https://doi.org/10.5258/SOTON/D0802

Files relating to the paper:

# “Acoustofluidic particle steering”, Zaid Shaglwf, Bjorn Hammarström , Dina Shona Laila , Martyn Hill, Peter Glynne-Jones. Published JASA

Attached file contain steering code.

1. Open Micromanager with camera acquisition.
2. Open valve (run Switch_P_V.m).
3. Inject one particle manually.
4. Start the levitation frequency only (Arduino code must be uploaded to Arduino board).
5. Close Micromanager with camera acquisition.
6. Close valve (run Switch_P_V.m).
7. Run Steering Matlab code (steer_DM.m or steer_CFM.m).
8. Enter steering file number for saving steering data.
9. Click on the particle for measuring the vibration value (pop-up screen)
10. Specify shape steering (two points mainly, see instructions in Steering_Shape_Points.m) (pop-up screen)
11. Wait until manipulation finish (particle reach target and data for both steering stages are saved in the specified steering file)
    - Run PLOT_Steering_Run.m for that steering file to display steering result for analysis (file number for DM is 983 and CFM is 1014).
    - To run the steering statistics, SteeringStatistic.m generates the magnitude/direction error histograms as well as speed histogram.
    - SuccessfulHistogram.m generates the DM\CFM Histogram of number of steps to a successful manipulation.
    - Plot_CFM and Plot_DM are designed to plot the mentioned two steering examples.