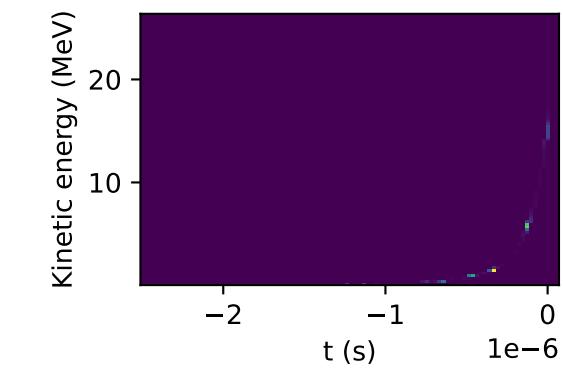
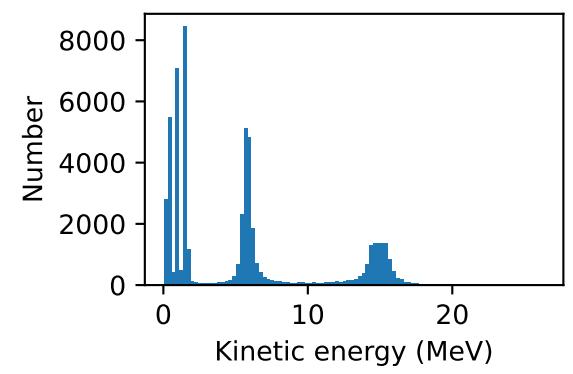
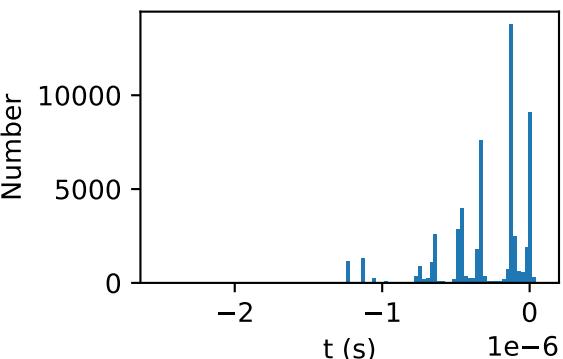
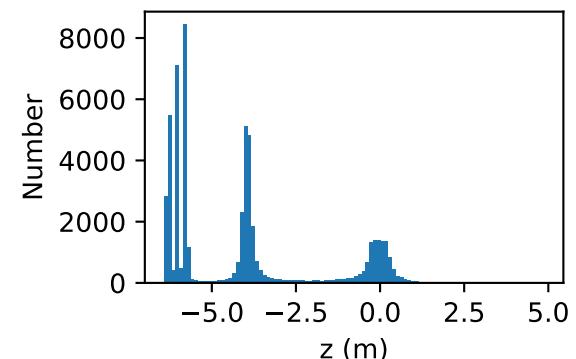
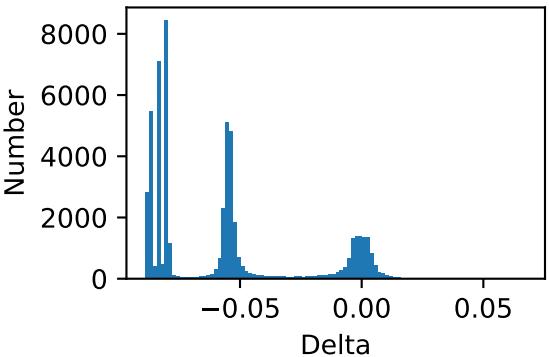
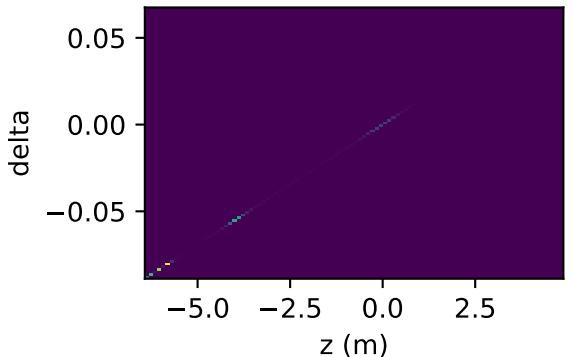
# LhARA:1:Matching:Solenoid:3



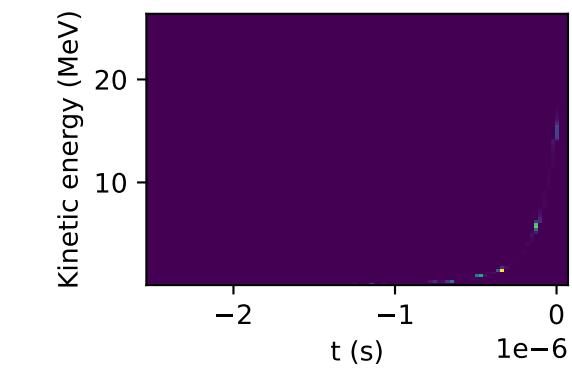
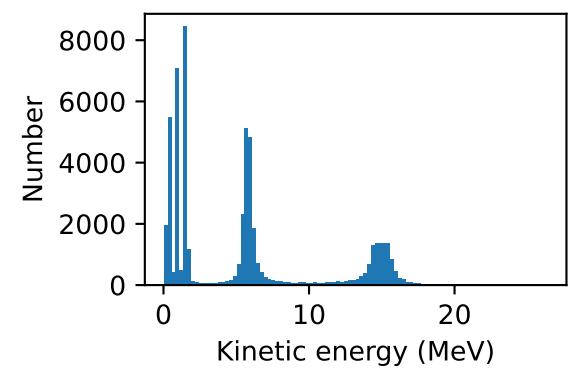
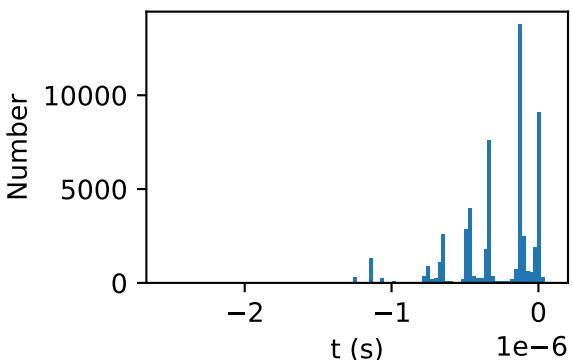
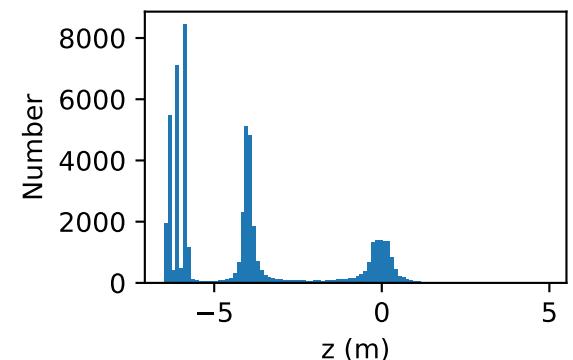
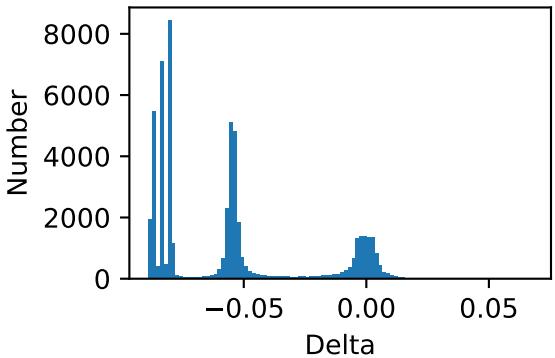
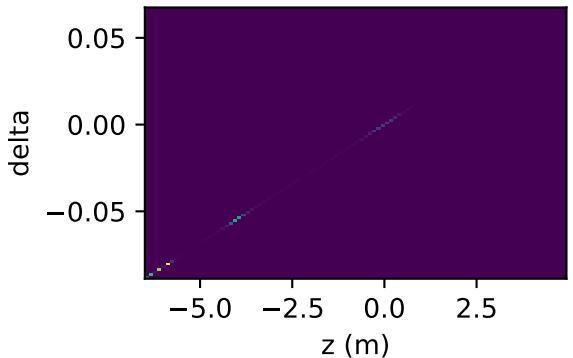
# LhARA:1:Matching:Drift:8



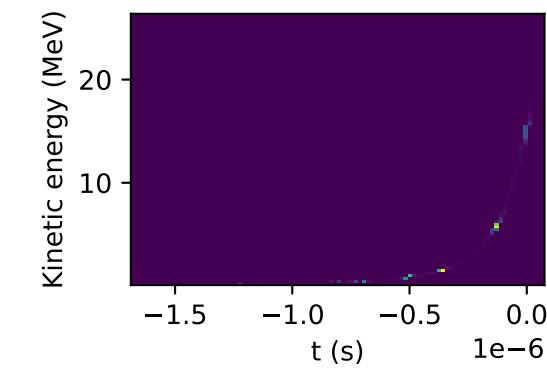
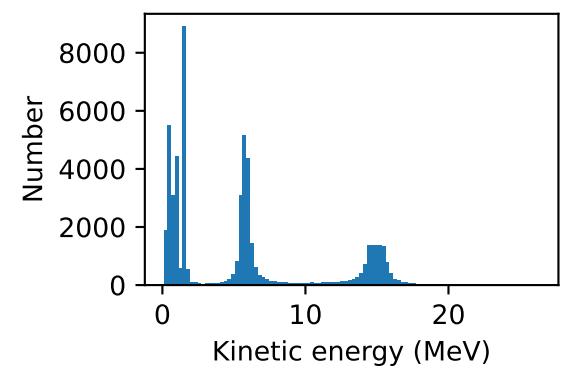
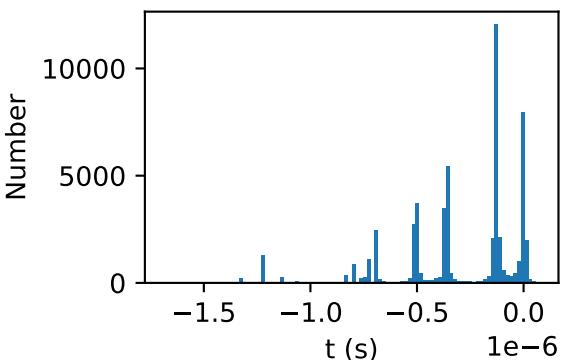
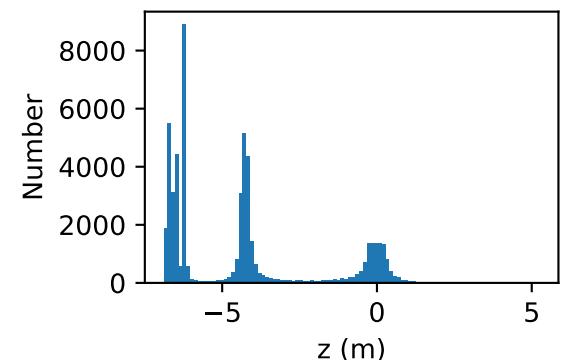
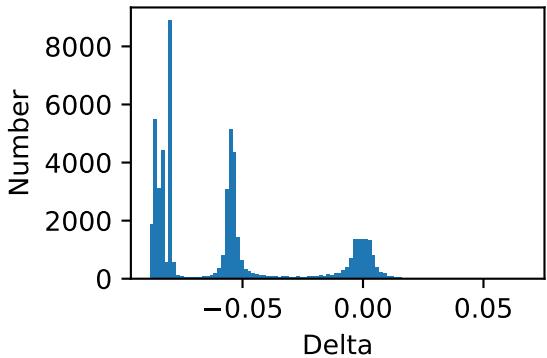
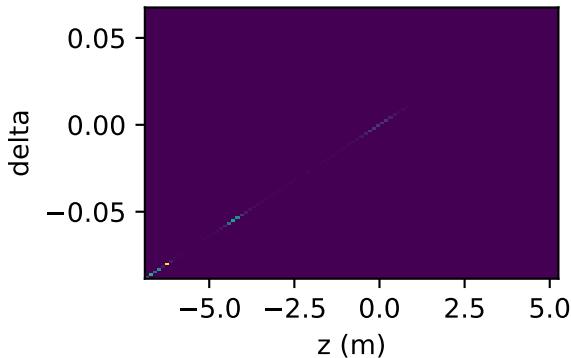
# LhARA:1:Matching:Drift:9



