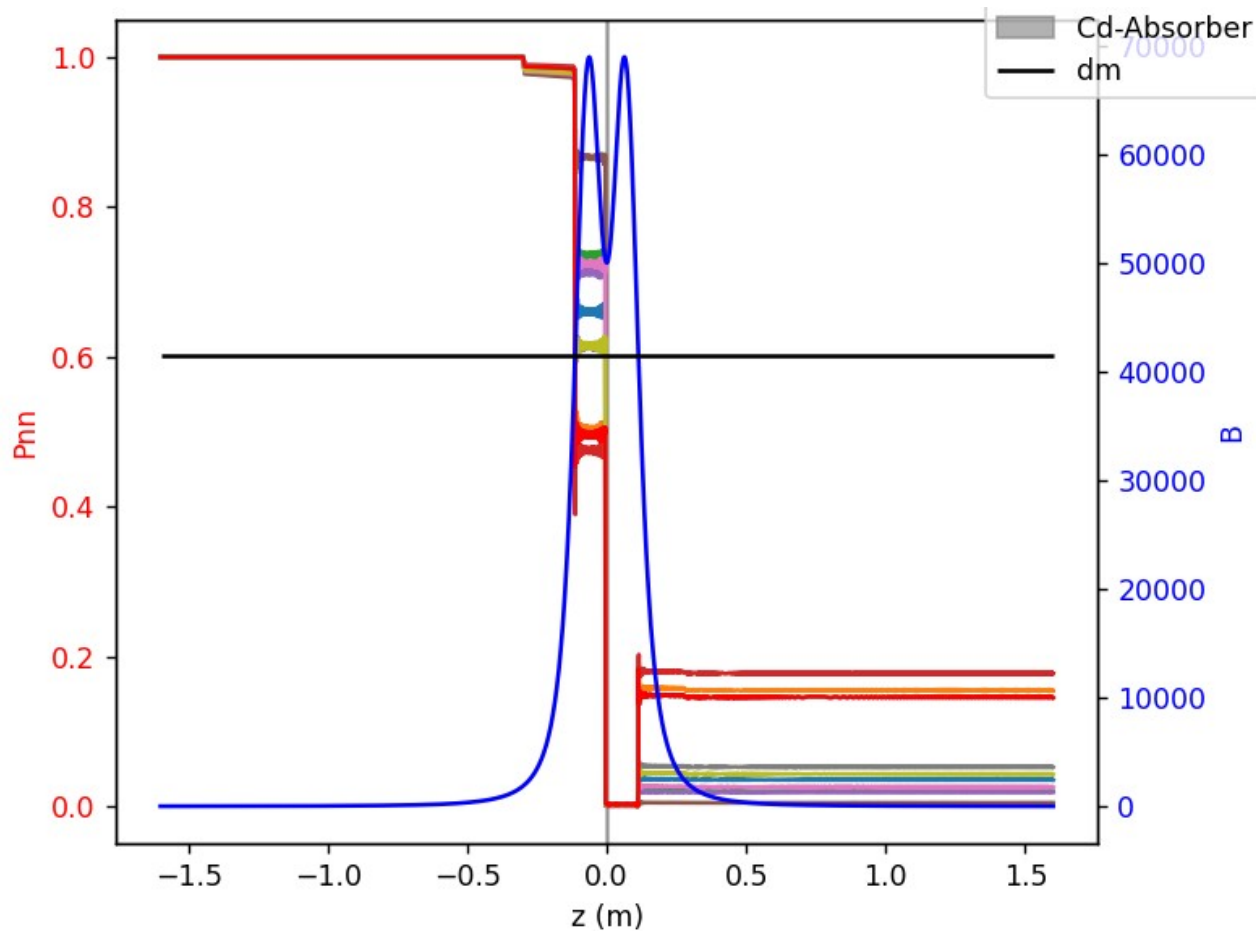


# Simulation using Berezhiani's Analytical Function

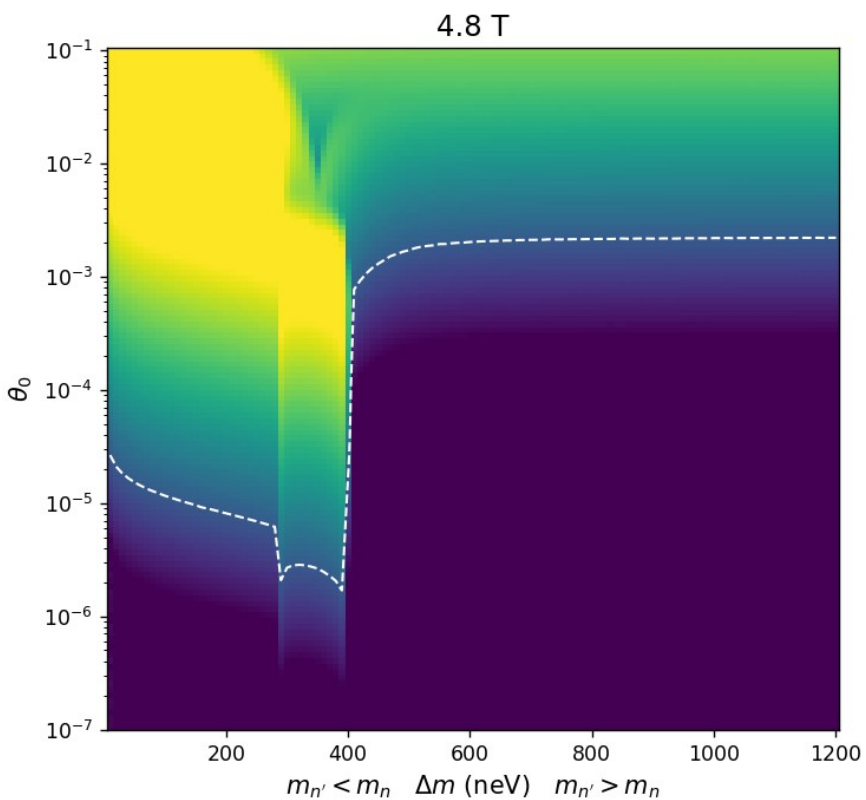
Nathan Whittington, UTK

# Multiple Velocities

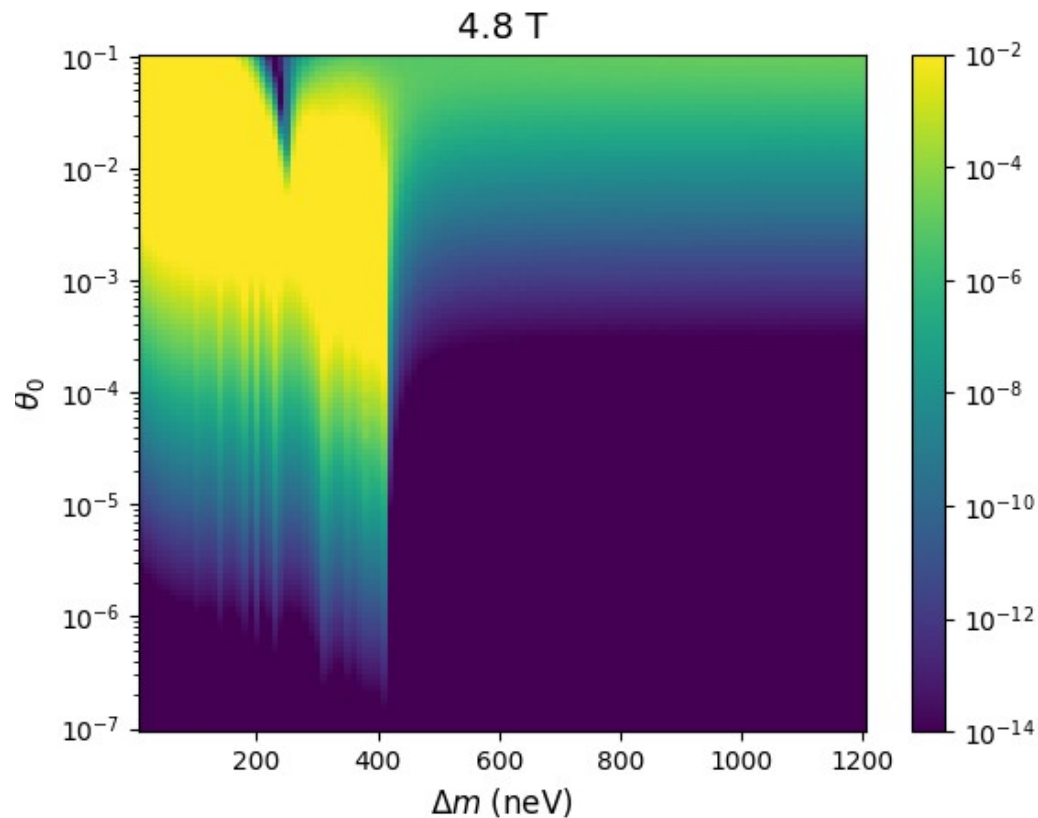


