Data description

Figure 1
- The field data are stored in $E_x$ and $E_y$ components.
- The file is stored in binary format with double precision numbers.
- The matrix is 1200 (horizontal) x 2000 (vertical) large
- The dimensions are 200 x 100 $\mu m^2$

Figure 2
- 7 data files in binary format, each corresponds to a different time and one datapoint on the plot
- The file is stored in binary format with double precision number.
- The maximum stored value is the energy of the fastest ion in MeV

Figure 3
- The data is stored as binary, “double precision” and correspond to the plot

Figure 4
- The field data are stored in $E_x$ and $E_y$ components.
- The file is stored in binary format with double precision number.
- The matrix is 1200 (horizontal) x 2000 (vertical) large
- The dimensions are 110 x 300 $\mu m^2$

Figure 5
- The data is stored as binary, “double precision” and corresponds to the plot

Figure 7
- focus images in png format

Figure 8
- Experimental data
  $I_{laser\_gauss\_CH} = [26, 23] \times 10^{19}$ w/cm$^2$
  $E_{pro\_gauss\_CH} = [28.25, 20.8]$ # Mev

  $I_{laser\_gauss\_Au} = [27, 19, 30, 31.5, 9.7, 3.7] \times 10^{19}$ w/cm$^2$
  $E_{pro\_gauss\_Au} = [25.2, 27.4, 29.4, 23.6, 13.7, 7.5]$ # Mev

  $I_{laser\_flattop\_CH\_mean} = [0.23, 0.24, 0.26, 0.26] \times 10^{19}$ w/cm$^2$
  $I_{laser\_flattop\_CH\_max} = [1.12, 2.17, 1.71, 1.50] \times 10^{19}$ w/cm$^2$
  $E_{pro\_flattop\_CH} = [5.9, 9.4, 7.5, 9.4]$ # Mev
\[ I_{\text{laser\_flattop\_Au\_mean}} = [0.24, 0.25, 0.24, 0.25, 0.24, 0.26, 0.28] \times 10^{19} \text{ w/cm}^2 \]
\[ I_{\text{laser\_flattop\_Au\_max}} = [1.55, 1.34, 1.16, 1.34, 1.65, 1.29, 1.93] \times 10^{19} \text{ w/cm}^2 \]
\[ E_{\text{pro\_flattop\_Au}} = [9.4, 9.4, 9.4, 9.4, 11, 7.5, 11] \text{ Mev} \]

- Simulation

\[ I_{\text{laser\_gauss\_CH\_simulat}} = [1,1,1,1,5,5,10,10,10,10] \times 10^{19} \text{ w/cm}^2 \]
\[ E_{\text{pro\_gauss\_CH\_simulat}} = [4.6, 5.5, 6.2, 6.5, 7.6, 9.7, 22.5, 24.5, 36.2, 39.5, 41.5] \text{ Mev} \]
\[ I_{\text{laser\_flattop\_CH\_simulat}} = [0.3, 1, 1] \times 10^{19} \text{ w/cm}^2 \]
\[ E_{\text{pro\_flattop\_CH\_simulat}} = [7, 16.6, 17.4] \text{ Mev} \]

**Figure 9**
- scanned RCF from the RCF scanner (Nikon Coolscan 9000), tif format

**Figure 10**
- processed data from the RCF analysis

\[ E_{3\_calibrate} = [11.9, 15.9, 20.8, 25.4, 29.4] \]
\[ dN_{3\_exp\_HD12\_EBT05} = [11.915, 7.217, 1.027, 0.2437, 0.026] \times 10^{10} \]
\[ E_{19\_calibrate} = [1.2, 3.2, 4.5, 5.5, 7.5, 9.4] \]
\[ dN_{19\_exp\_HD12\_EBT05} = [42.474, 4.983, 1.493, 0.31, 0.081, 0.002] \times 10^{10} \]
\[ E_{26\_calibrate} = [1.2, 3.2, 4.5, 5.5, 7.5, 9.4, 11] \]
\[ dN_{26\_exp\_HD12\_EBT05} = [83.073, 11.801, 5.001, 1.526, 0.403, 0.091, 0.006] \times 10^{10} \]
\[ E_{43\_calibrate} = [1.2, 3.2, 4.5, 5.5, 7.5, 9.4, 11, 12.4, 13.7] \]
\[ dN_{43\_exp\_HD12\_EBT05} = [25.455, 5.633, 2.526, 0.802, 0.514, 0.205, 0.078, 0.016, 0.001] \times 10^{10} \]
\[ E_{48\_calibrate} = [1.2, 3.2, 4.5, 5.5, 7.5] \]
\[ dN_{48\_exp\_HD12\_EBT05} = [17.783, 1.524, 0.189, 0.011, 0.009] \times 10^{10} \]

**Figure 11**
- processed data from the RCF analysis

\[ E_{3\_calibrate} = [11.9, 15.9, 20.8, 25.4, 29.4] \]
\[ \theta_{3\_exp\_HD12\_EBT05} = [23.9774, 24.1735, 20.8761, 18.0675, 8.6508] \]
\[ E_{19\_calibrate} = [1.2, 3.2, 4.5, 5.5, 7.5, 9.4] \]
\[ \theta_{19\_exp\_HD12\_EBT05} = [22.0790, 22.1357, 20.8568, 18.1472, 13.5175, 5.0802] \]
\[ E_{26\_calibrate} = [1.2, 3.2, 4.5, 5.5, 7.5, 9.4, 11] \]
\[
\theta_{26\text{ _exp HD12\ _EBT05}} = [26.1600, 26.3905, 26.3964, 25.3432, 21.0811, 15.0704, 6.9411]
\]

\[
E_{43\ _calibrate} = [1.2, 3.2000, 4.5000, 5.5, 9.4, 11., 12.4, 13.7]
\]

\[
\theta_{43\ _exp HD12\ _EBT05} = [23.6637, 22.1168, 20.7605, 19.2419, 16.8638, 13.3785, 9.7609, 3.7505]
\]

\[
E_{48\ _calibrate} = [1.2, 3.2, 4.5, 7.5]
\]

\[
\theta_{48\ _exp HD12\ _EBT05} = [22.2995, 18.7359, 9.7752, 9.196]
\]