Data Analysis
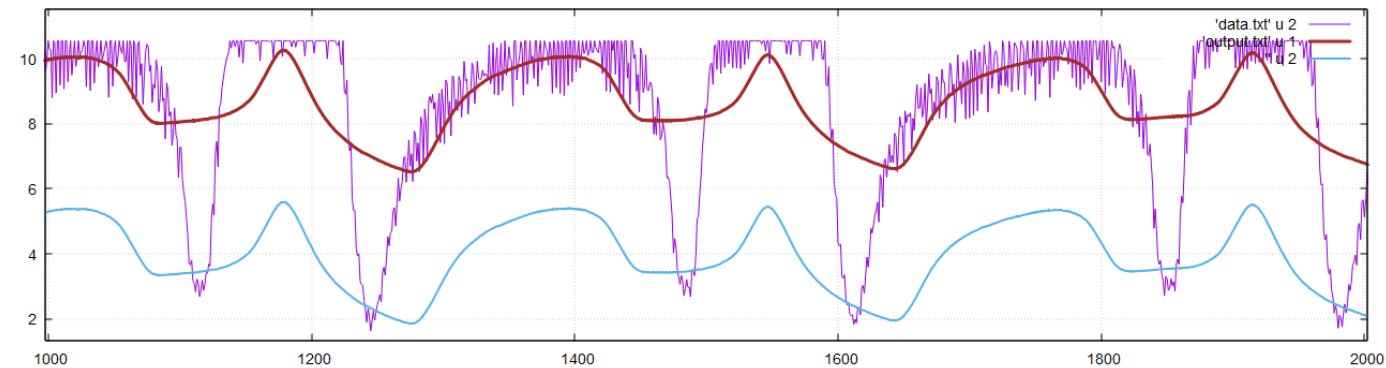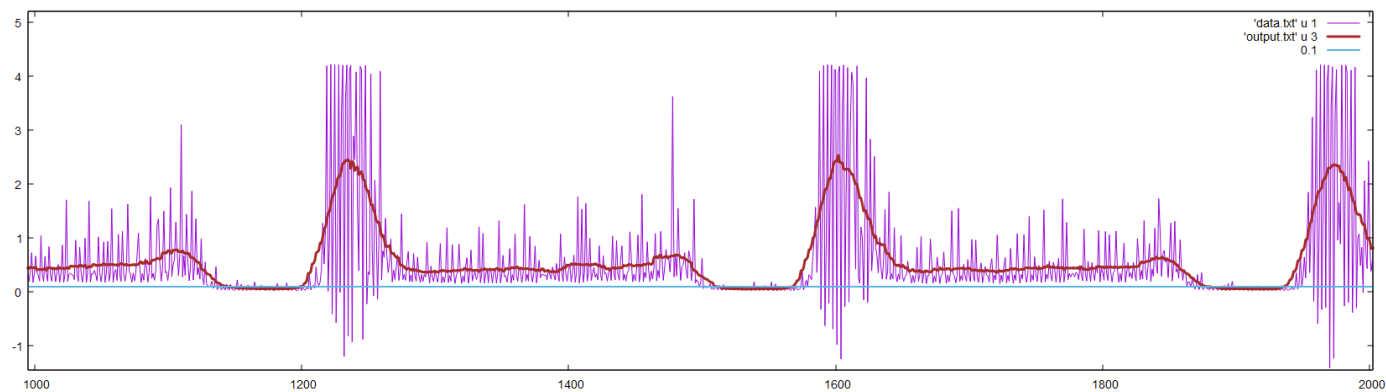

This is a part of the graph of Column 2 data (in purple), with moving average (in brown) and Bollinger band equal to moving average – 2.4 × standard deviation. As can be seen, this thresholding helps us pick out the required minimas. Out of the multiple points selected in a neighbourhood, the minimum is taken, and that is our peak.

