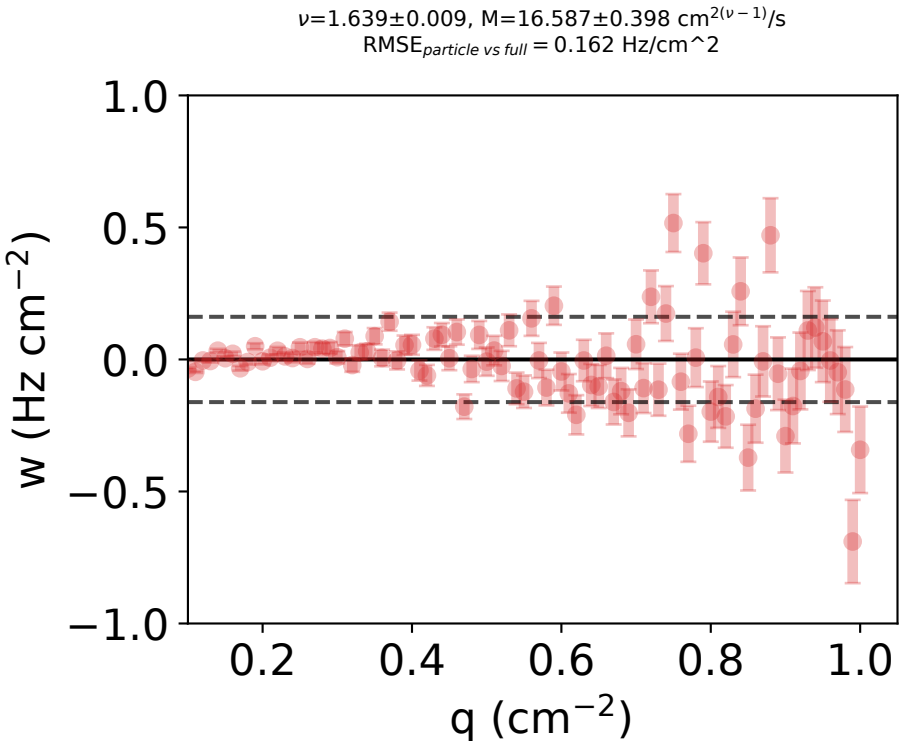
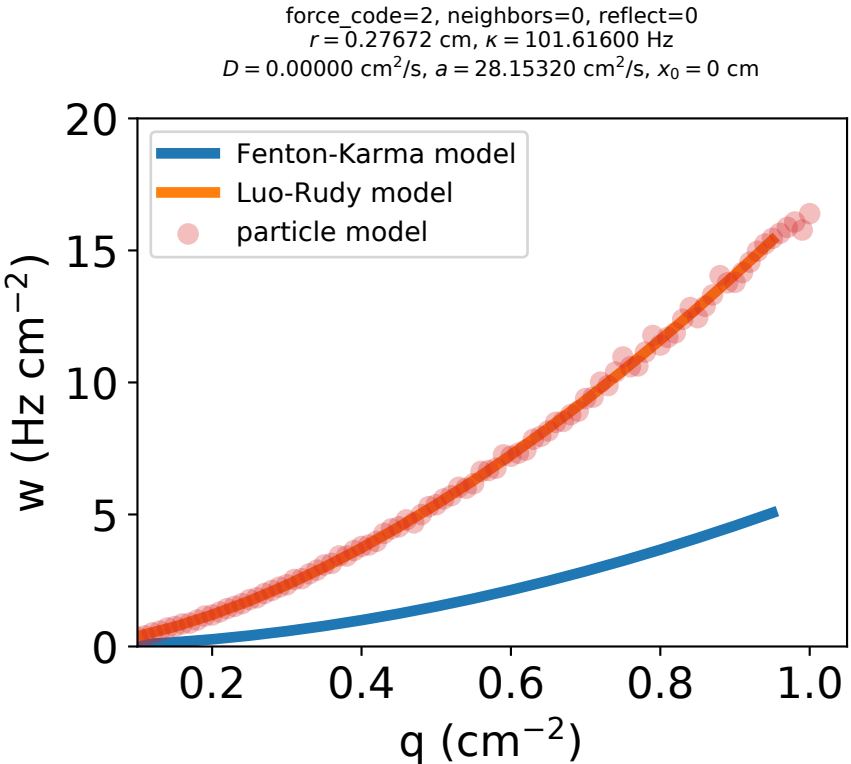
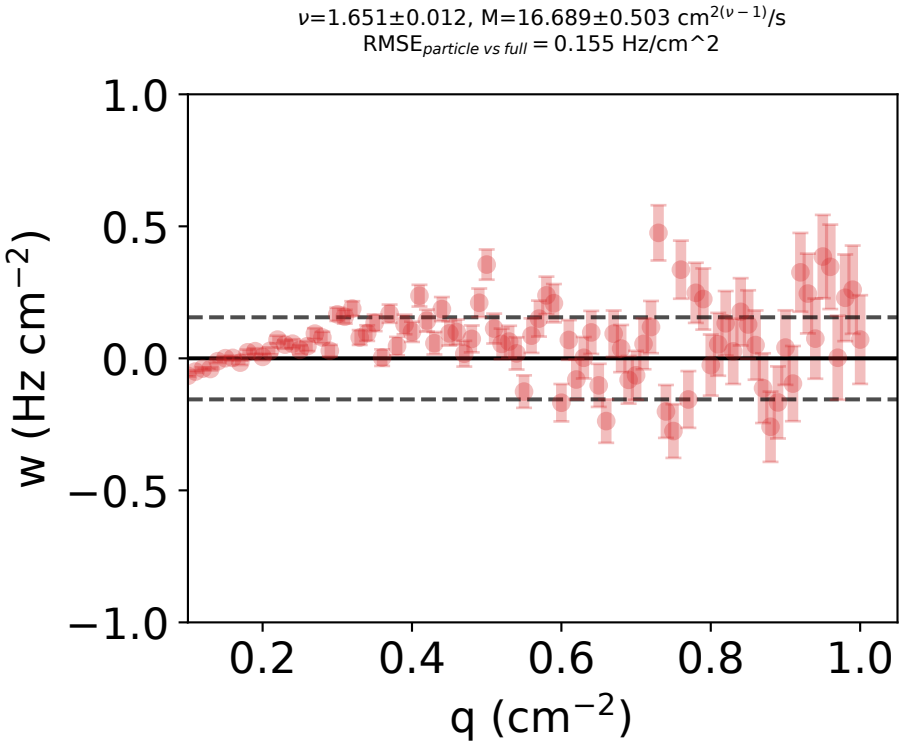
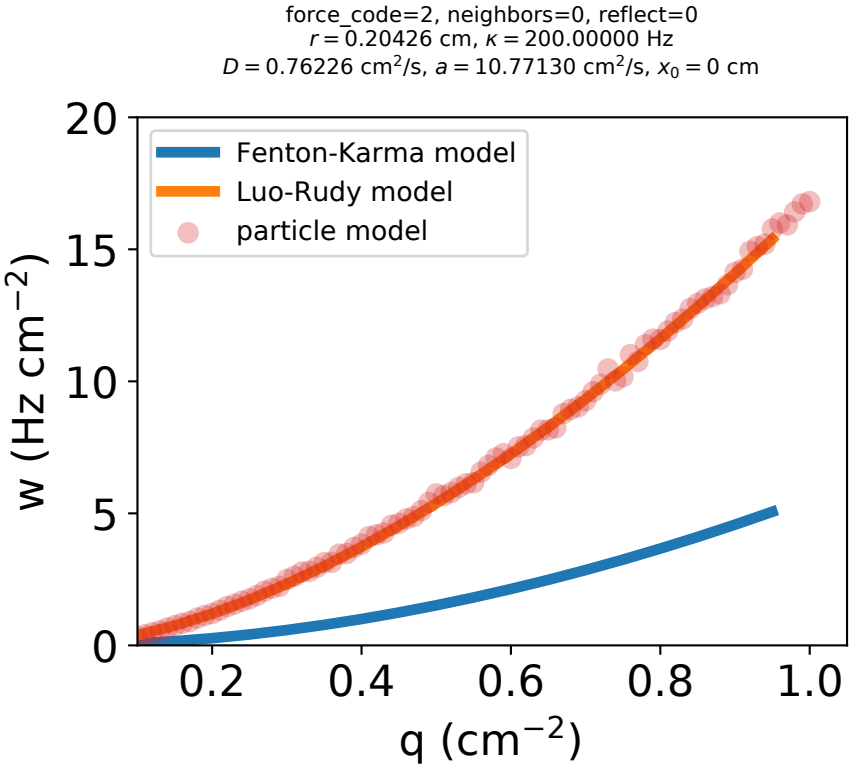
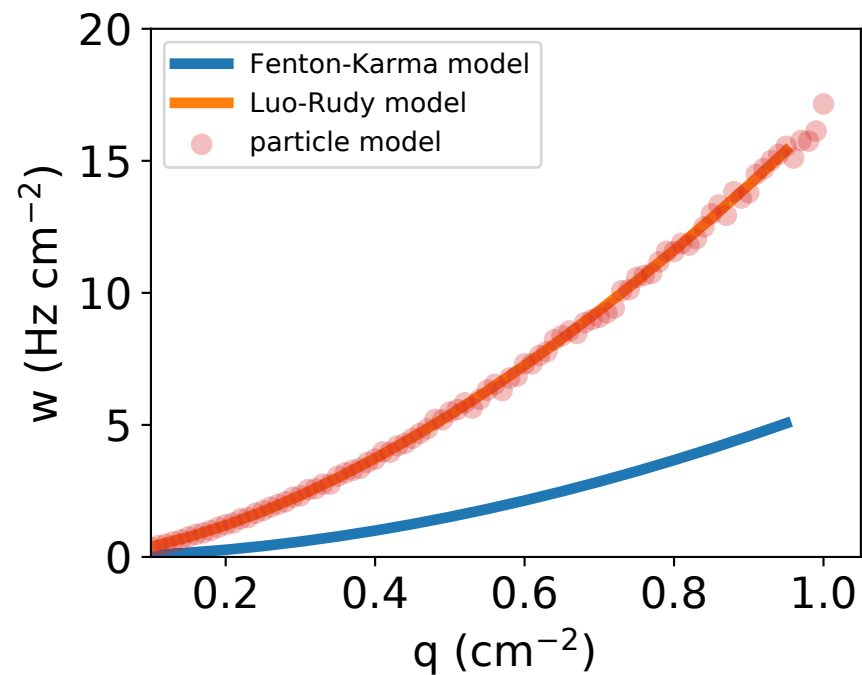


