

Supplementary Materials

Figure S1 shows the processing steps to determine the local particle distribution, which is visualized in Figure 9 in the manuscript. APTV is a single-camera technique allowing to extend a planar image-based 2D-PTV approach to a 3D tracking approach with the help of astigmatic particle images. In the first step, a real-time image is recorded with the CCD camera from the top view. Using a pre-defined calibration curve, an exact height position in the microchannel (h -position) can be determined depending on the fluorescence of each particle. After this step, the counted particles can be positioned in the channel (Step 3). In a further processing step, the local particle distribution can be determined for all the particles at the respective height.

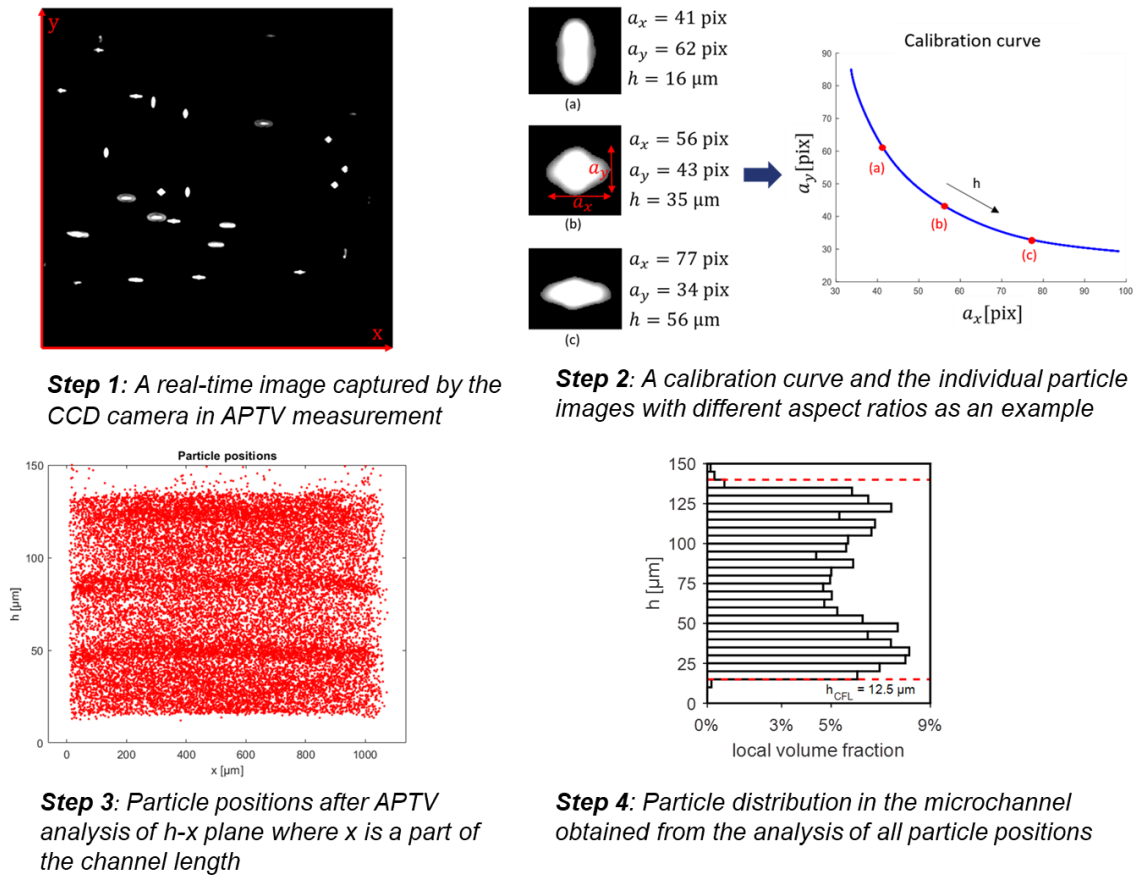


Figure S1. Visualization of the single steps for the analysis of the local particle distribution in the microchannel by APTV.