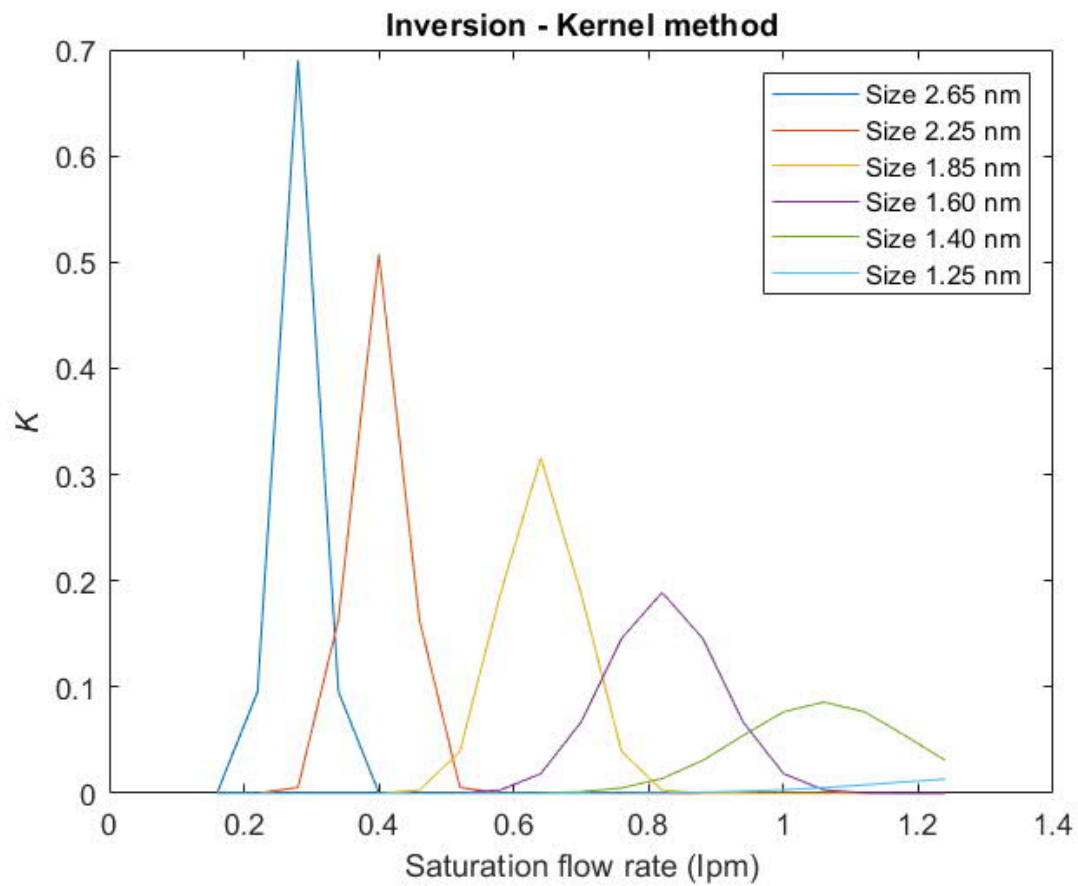
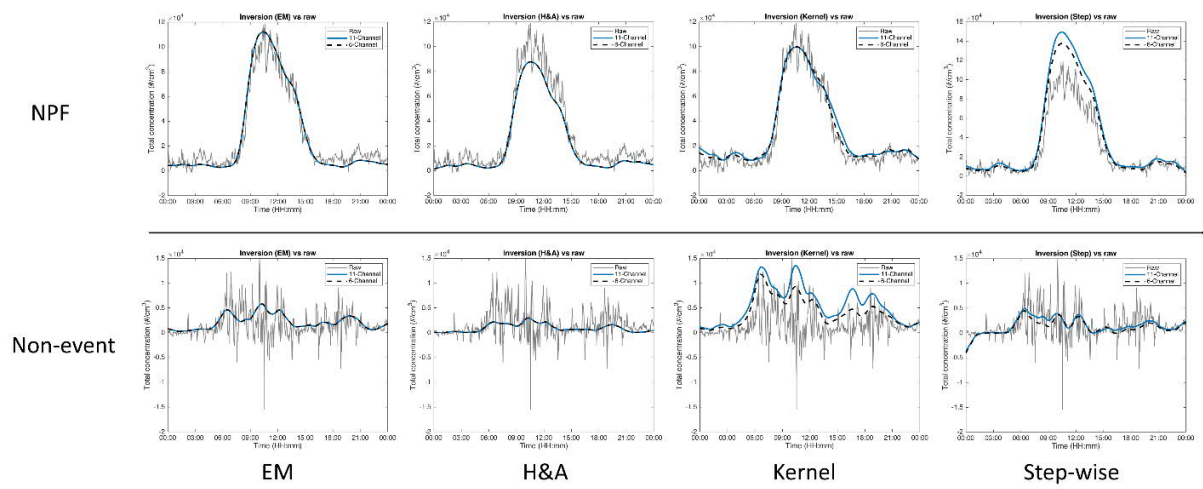


## Supplementary Information



**Fig. S1.** Inversion kernel using 6-channels. Note that these kernels were theoretically calculated and not implicitly used for the current study.



**Fig. S2.** Comparison of the 6- (dotted) and 11-channel (solid) size bins. The grey line indicates the raw estimation,  $R_{1.2-2.8}$  (calculated as difference between saturator flow rate at 1.3 lpm and 0.1 lpm). Top figures are during an NPF event (30 Jan) and bottom figures are from a non-event day (6 Mar).