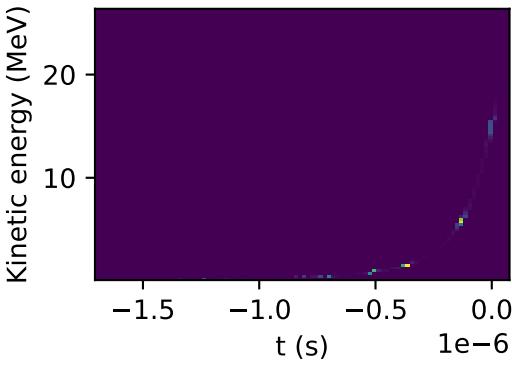
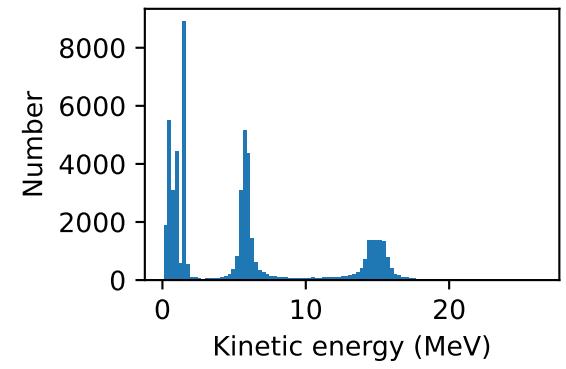
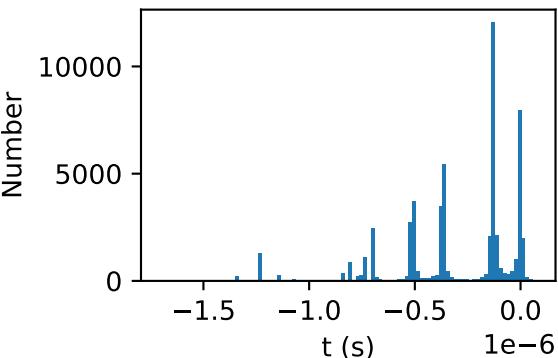
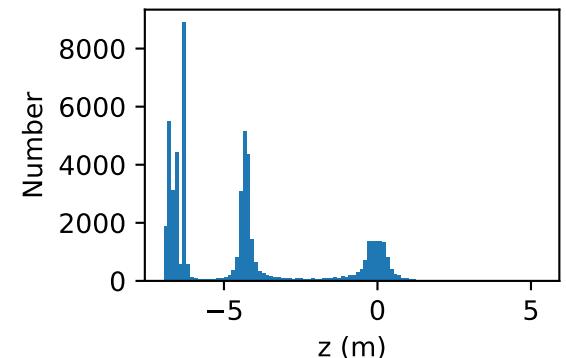
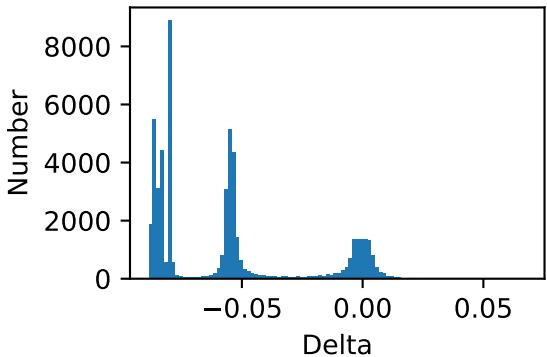
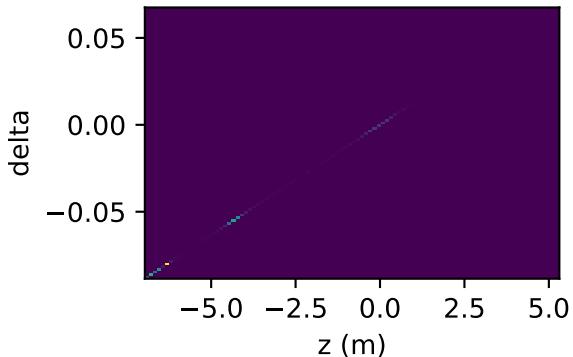
# LhARA:1:Matching:Drift:10



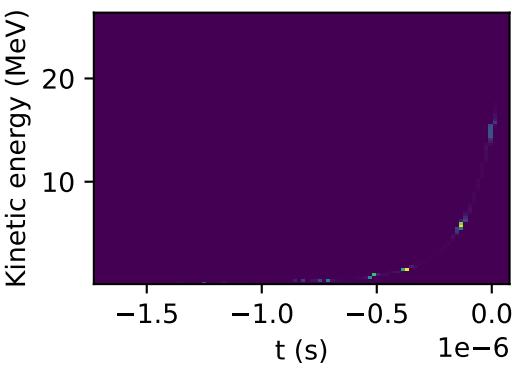
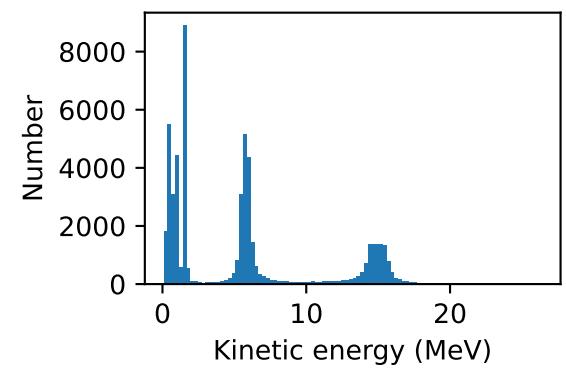
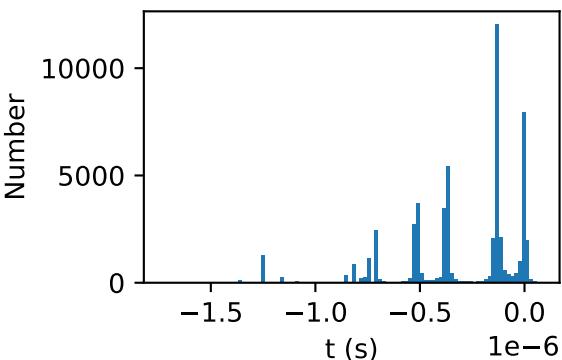
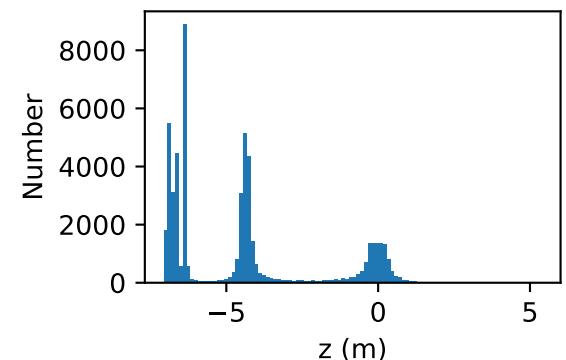
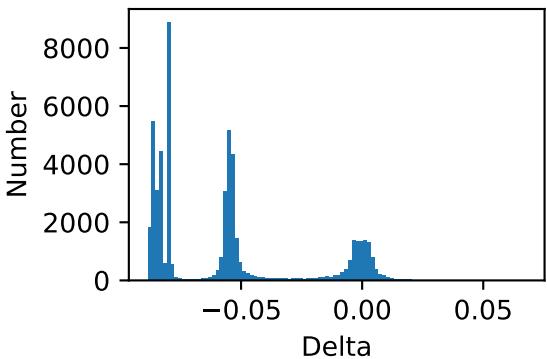
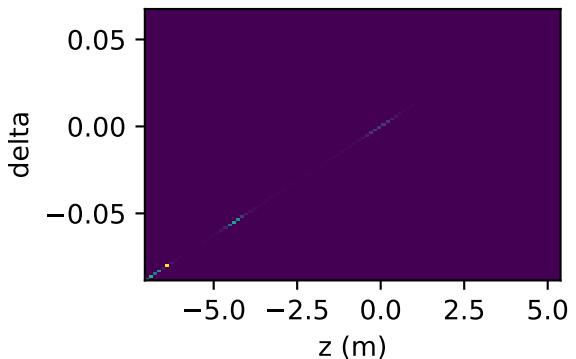
# LhARA:1:Matching:Solenoid:4