(left column) the mean annihilation rate, w , versus the particle number density, q , for (blue) the Fenton-Karma model, (orange) the Luo-Rudy model, and (red) the particle model. The parameters of the particle models were selected as the critical points found in the (r, a) plane with D and κ fixed.

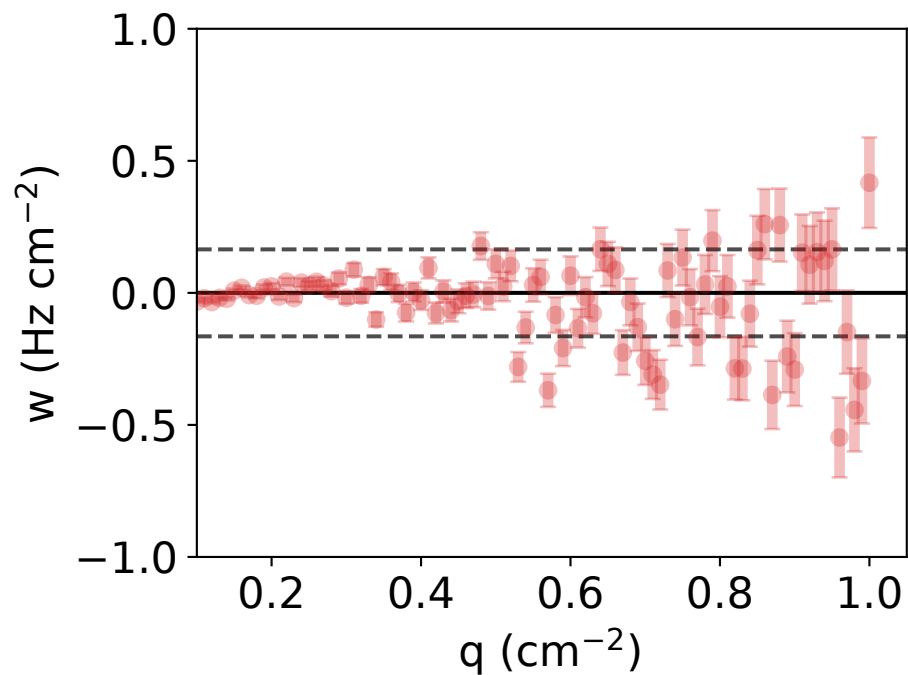
(right column) the disagreement of the mean annihilation rate of the particle model with that of the full model. Error bars represent the 95% confidence intervals for the particle model, supposing there is zero uncertainty from the full model.



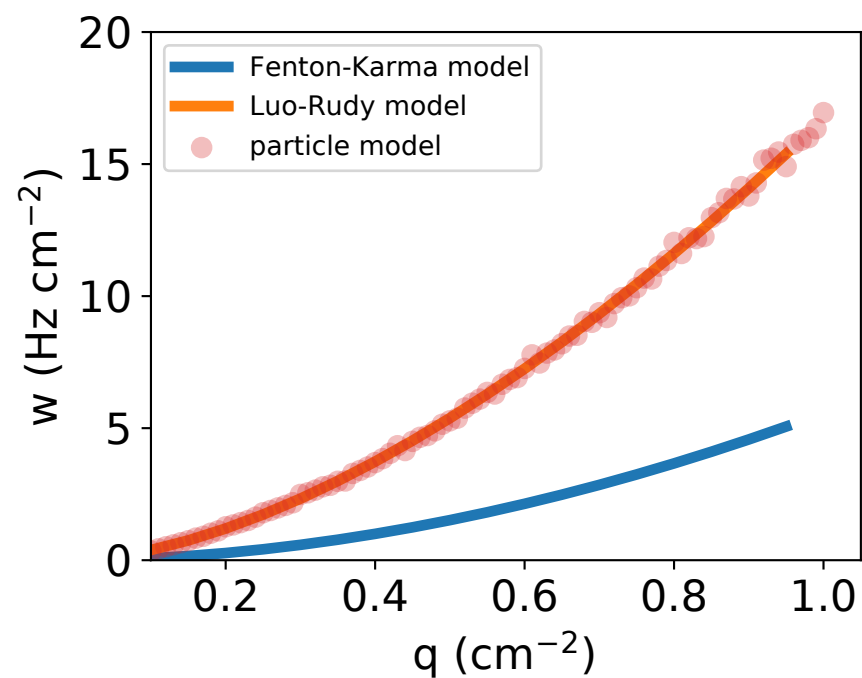
force_code=2, neighbors=0, reflect=0
 $r = 0.27918$ cm, $\kappa = 100.00000$ Hz
 $D = 0.00000$ cm²/s, $a = 28.58740$ cm²/s, $x_0 = 0$ cm