This is a part of the graph of Column 1 data (in purple), with moving average (in brown) and $y = 0.1 * x$ (in blue). As can be seen, the parts of the graph corresponding to the body of the droplets have moving averages consistently below the blue line. Thus, we use those as markers, and find the significant maximas of the moving average on either side of the body of the droplet, which are the small and the big peaks, corresponding to the start and the end of the droplet respectively, and those selected maximas are our peaks.
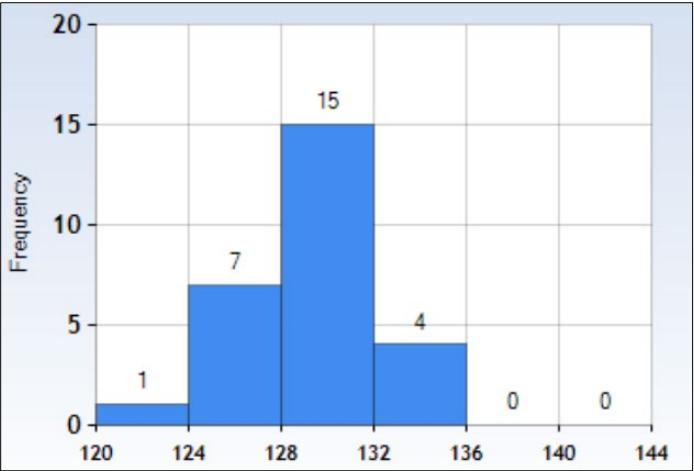
Column 2 Stats –		Column 1 Stats –	
Location: 9	Width: 127	Location: 0	Width: 131
Location: 376	Width: 128	Location: 369	Width: 125
Location: 741	Width: 134	Location: 736	Width: 128
Location: 1115	Width: 130	Location: 1111	Width: 124
Location: 1488	Width: 124	Location: 1480	Width: 122
Location: 1848	Width: 132	Location: 1845	Width: 128
Location: 2222	Width: 129	Location: 2217	Width: 128
Location: 2594	Width: 126	Location: 2588	Width: 123
Location: 2960	Width: 129	Location: 2955	Width: 127
Location: 3331	Width: 131	Location: 3325	Width: 128
Location: 3699	Width: 127	Location: 3692	Width: 126
Location: 4066	Width: 129	Location: 4062	Width: 124
Location: 4434	Width: 132	Location: 4425	Width: 132
Location: 4806	Width: 127	Location: 4800	Width: 131
Location: 5173	Width: 129	Location: 5166	Width: 125
Location: 5541	Width: 128	Location: 5534	Width: 131
Location: 5917	Width: 126	Location: 5910	Width: 123
Location: 6279	Width: 128	Location: 6273	Width: 127
Location: 6646	Width: 133	Location: 6641	Width: 133
Location: 7017	Width: 129	Location: 7017	Width: 124
Location: 7389	Width: 128	Location: 7374	Width: 132
Location: 7759	Width: 127	Location: 7749	Width: 121
Location: 8127	Width: 128	Location: 8123	Width: 139
Location: 8492	Width: 130	Location: 8492	Width: 129
Location: 8864	Width: 122	Location: 8854	Width: 135
Location: 9231	Width: 130	Location: 9221	Width: 142
Location: 9600	Width: 129	Location: 9597	Width: 132
Mean Width = 128.59	StDev of Width = 2.54	Mean Width = 128.52	StDev of Width = 4.97
Mean Arrival Time = 368.88	StDev of Time = 3.69	Mean Arrival Time = 369.12	StDev of Time = 4.81

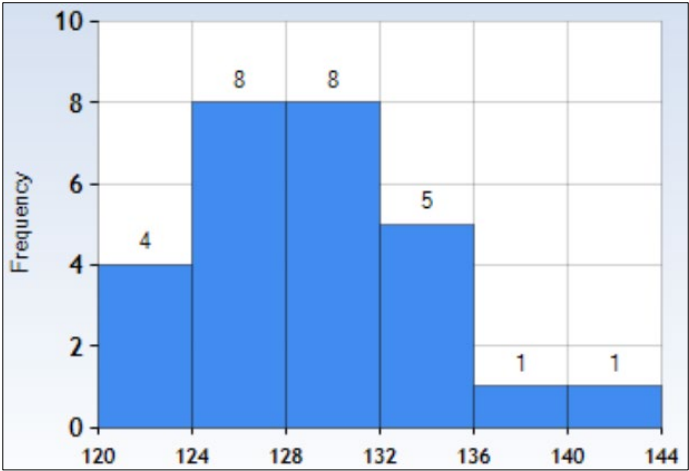Column 2 Calculated Stats   Column 1 Calculated Stats

Data Analysis

Histograms of the above Data:

Column 2 Calculated Widths

Column 1 Calculated Widths