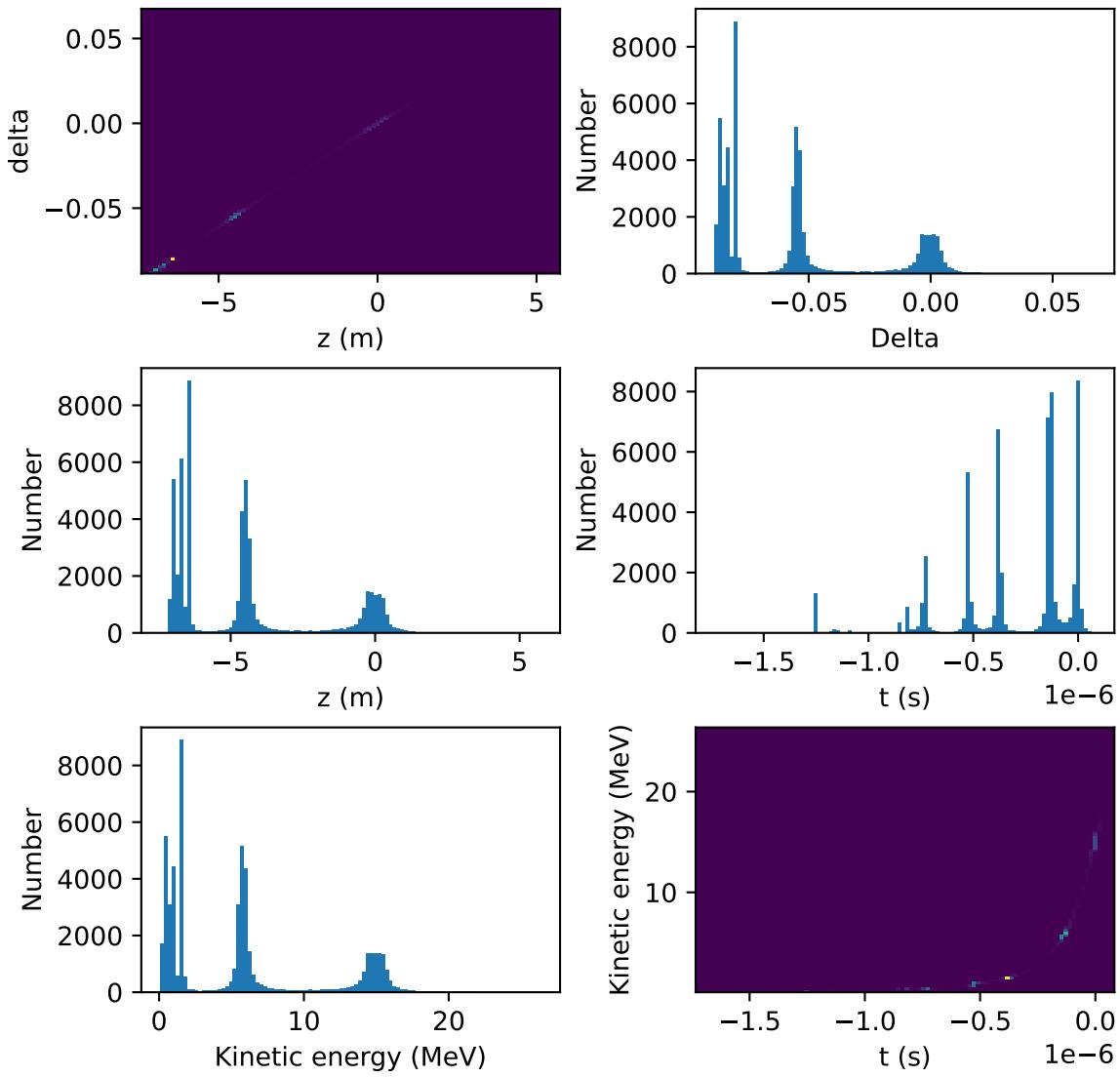
# LhARA:1:Matching:Drift:11



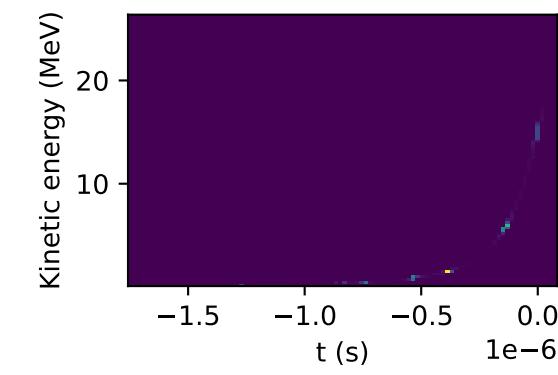
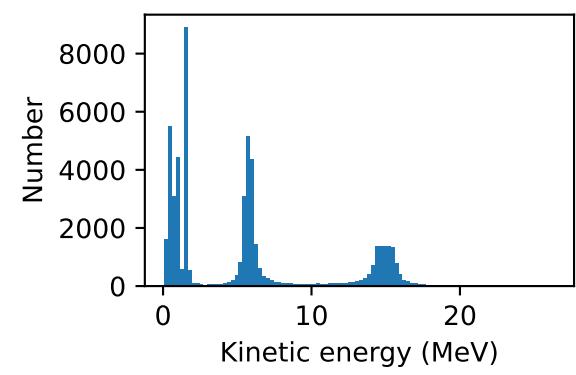
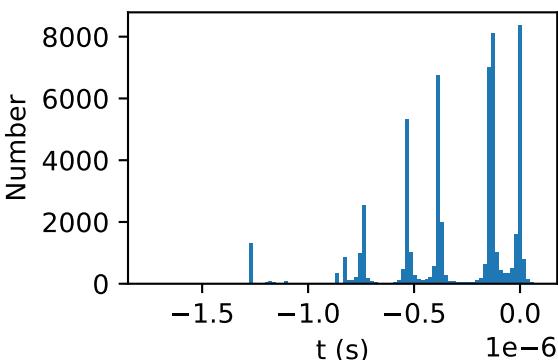
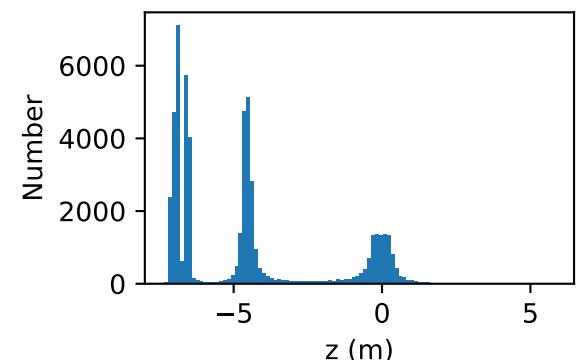
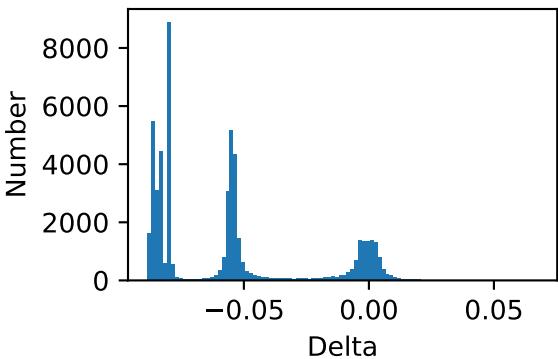
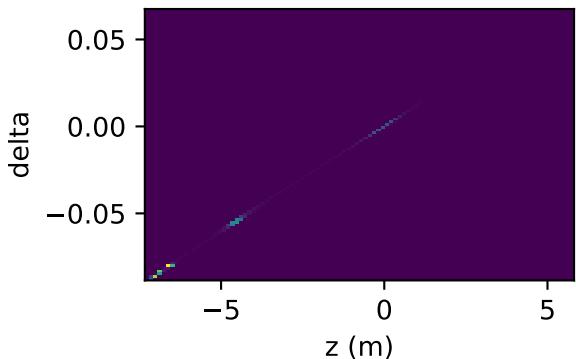
# LhARA:1:Arc:Drift:1



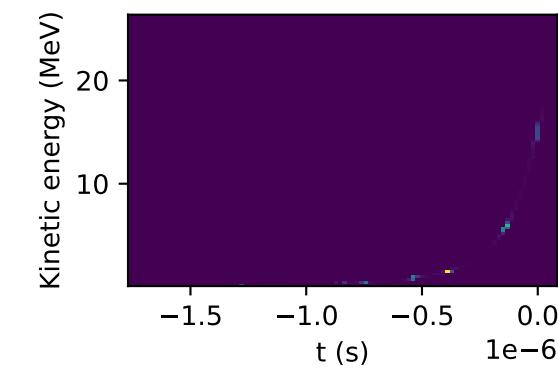
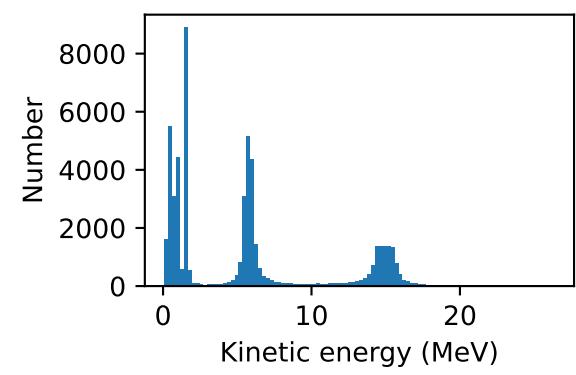
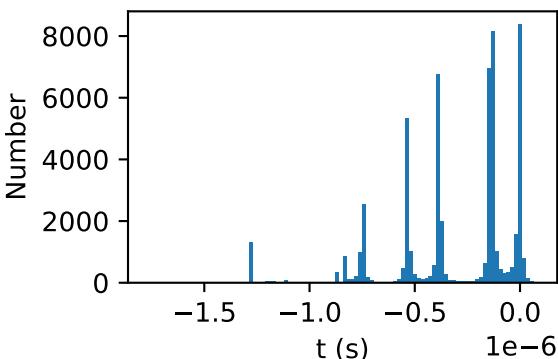
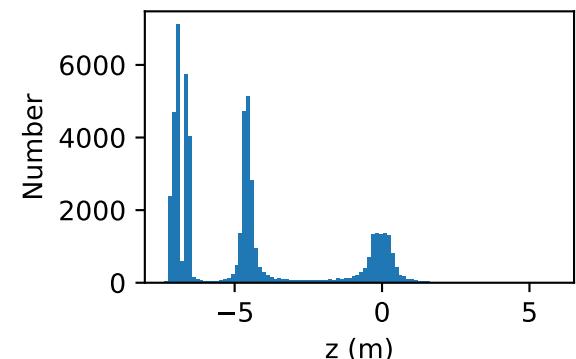
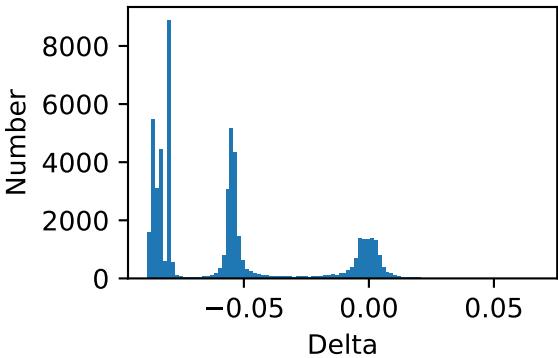
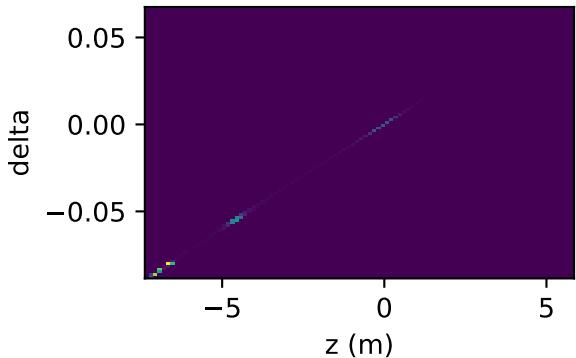
# LhARA:1:Arc:Dipole:1