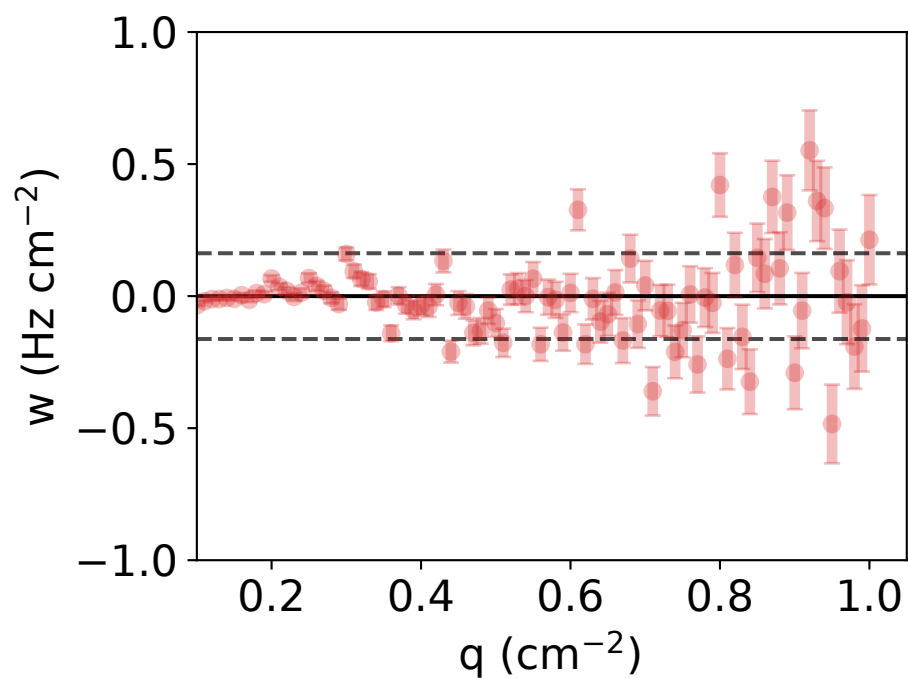
$\nu = 1.642 \pm 0.008$, $M = 16.605 \pm 0.382$ cm²($\nu - 1$)/s
 $RMSE_{particle\ vs\ full} = 0.165$ Hz/cm²



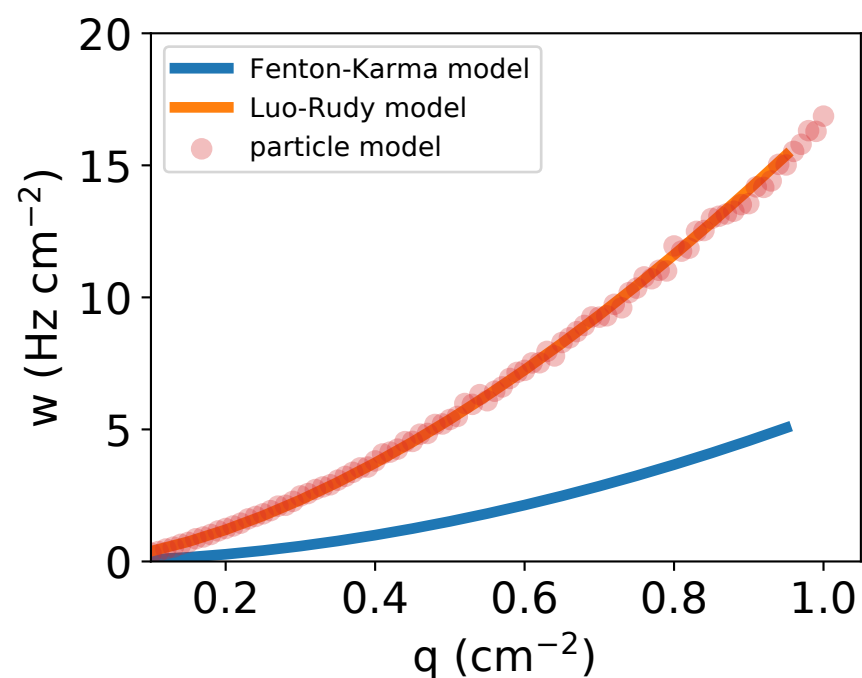
force_code=2, neighbors=0, reflect=0
 $r = 0.30249$ cm, $\kappa = 100.00000$ Hz
 $D = 0.70861$ cm²/s, $a = 14.00650$ cm²/s, $x_0 = 0$ cm



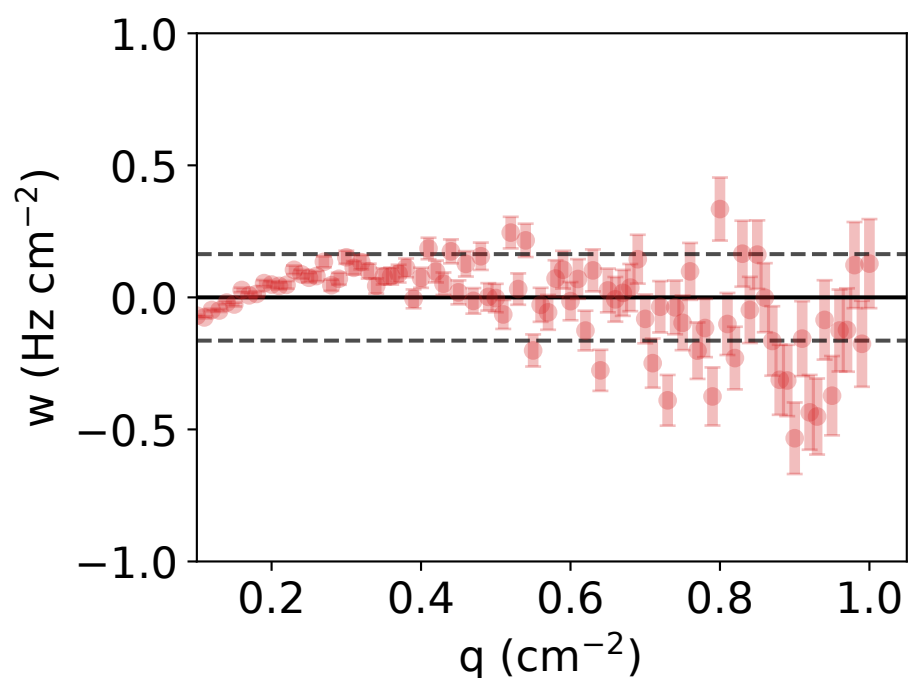
$\nu = 1.641 \pm 0.008$, $M = 16.735 \pm 0.394$ cm²($\nu - 1$)/s
 $RMSE_{particle\ vs\ full} = 0.162$ Hz/cm²



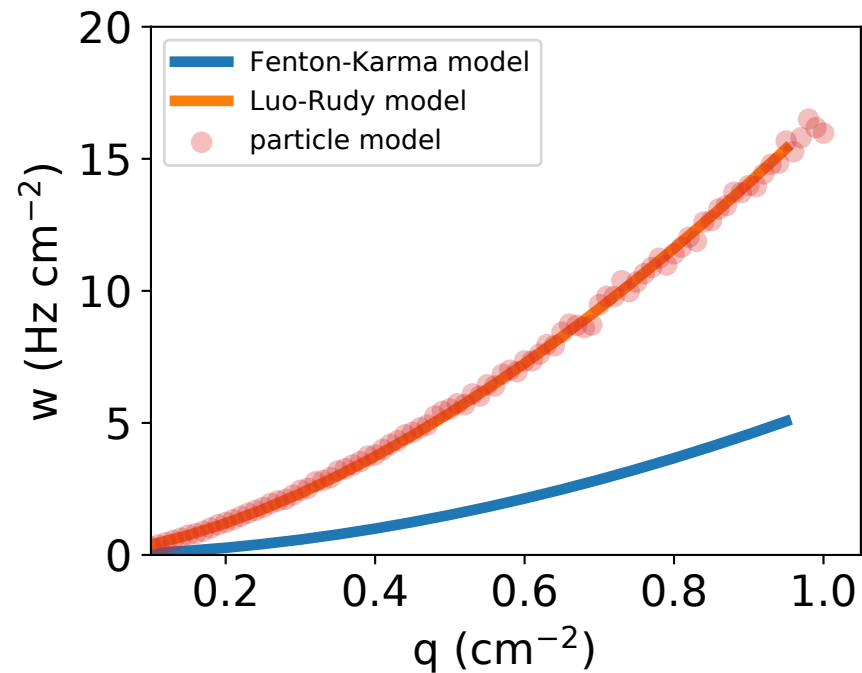
force_code=2, neighbors=0, reflect=0
 $r = 0.17587$ cm, $\kappa = 250.00000$ Hz
 $D = 0.13394$ cm²/s, $a = 10.51300$ cm²/s, $x_0 = 0$ cm