# Cary's Results

30 micro, 2000 vel

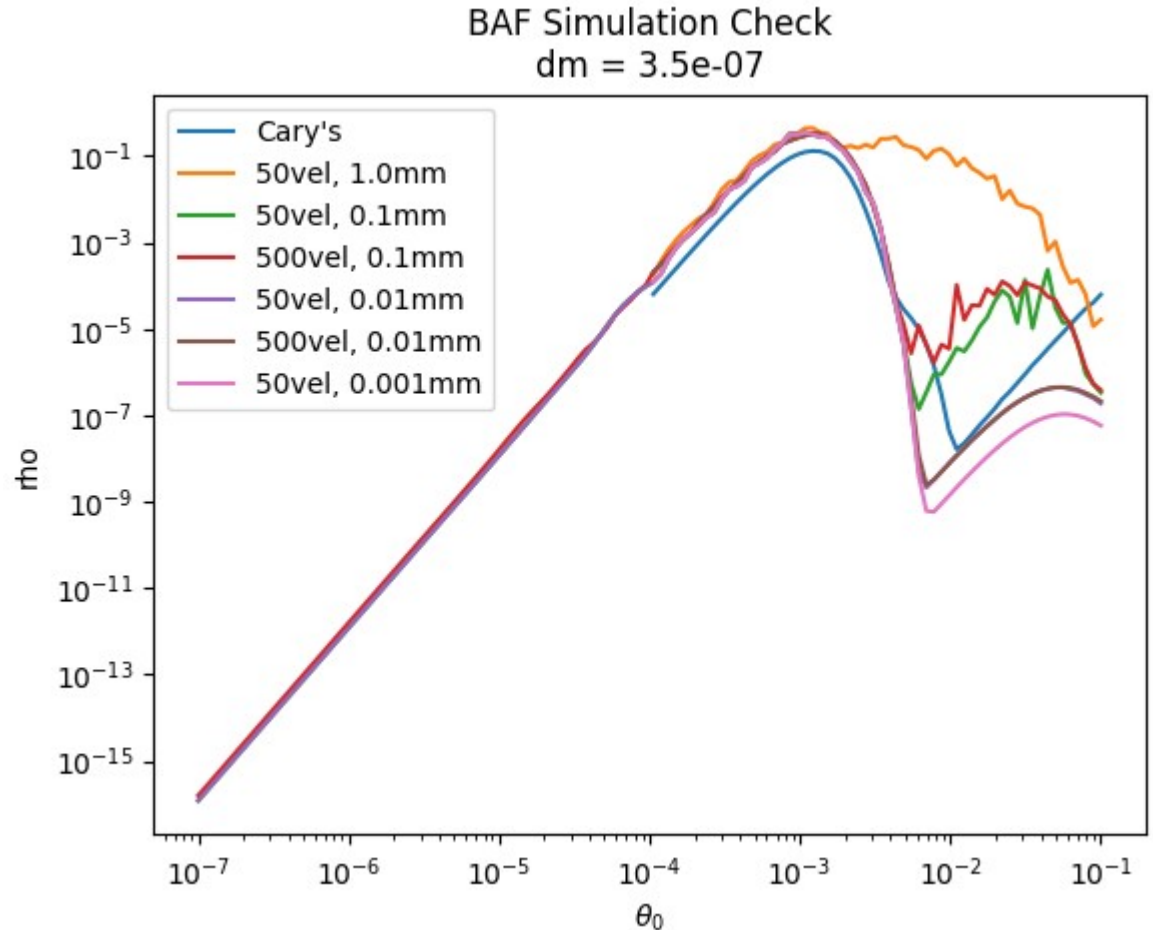


1mm step, 500 vel



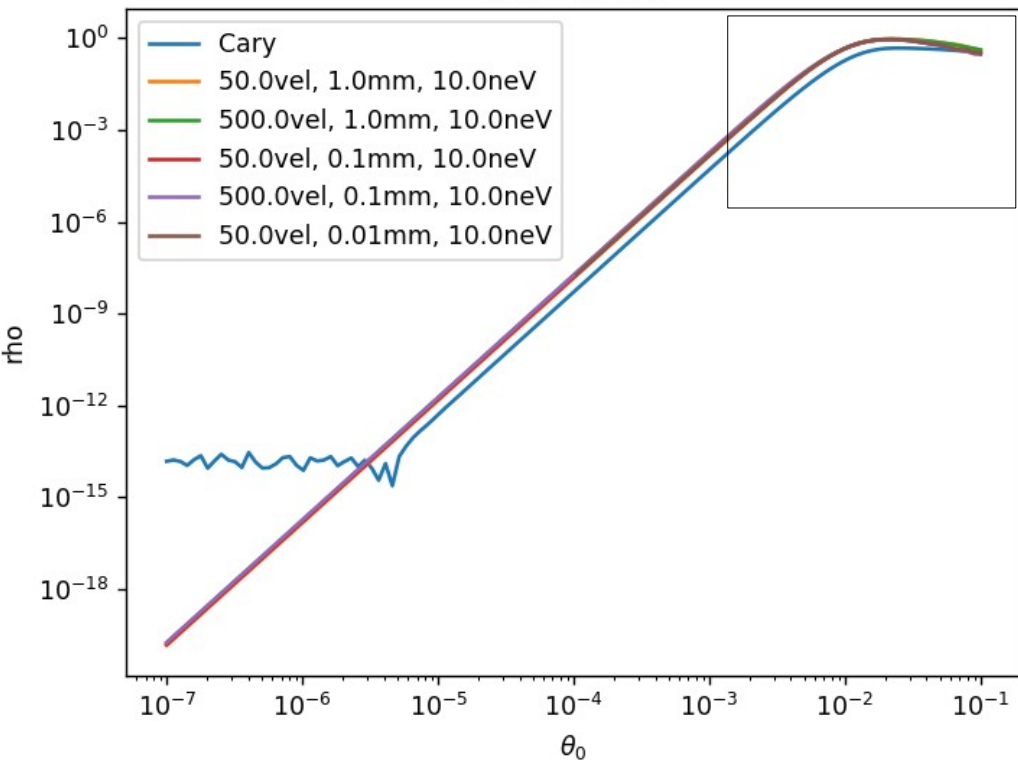
# One dm (4 transitions)

- Becomes smooth at 0.01mm step size
- Step size is more important than number of velocities