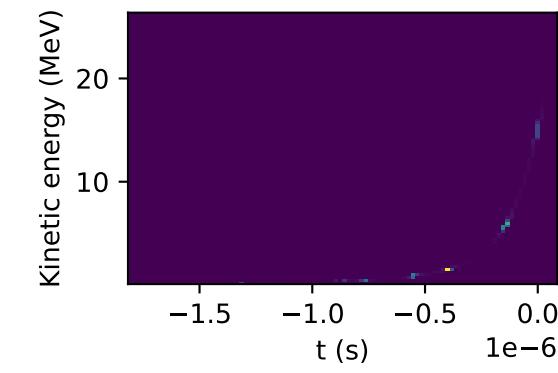
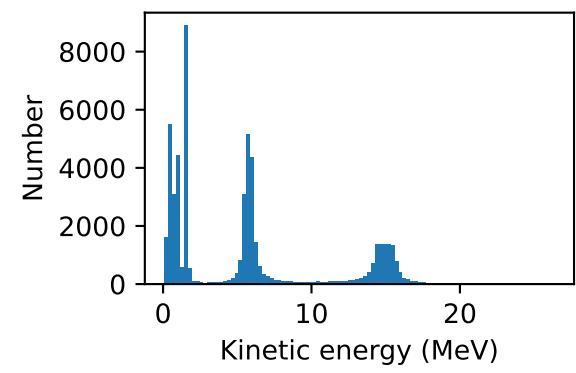
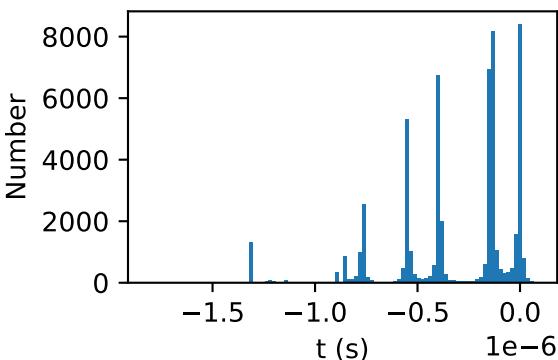
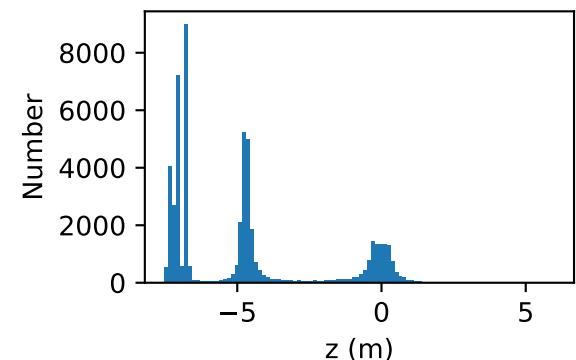
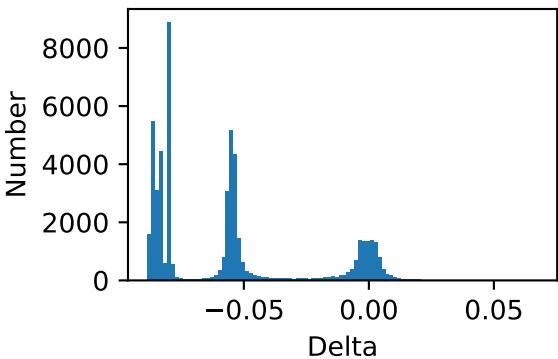
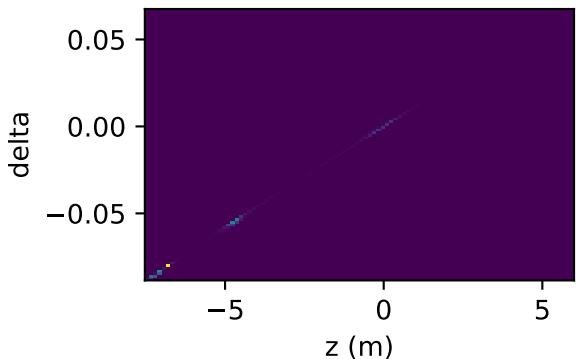
# LhARA:1:Arc:Drift:2



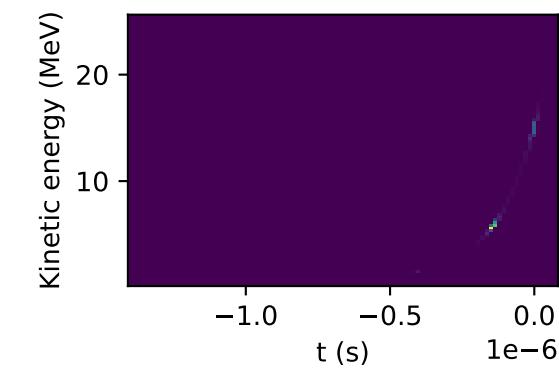
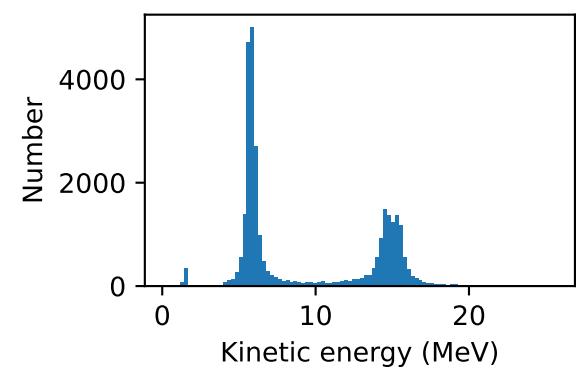
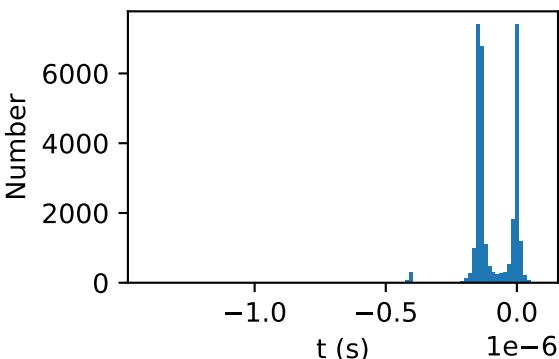
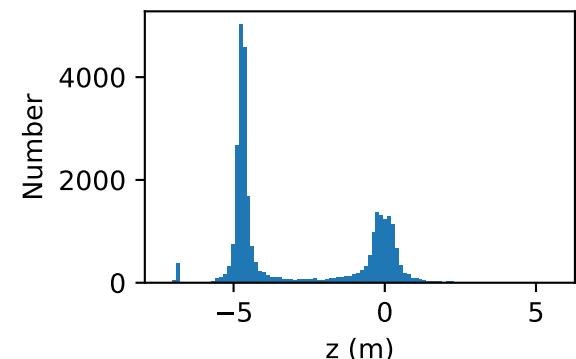
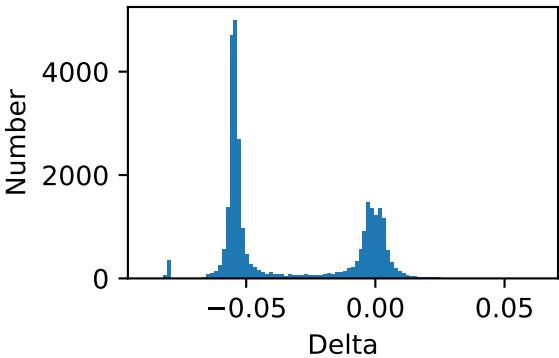
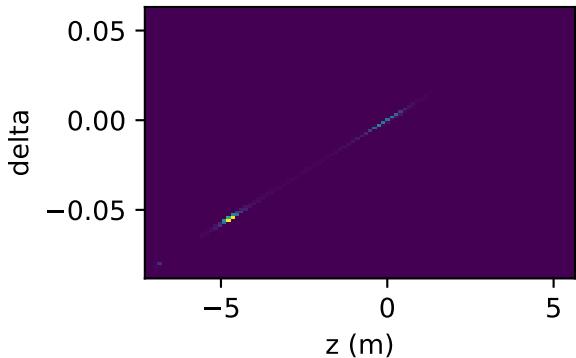
# LhARA:1:Arc:Dquad:1