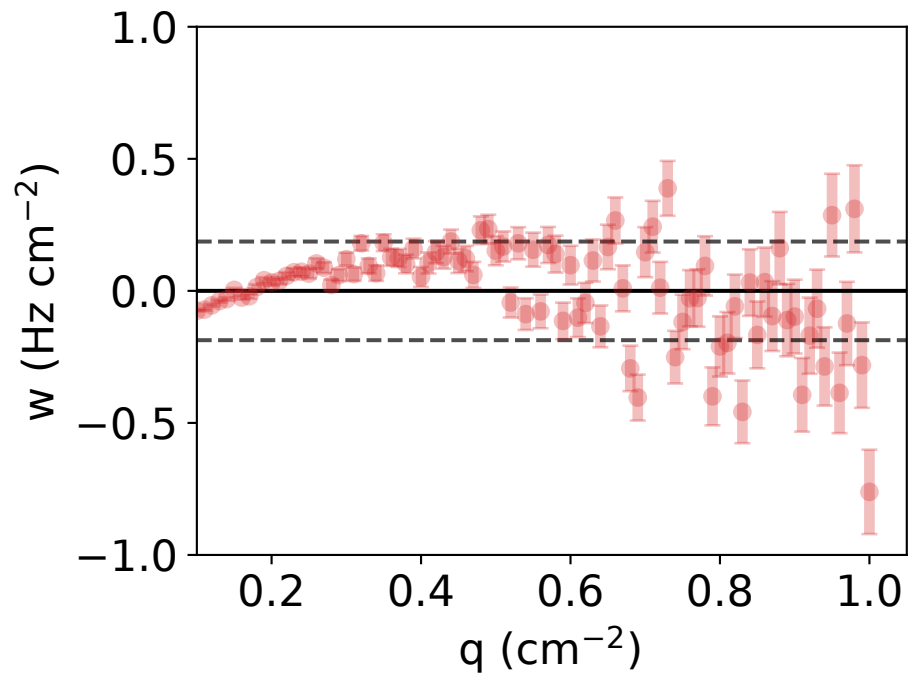
$\nu = 1.644 \pm 0.014$, $M = 16.365 \pm 0.564$ cm²($\nu - 1$)/s
 $RMSE_{particle\ vs\ full} = 0.164$ Hz/cm²



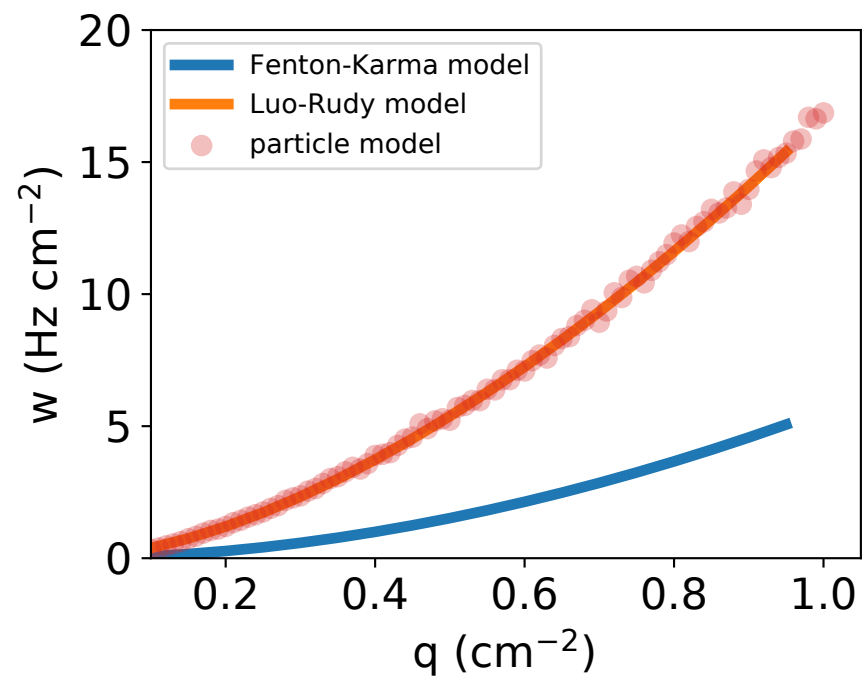
force_code=2, neighbors=0, reflect=0
 $r = 0.15643$ cm, $\kappa = 305.32700$ Hz
 $D = 0.28935$ cm²/s, $a = 9.60483$ cm²/s, $x_0 = 0$ cm



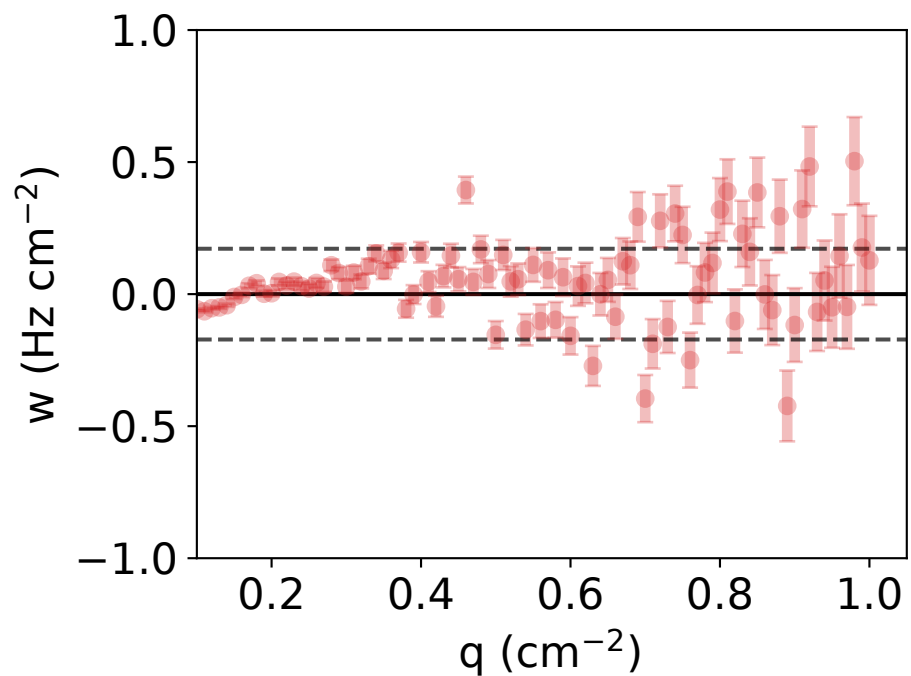
$\nu = 1.649 \pm 0.015$, $M = 16.365 \pm 0.599$ cm²($\nu - 1$)/s
 $RMSE_{particle \text{ vs full}} = 0.187$ Hz/cm²



