

# Supplementary Information

## Ring-shaped deposition patterns in small nozzle-to-plate distance impactors

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To investigate the influence of  $S/W$  on the observed ring deposition patterns, two additional sets of data are presented herein. The first is shown in Fig. S.1, and contains the data from 44 deposition rings collected for  $S/W = 0.01$  and  $Stk$  between 0.011 and 0.031. The data is binned in  $Stk$  bin widths of 0.06. The error bars show 95% confidence intervals. This data is represented with triangles, and is presented along with the data from Fig. 4, represented by circles, for ease of comparison. This figure shows that, for the range of  $Stk$  and  $S/W$  investigated, the ring dimensions vary with  $Stk$  in the same qualitative fashion, regardless of  $S/W$ . Also, at a given  $Stk$ , the ring inner and outer diameters are larger for the larger value of  $S/W$ , while the ring thickness appears to be insensitive to  $S/W$ .

The second set of data is presented in Fig. S.2, and contains the unbinned data from 22 ring deposits at  $Stk = 0.013$ , for a range of  $S/W$ . Of note,  $Stk = 0.013$  is the smallest  $Stk$  explored in either data set presented in Fig. S.1, and is where the largest influence of  $S/W$  should be observed. As Fig. S.2 shows, the inner and outer ring diameters both increase with  $S/W$ , and by approximately the same amount. Concomitantly, the ring thickness is relatively insensitive to  $S/W$  for the parameter space tested.

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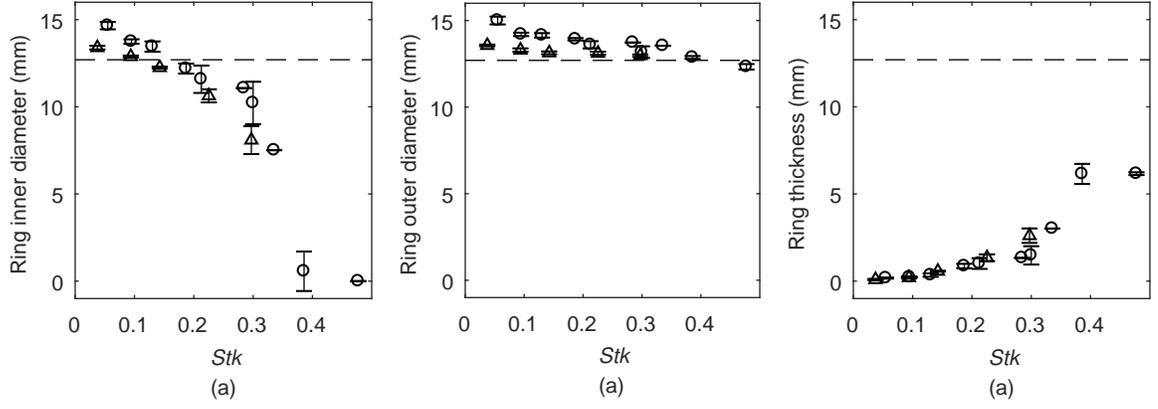


Figure S.1: Variation in (a) ring inner diameter, (b) ring outer diameter, and (c) ring thickness with  $Stk$  for fixed  $S/W$  values. Here  $\circ$  is data from Fig. 4 with  $S/W = 0.047$ , and  $\triangle$  is data taken at  $S/W = 0.01$ . The dashed lines in (a) - (c) are the nozzle diameter,  $W$ .

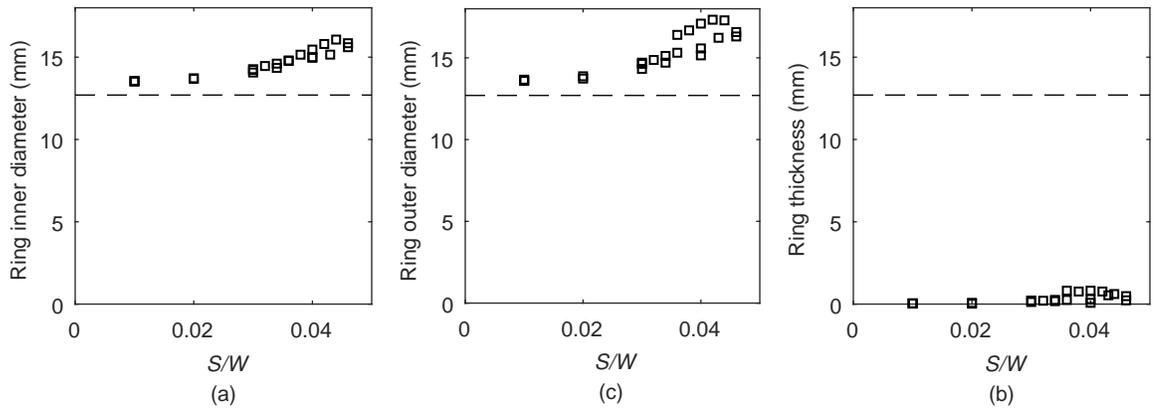


Figure S.2: Variation in (a) ring inner diameter, (b) ring outer diameter, and (c) ring thickness with  $S/W$  for  $Stk = 0.013$ . The dashed lines in (a) - (c) are the nozzle diameter,  $W$ .