- More Unstable when  $\nabla B$  is large so perhaps it will work for low  $\Delta m$

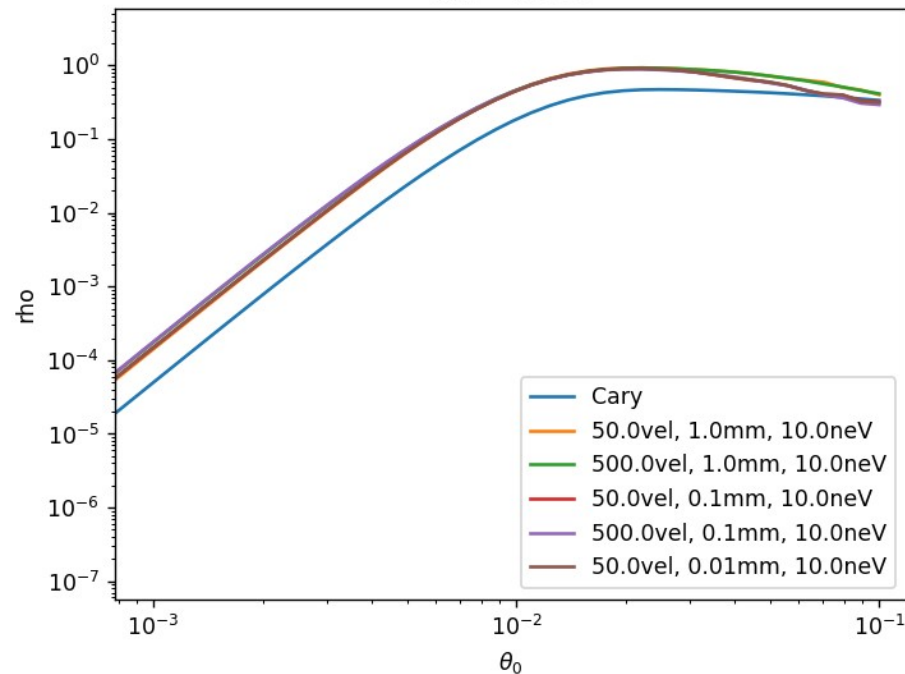


$$\Delta m = 10 \text{ neV}$$

BAF Simulation Check  
dm = 1e-08



BAF Simulation Check  
dm = 1e-08



- 0.1 and 0.01mm converge to a similar value

# Full Simulation: 50 vel, 1mm step

- ~1 hour runtime on i7 8<sup>th</sup> gen cpu
- Smooth, but discontinuous
- $\Delta m < 10$  is mine
- 60  $\Delta m$  values