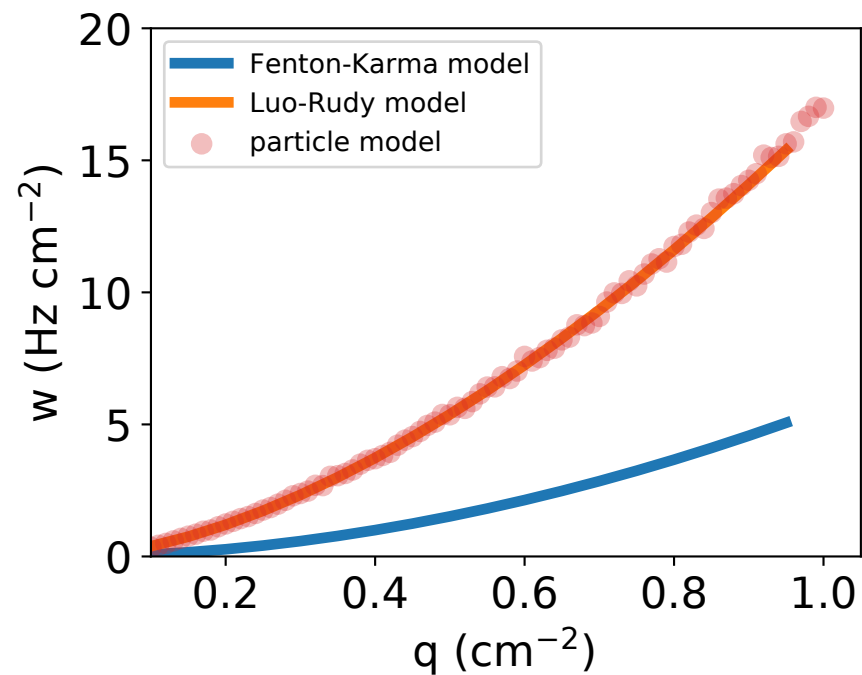
force_code=2, neighbors=0, reflect=0
 $r = 0.20554$ cm, $\kappa = 201.50700$ Hz
 $D = 0.50000$ cm²/s, $a = 10.48410$ cm²/s, $x_0 = 0$ cm



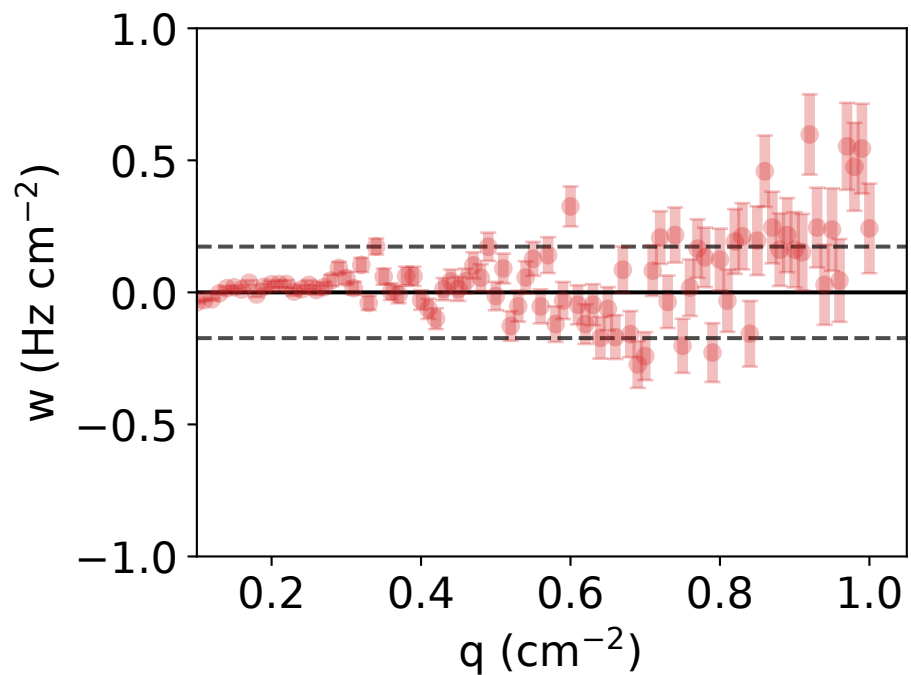
$\nu = 1.657 \pm 0.012$, $M = 16.737 \pm 0.524$ cm²($\nu - 1$)/s
 $RMSE_{particle \text{ vs full}} = 0.172$ Hz/cm²



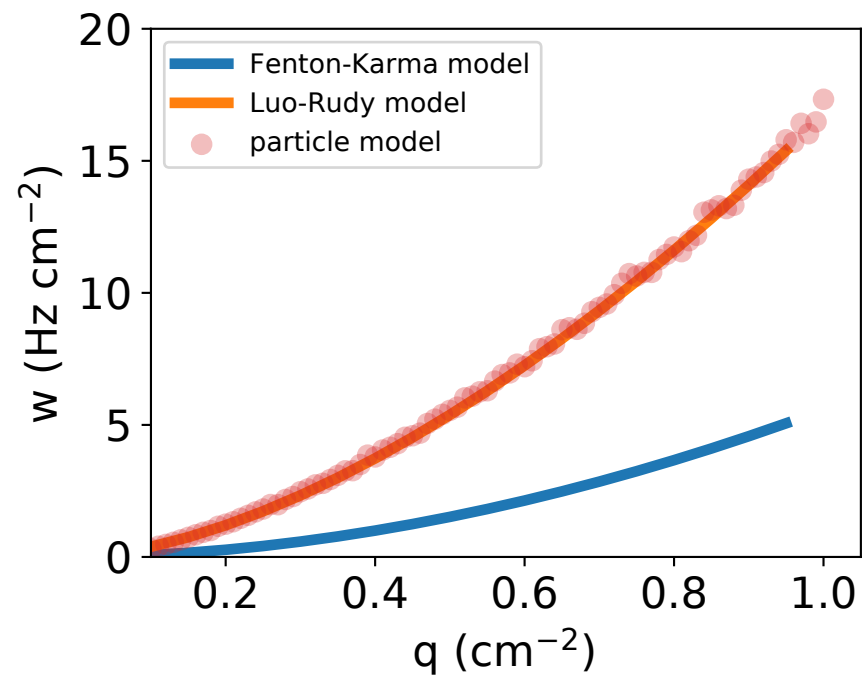
force_code=2, neighbors=0, reflect=0
 $r = 0.30681$ cm, $\kappa = 100.00000$ Hz
 $D = 0.32096$ cm²/s, $a = 14.24210$ cm²/s, $x_0 = 0$ cm