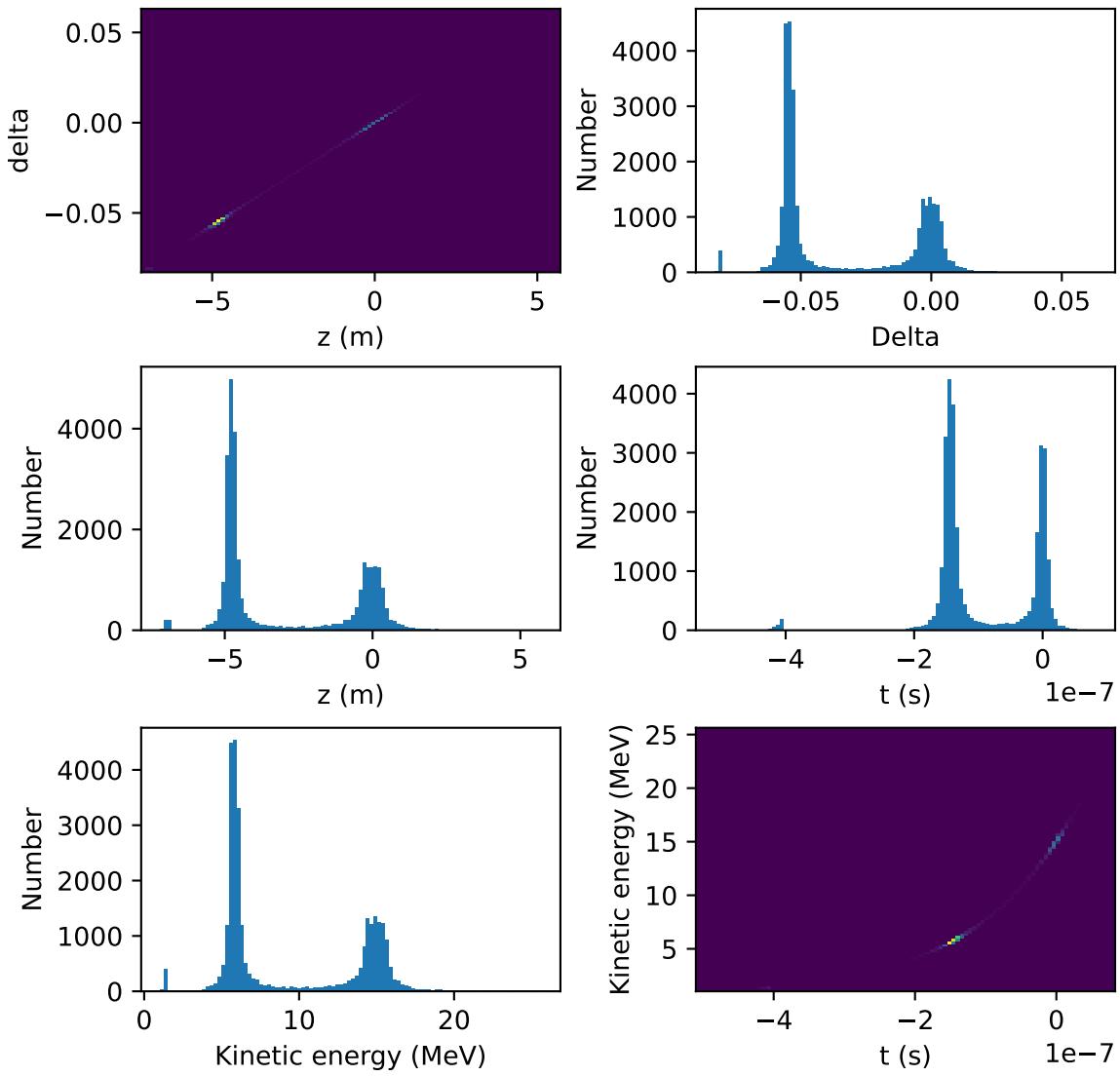
# LhARA:1:Arc:Drift:3



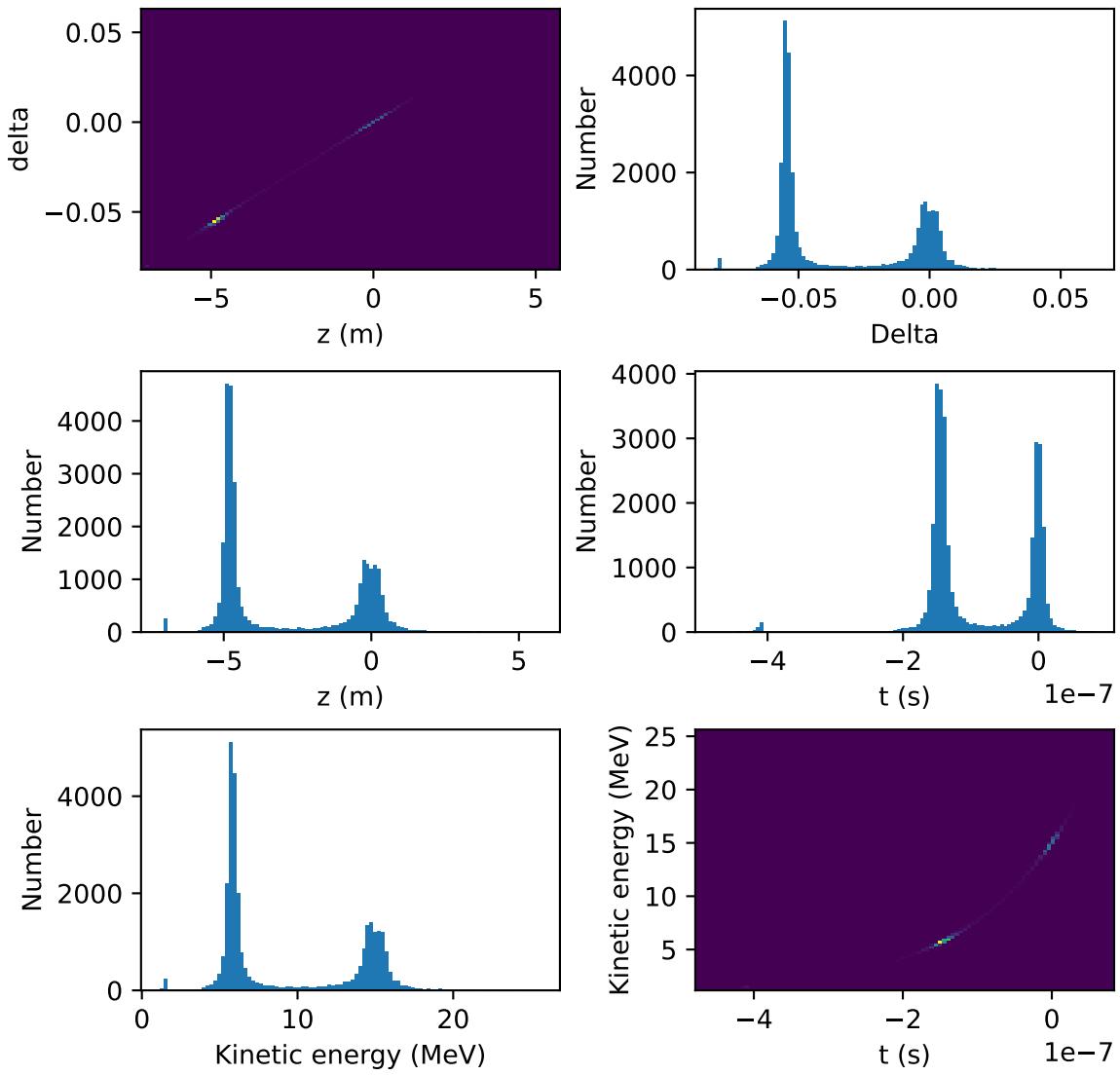
# LhARA:1:Arc:Fquad:1



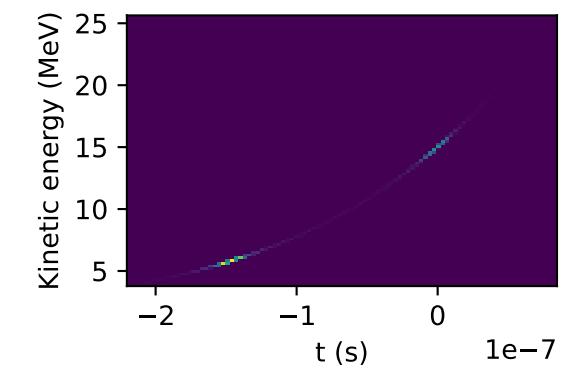
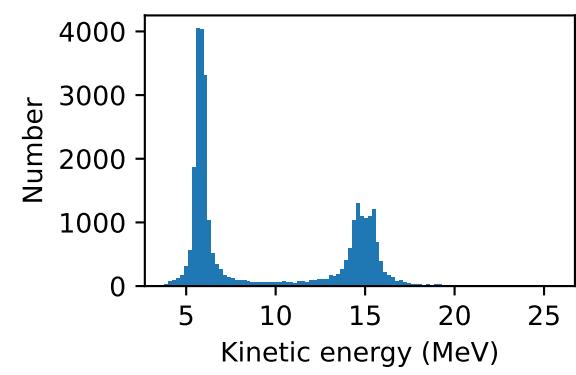
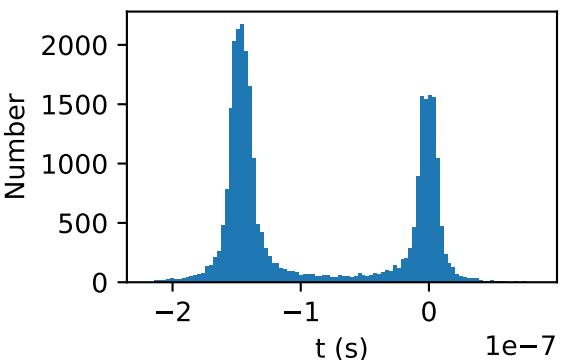
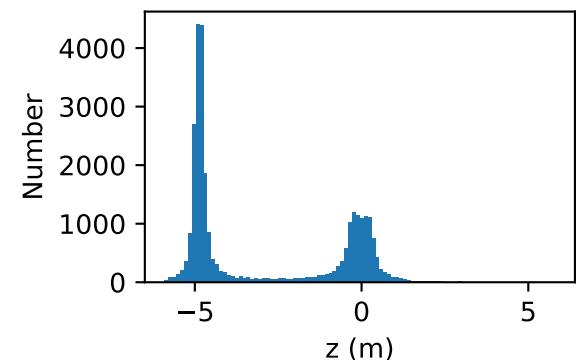
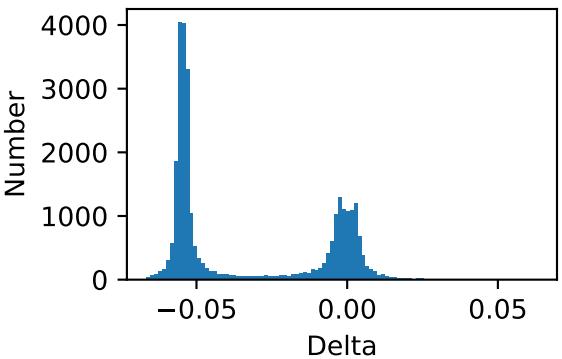
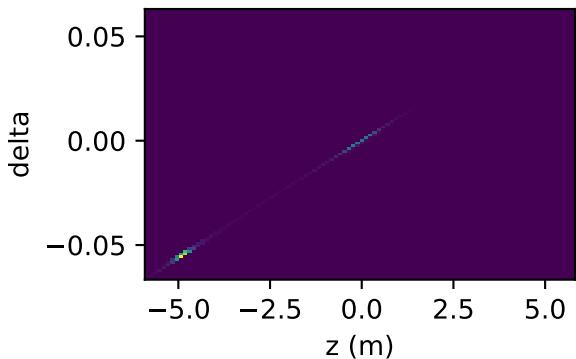
# LhARA:1:Arc:Drift:4



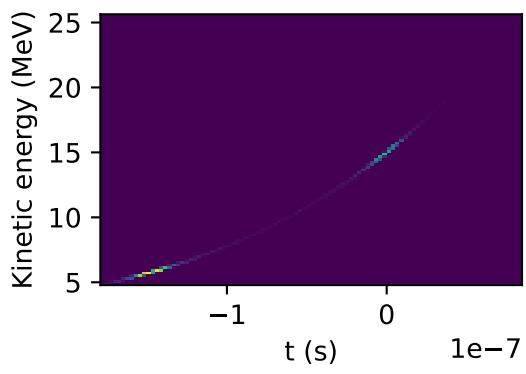
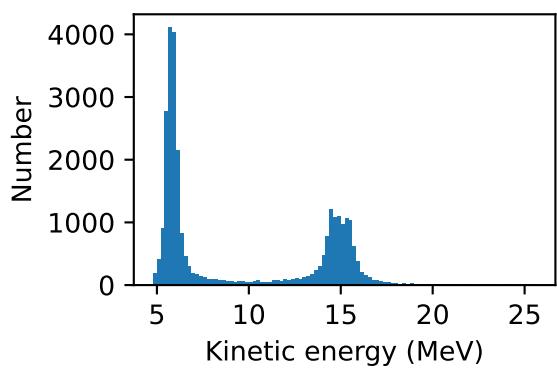
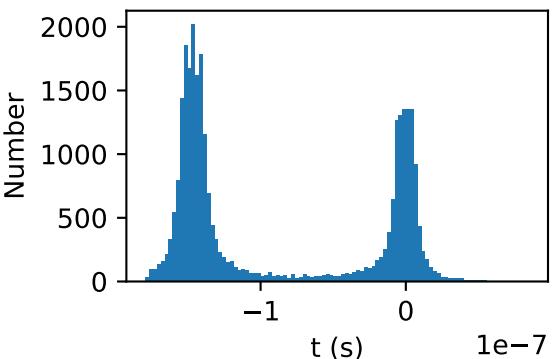
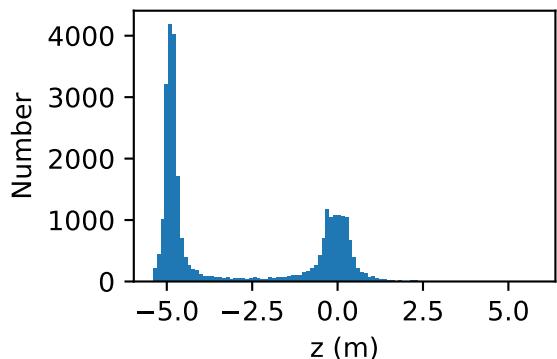
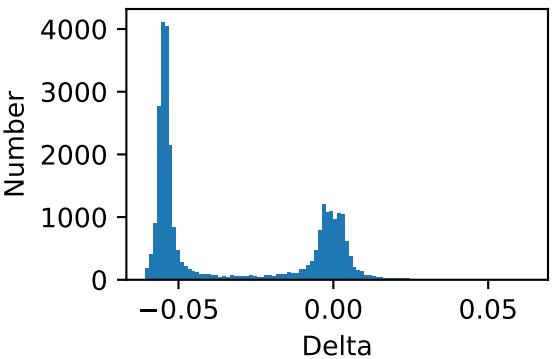
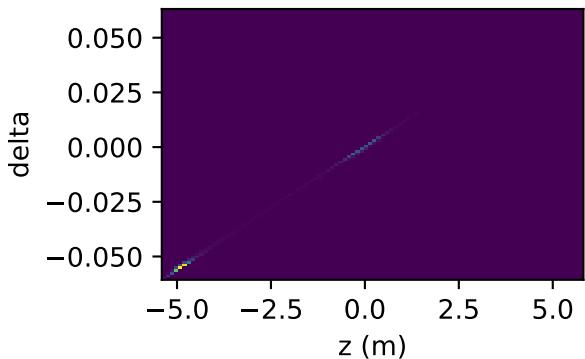
# LhARA:1:Arc:Dquad:2



