Figure 5: Evaporation of Cs and 174Yb to dual degeneracy.

Reported errors are calculated from the standard deviation of the measured values.

Figure 5a: Temperature vs time during the evaporation sequence. Inset shows corresponding phase space density vs atom number.

Fig5a\_CsYb.csv contains the Cs and Yb temperature vs time data for the dual-species evaporation portion of the sequence.

Fig5a\_Ybonly.csv contains the Yb temperature vs time data for the initial stage of Yb evaporation (prior to loading the Cs sample).

Time is the time in ms with t = 0 referenced to the beginning of the dual species evaporation.

Yb Temperature is the temperature of the Yb atoms in uK.

Error Yb Temp is the error in the Yb temperature, in units of uK.

Cs Temperature is the temperature of the Yb atoms in uK.

Error Cs Temp is the error in the Yb temperature, in units of uK.

Fig5a\_inset\_CsYb.csv contains the Cs and Yb phase space density vs atom number data for the dual-species evaporation portion of the sequence.

Fig5a\_inset\_Ybonly.csv contains the Yb phase space density vs atom number data for the initial stage of Yb evaporation (prior to loading the Cs sample).

Yb Number is the measured number of Yb atoms.

Error Yb N is the error in the Yb atom number.

Yb Phase Space Density is the phase space density of the Yb atoms.

Error Yb PSD is the error in the Yb phase space density.

Cs Number is the measured number of Cs atoms.

Error Cs N is the error in the Cs atom number.

Cs Phase Space Density is the phase space density of the Cs atoms.

Error Cs PSD is the error in the Cs phase space density.

Figure 5b:

Fig5b\_Yb\_crosscut.csv contains the optical depth data for the horizontal cross section through the center of the Yb optical depth image.

x is the horizontal position in units of um.

Optical Depth is the optical depth.

Fig5b\_inset.csv is the full 2D optical depth data for the Yb BEC image. Effective pixel size (including system magnification) is 8.67 um.

Figure 5c:

Fig5c\_Cs\_crosscut.csv contains the optical depth data for the horizontal cross section through the center of the Cs optical depth image.

x is the horizontal position in units of um.

Optical Depth is the optical depth.

Fig5c\_inset.csv is the full 2D optical depth data for the Cs BEC image. Effective pixel size (including system magnification) is 11.8 um.