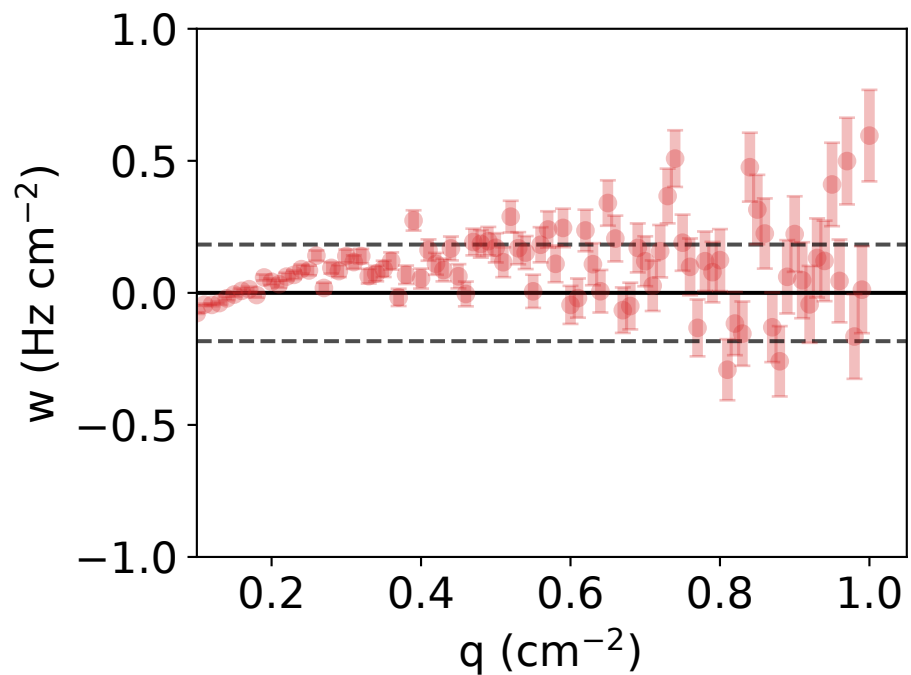
$\nu = 1.645 \pm 0.008$, $M = 16.927 \pm 0.379$ cm²($\nu - 1$)/s
 $RMSE_{particle \text{ vs full}} = 0.173$ Hz/cm²



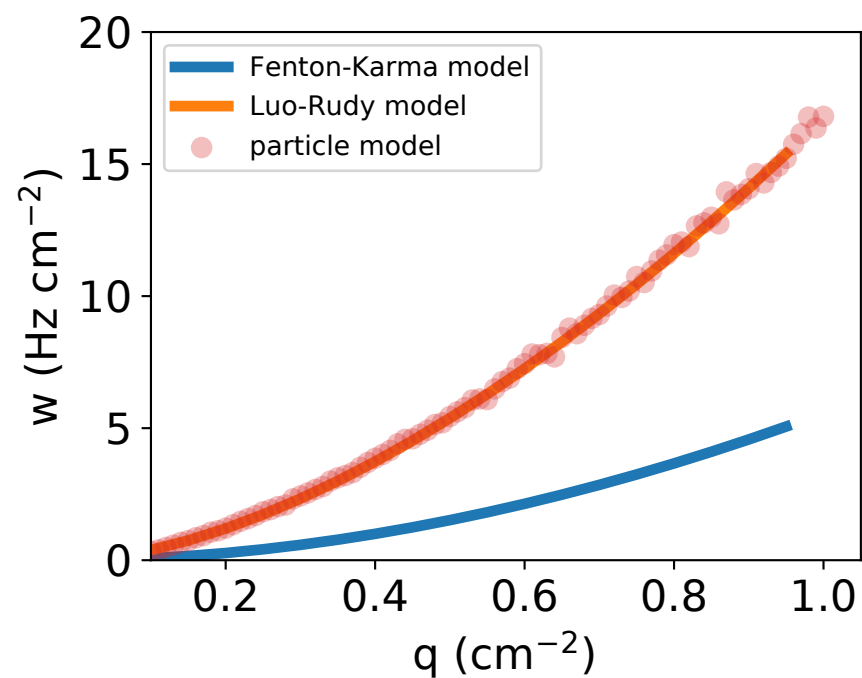
force_code=2, neighbors=0, reflect=0
 $r = 0.20312$ cm, $\kappa = 207.80400$ Hz
 $D = 0.45318$ cm²/s, $a = 10.62610$ cm²/s, $x_0 = 0$ cm



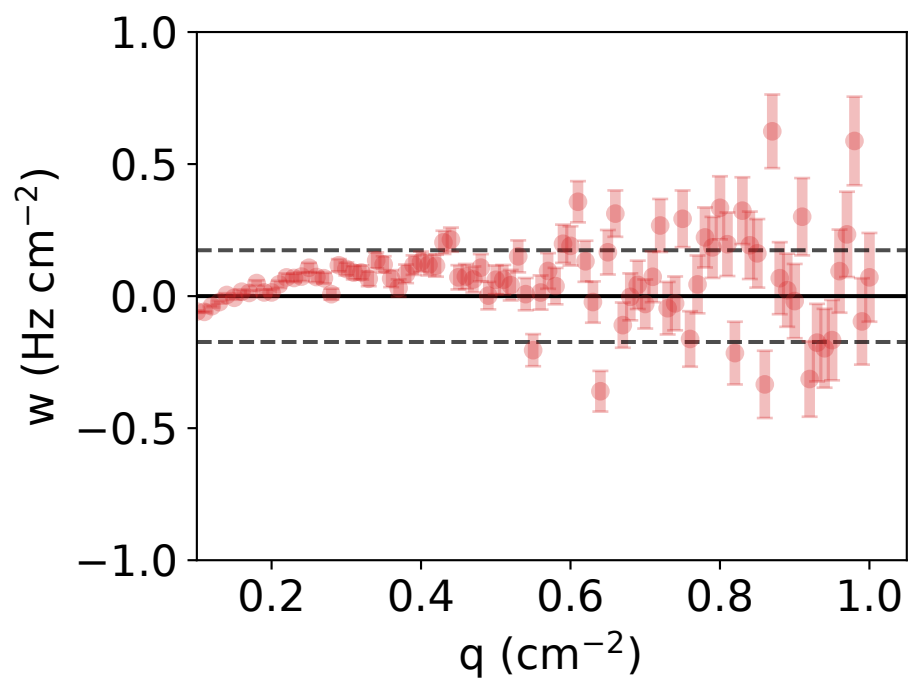
$\nu = 1.653 \pm 0.013$, $M = 16.730 \pm 0.533$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.183 Hz/cm²



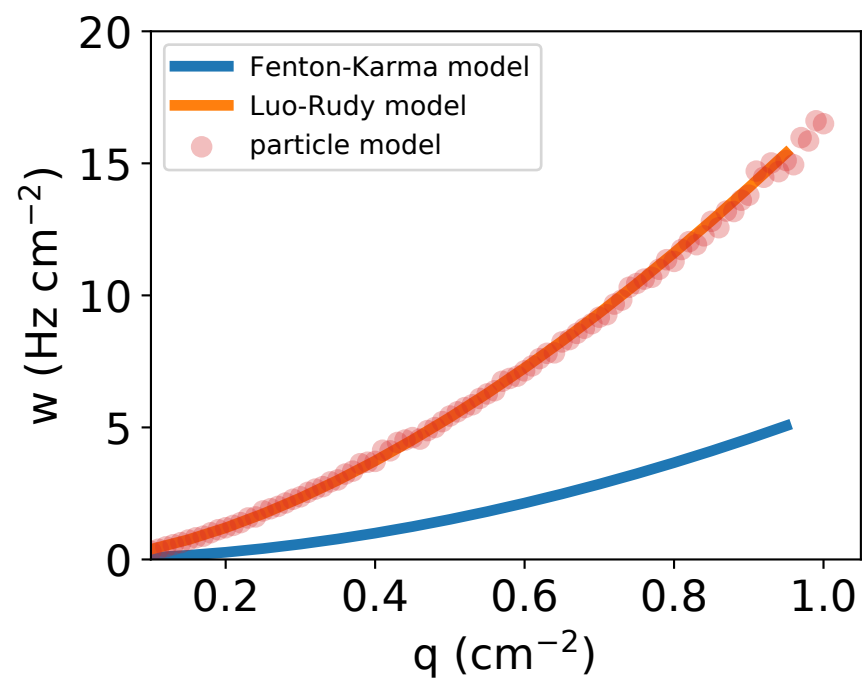
force_code=2, neighbors=0, reflect=0
 $r = 0.20546$ cm, $\kappa = 200.00000$ Hz
 $D = 0.65860$ cm²/s, $a = 10.71140$ cm²/s, $x_0 = 0$ cm