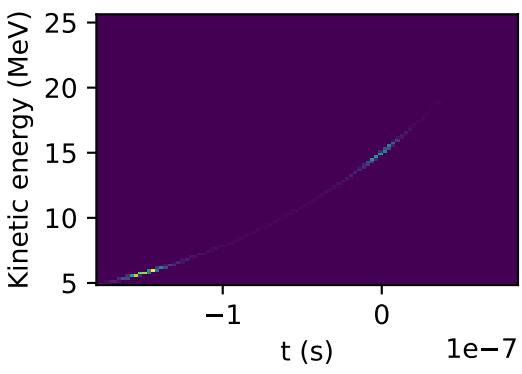
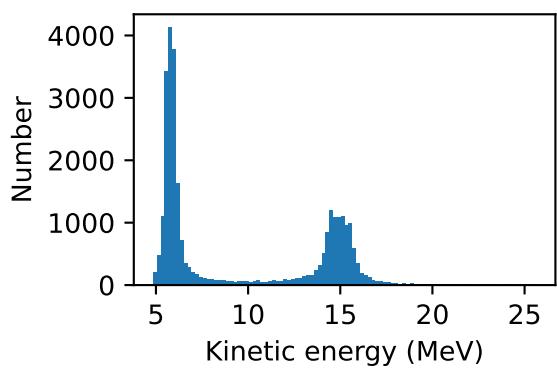
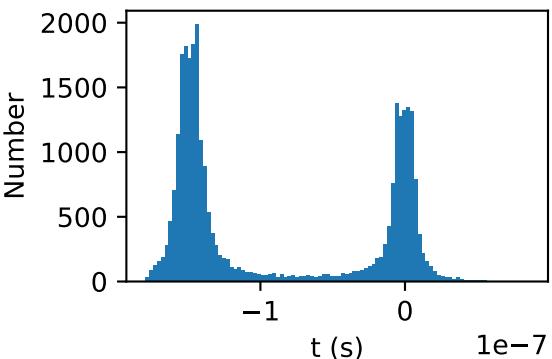
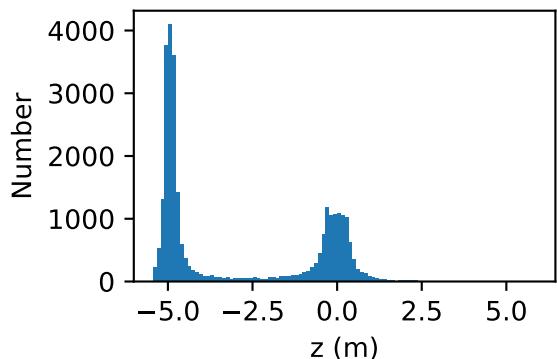
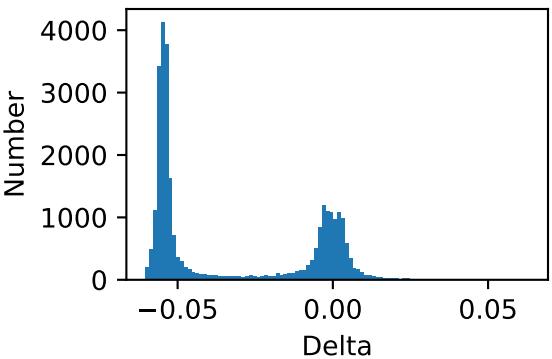
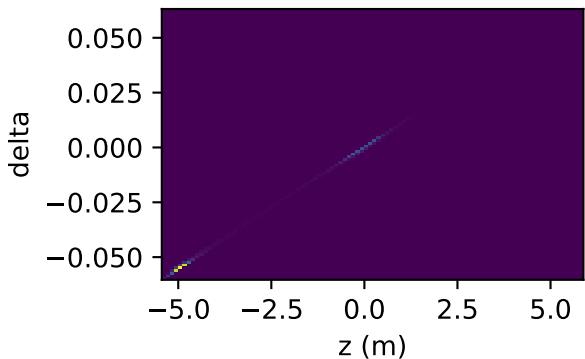
# LhARA:1:Arc:Drift:5



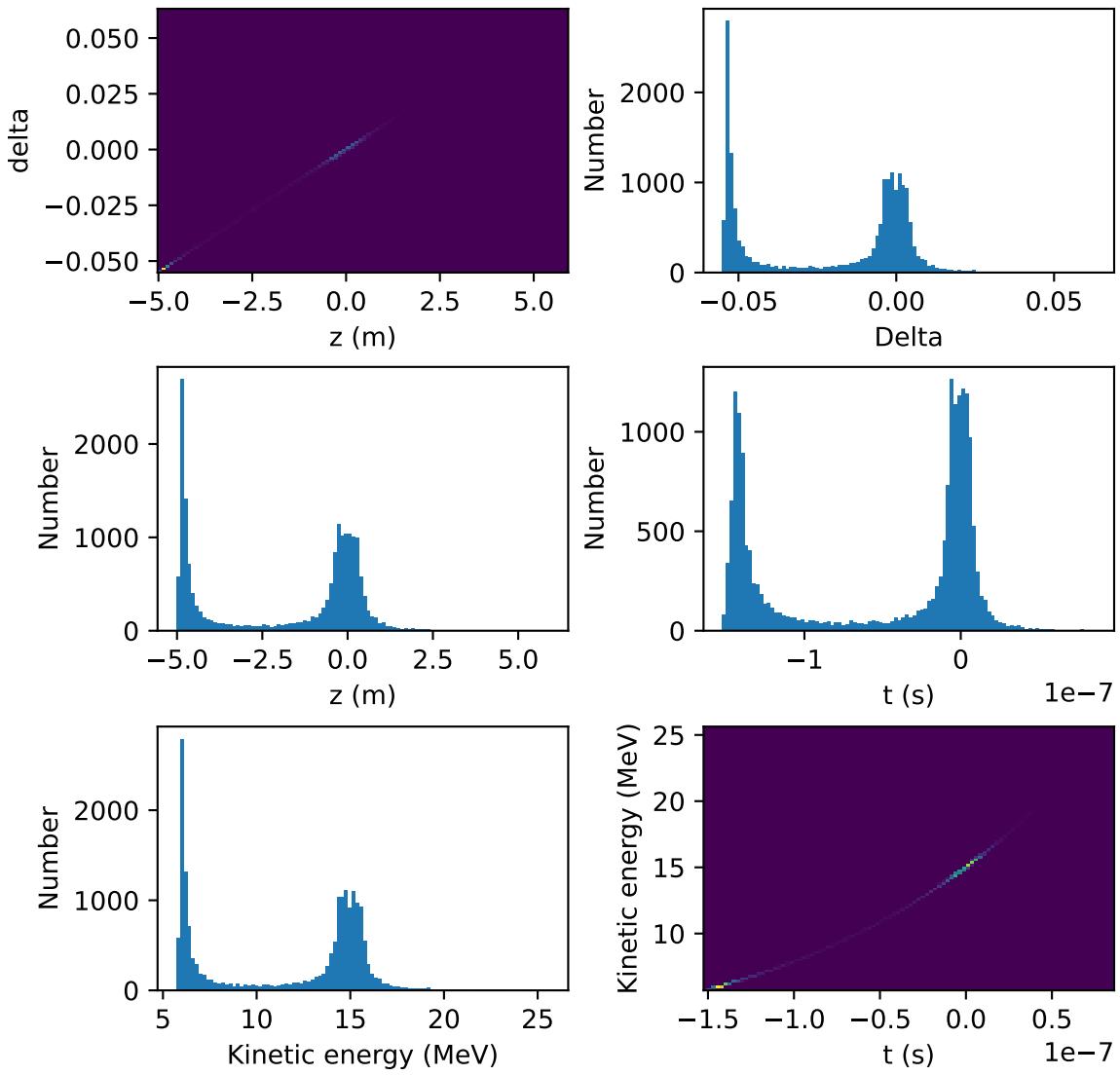
# LhARA:1:Arc:Drift:6



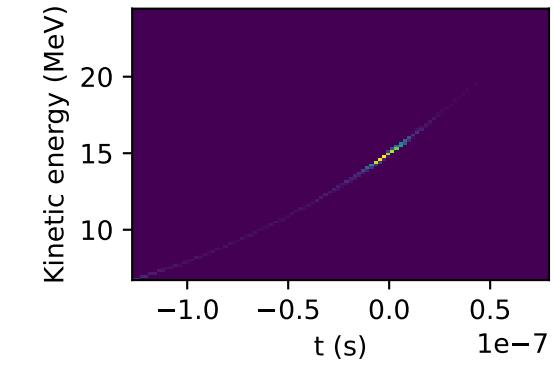
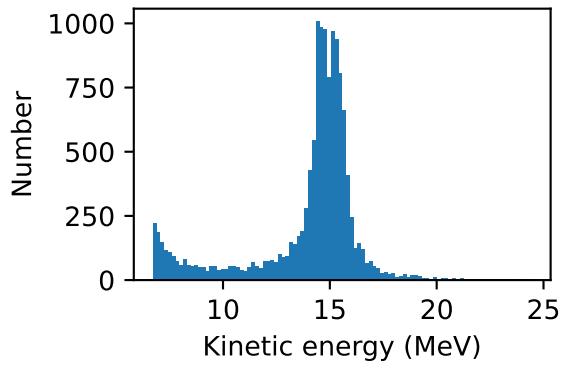
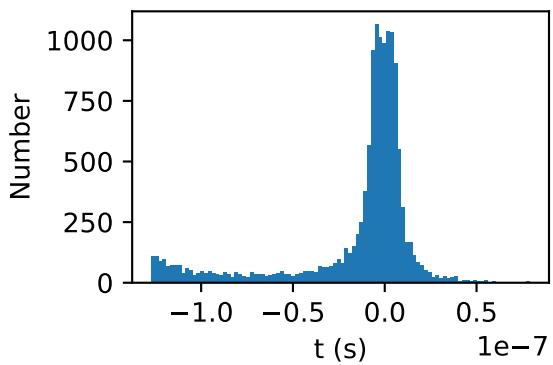
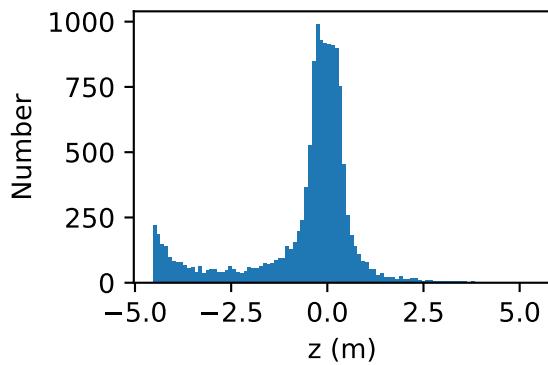
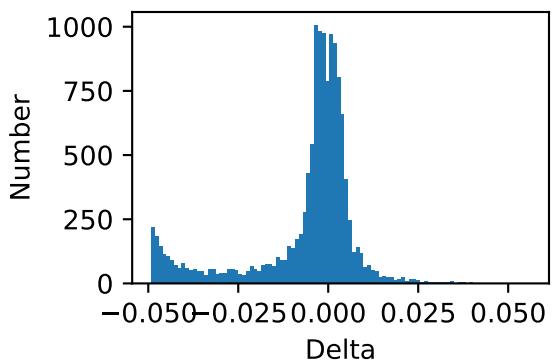
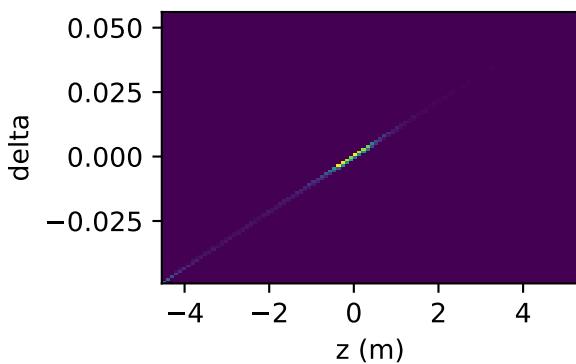
# LhARA:1:Arc:Drift:7