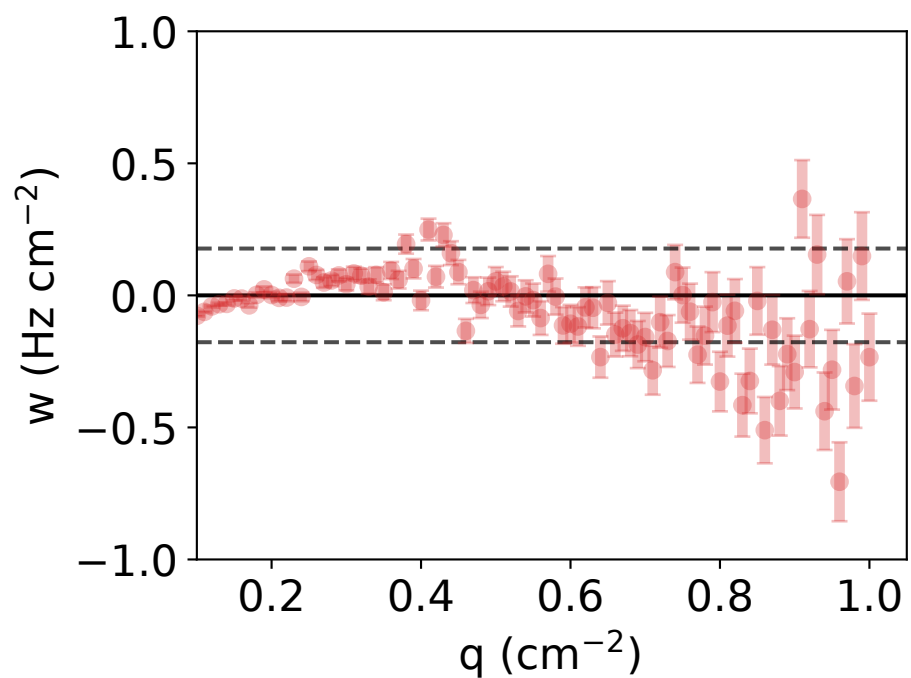
$\nu = 1.647 \pm 0.012$, $M = 16.690 \pm 0.500$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.174 Hz/cm²



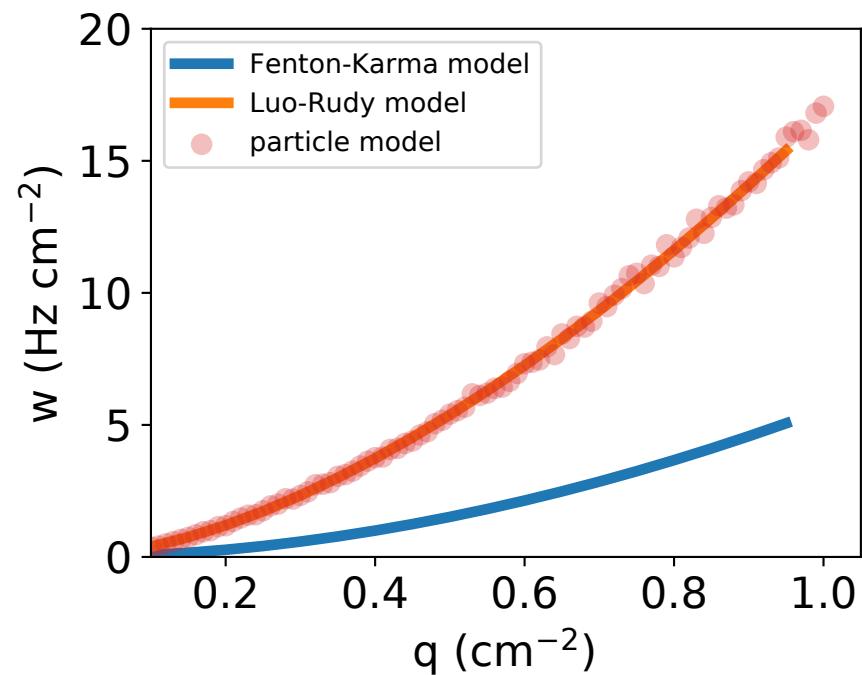
force_code=2, neighbors=0, reflect=0
 $r = 0.19581$ cm, $\kappa = 216.03700$ Hz
 $D = 0.34009$ cm²/s, $a = 10.47550$ cm²/s, $x_0 = 0$ cm



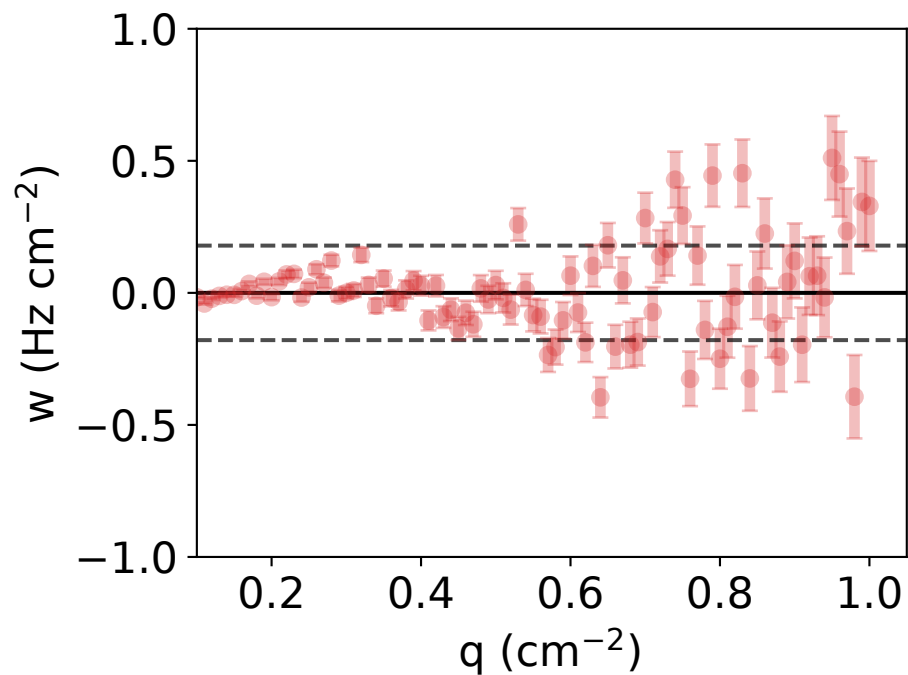
$\nu = 1.649 \pm 0.013$, $M = 16.329 \pm 0.519$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.177 Hz/cm²



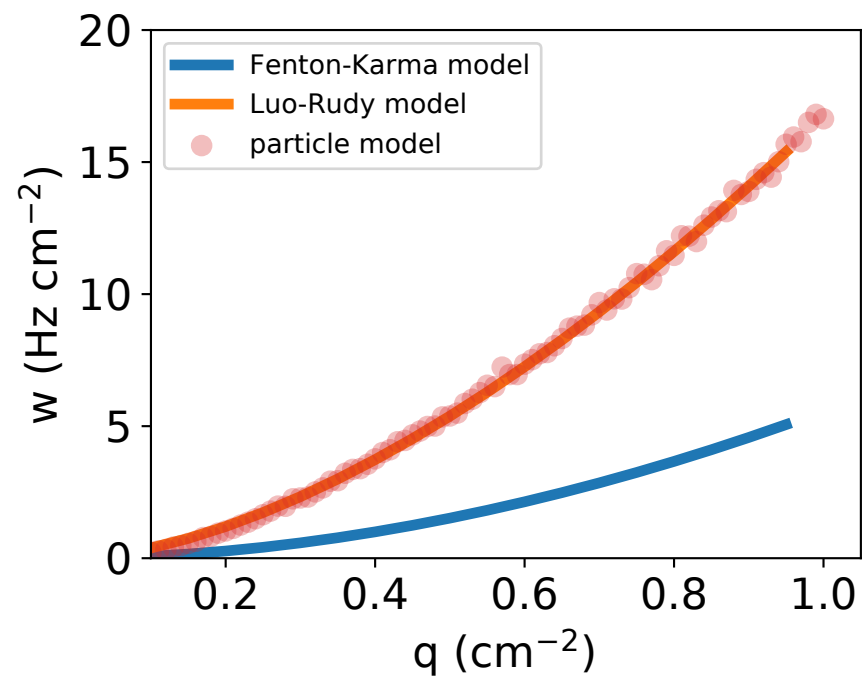
force_code=2, neighbors=0, reflect=0
 $r = 0.29445$ cm, $\kappa = 105.18700$ Hz
 $D = 0.11729$ cm²/s, $a = 14.50890$ cm²/s, $x_0 = 0$ cm