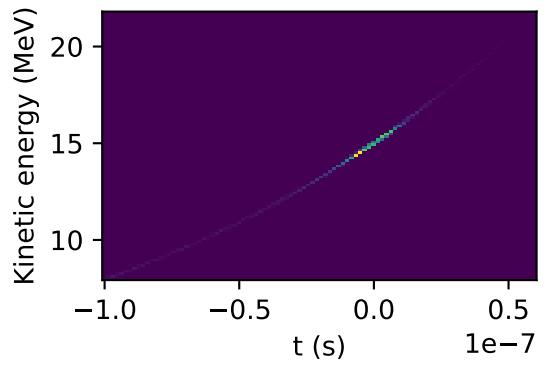
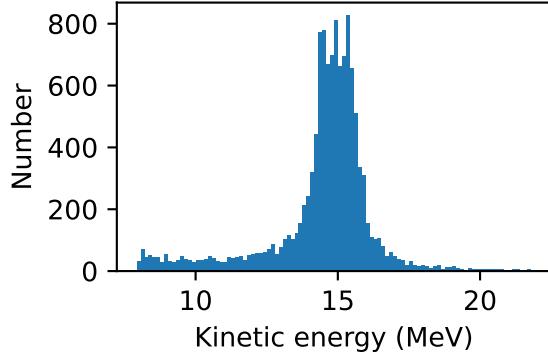
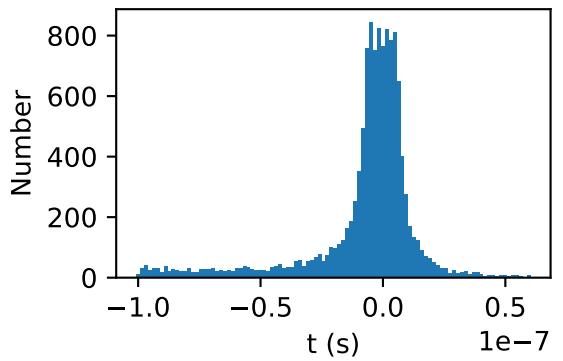
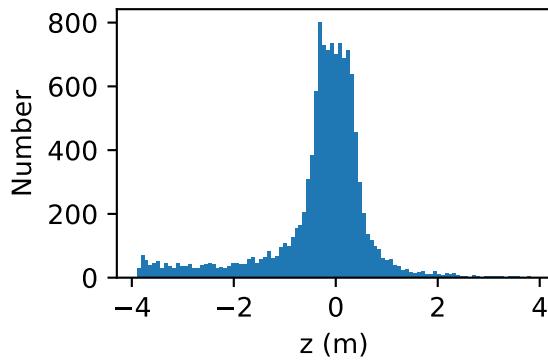
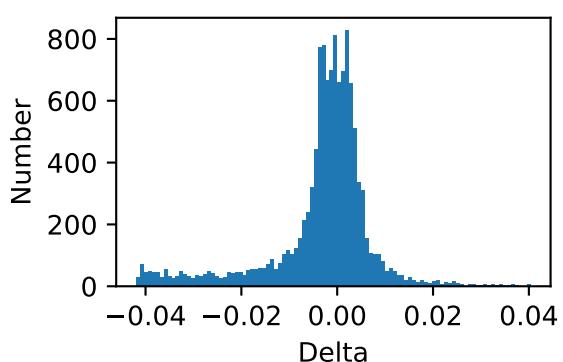
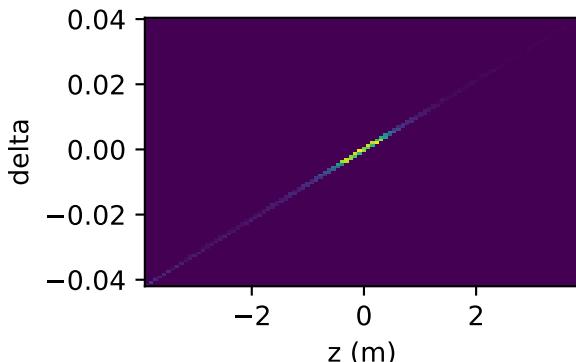
# LhARA:1:Arc:Dquad:3



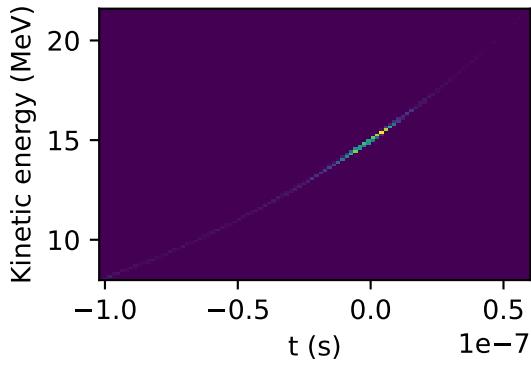
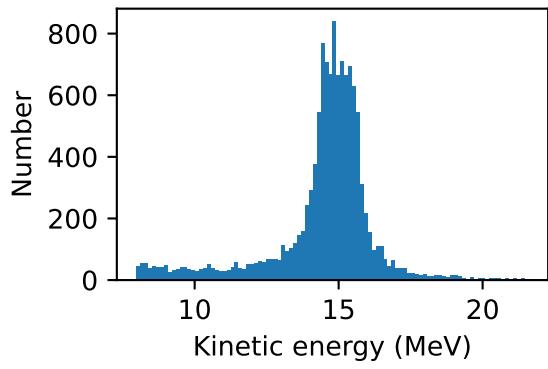
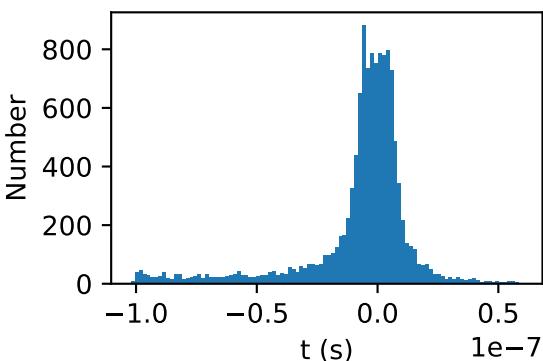
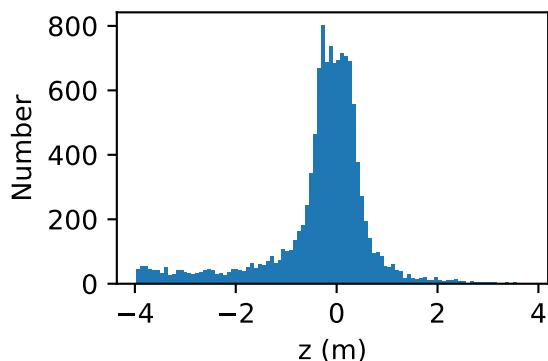
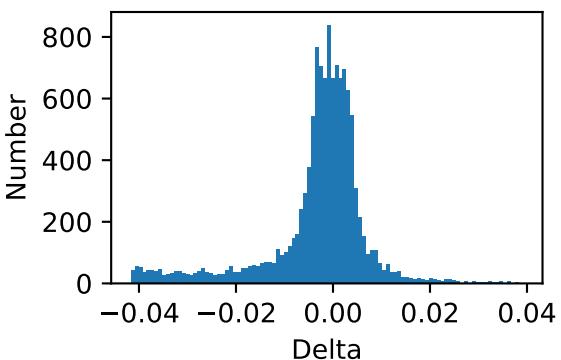
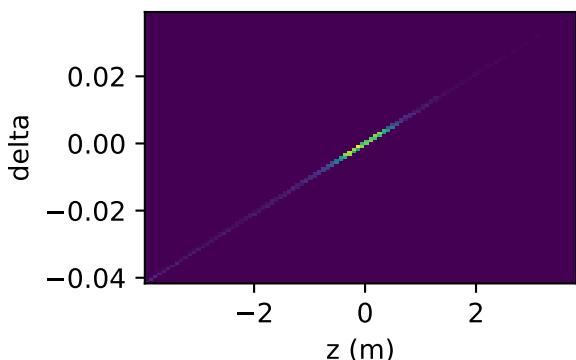
# LhARA:1:Arc:Drift:8



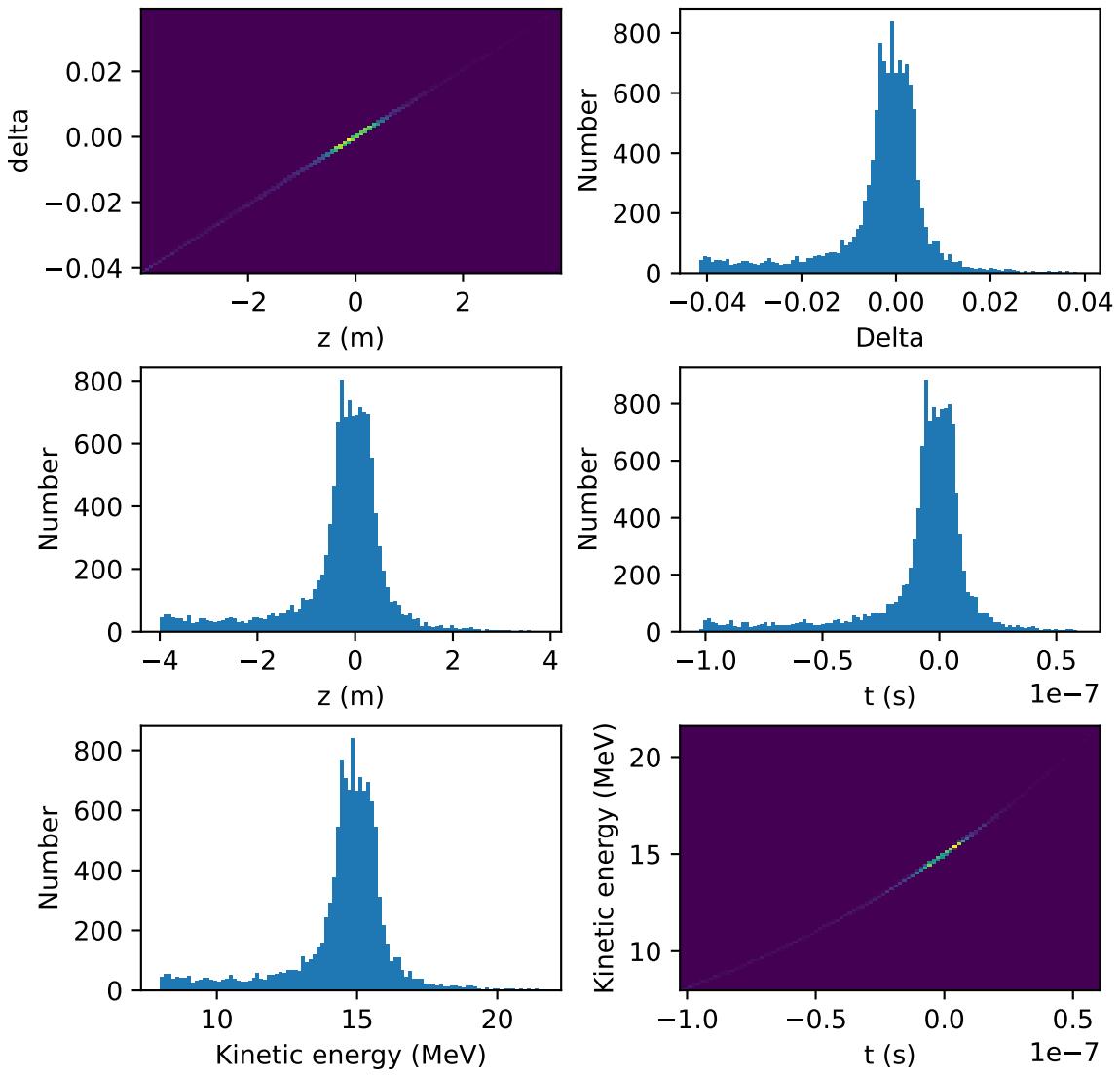
# LhARA:1:Arc:Fquad:2



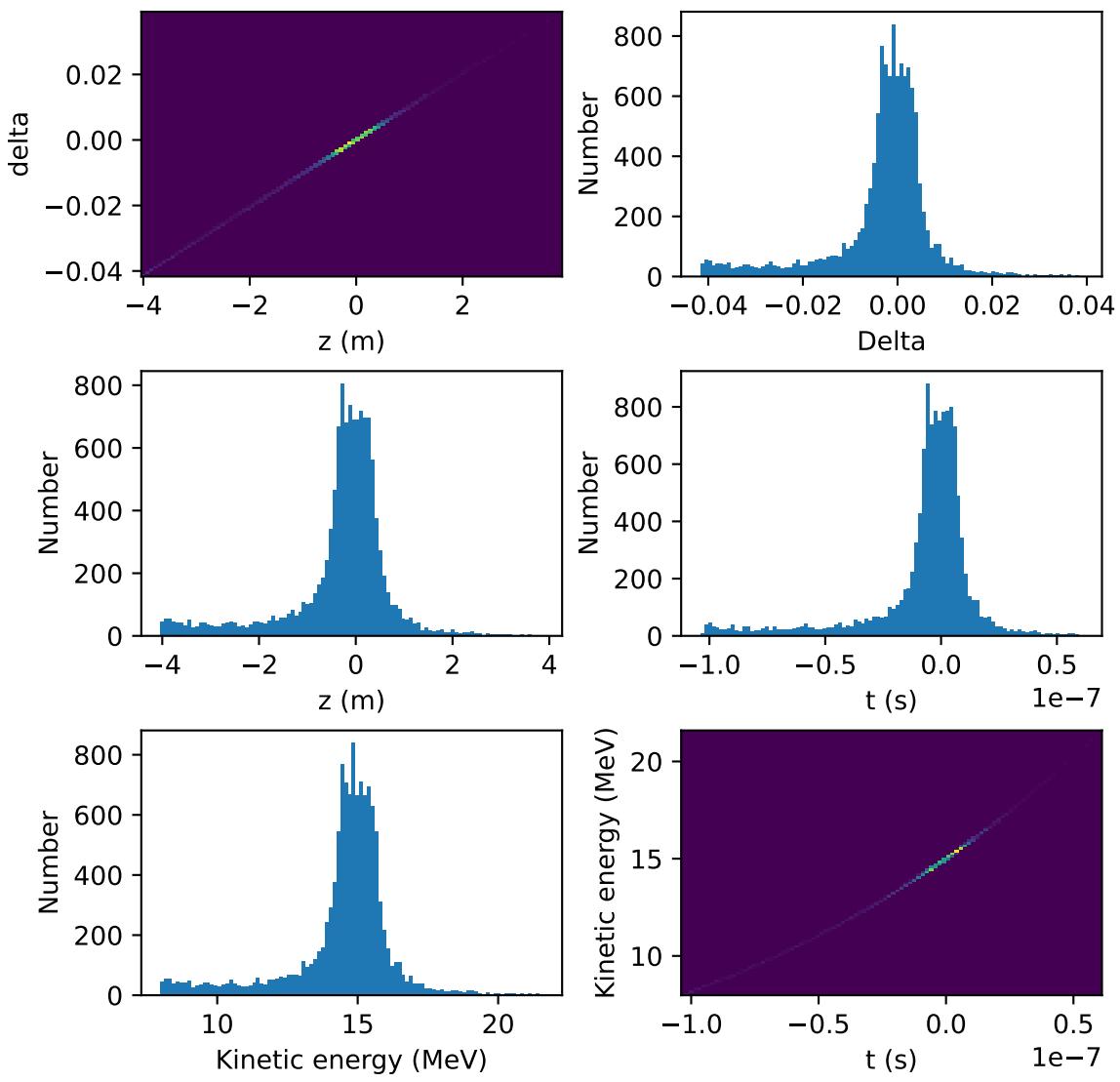
# LhARA:1:Arc:Drift:9



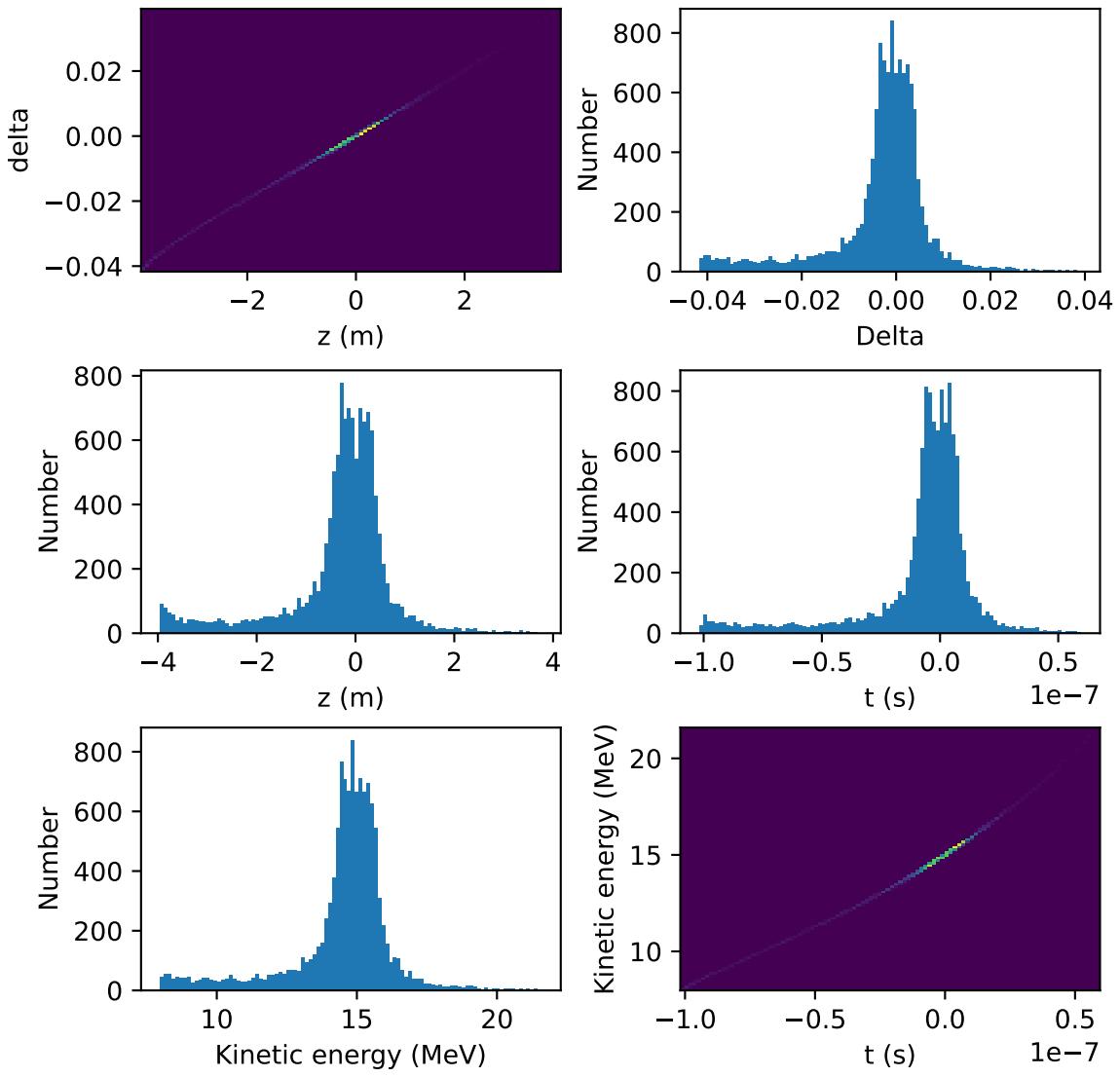
LhARA:1:Arc:Dquad:4



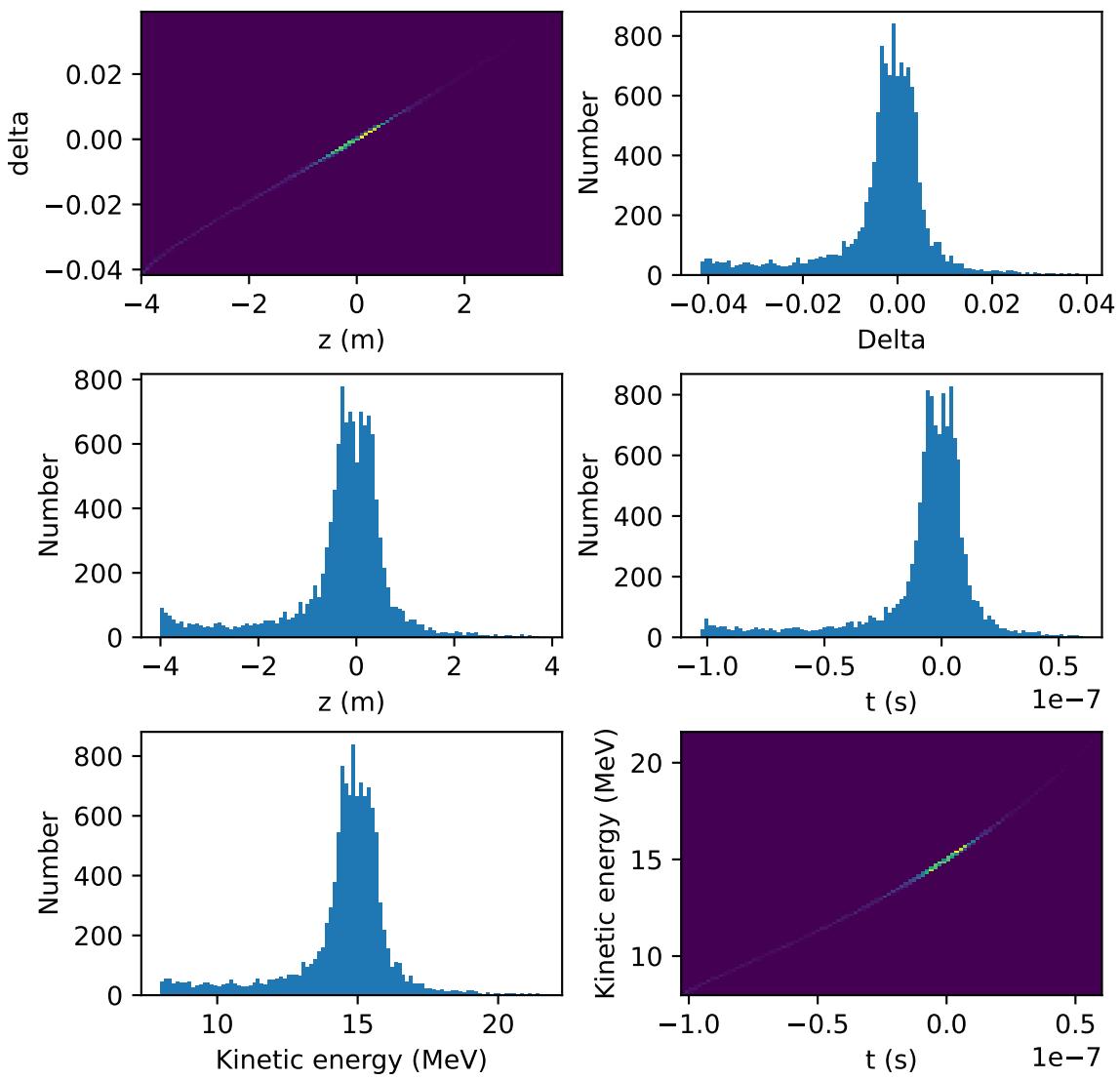
LhARA:1:Arc:Drift:10



# LhARA:1:Arc:Dipole:2



# LhARA:1:Arc:Drift:11



LhARA:1:Arc:Drift:12