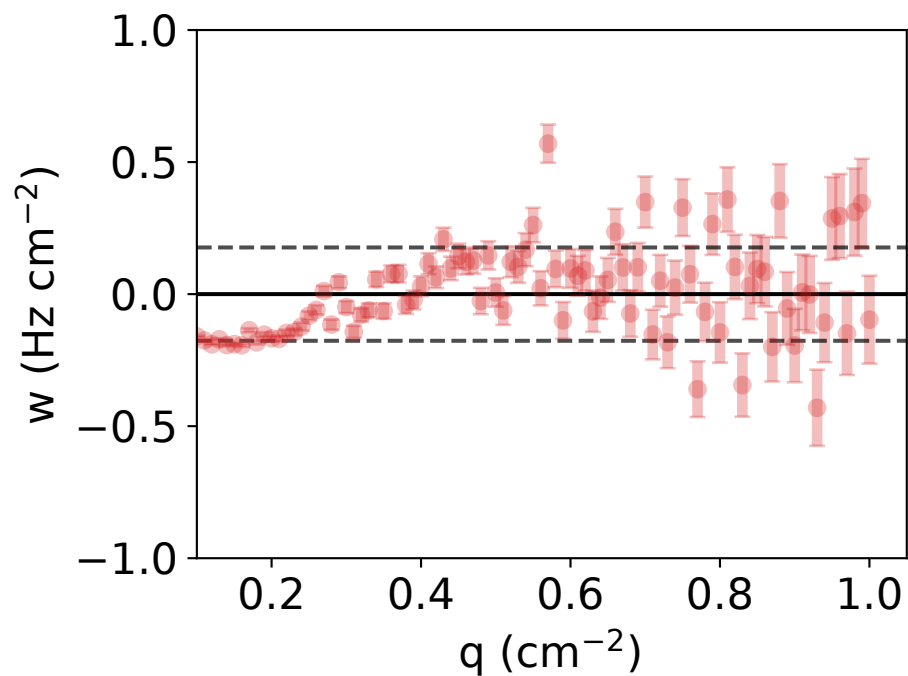
$\nu = 1.642 \pm 0.009$, $M = 16.795 \pm 0.432$ cm²($\nu - 1$)/s
 $RMSE_{particle \text{ vs full}} = 0.179$ Hz/cm²



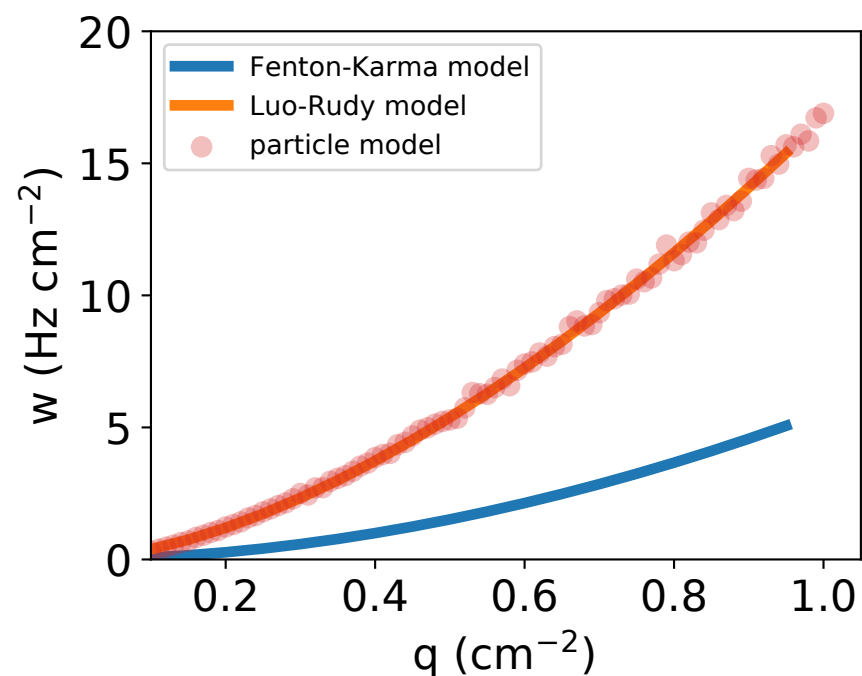
force_code=2, neighbors=0, reflect=0
 $r = 0.09877$ cm, $\kappa = 713.93400$ Hz
 $D = 0.67286$ cm²/s, $a = 6.37094$ cm²/s, $x_0 = 0$ cm



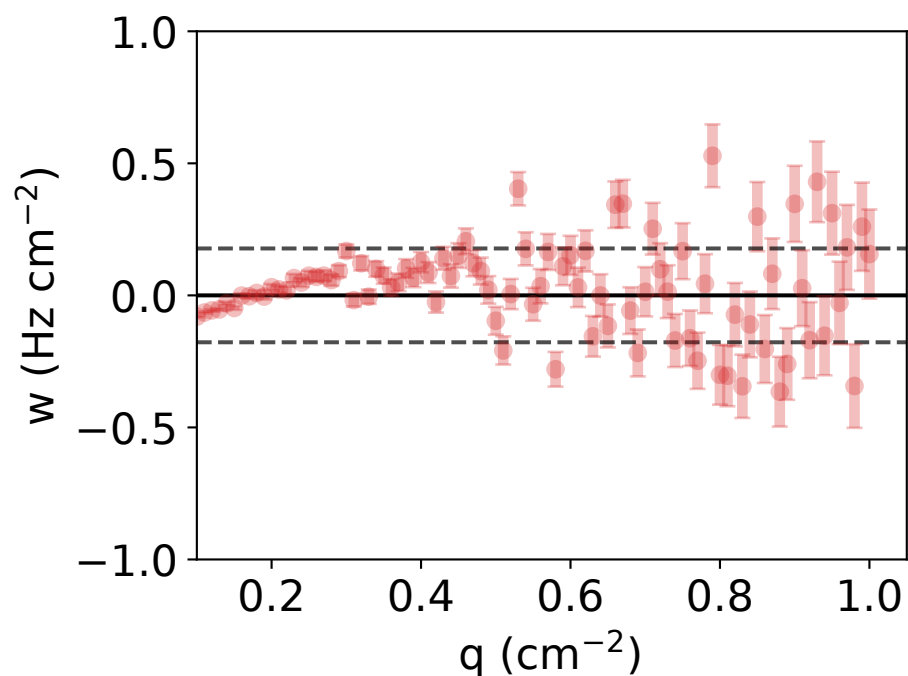
$\nu = 1.784 \pm 0.026$, $M = 16.581 \pm 1.033$ cm²($\nu - 1$)/s
 $RMSE_{particle \text{ vs full}} = 0.177$ Hz/cm²



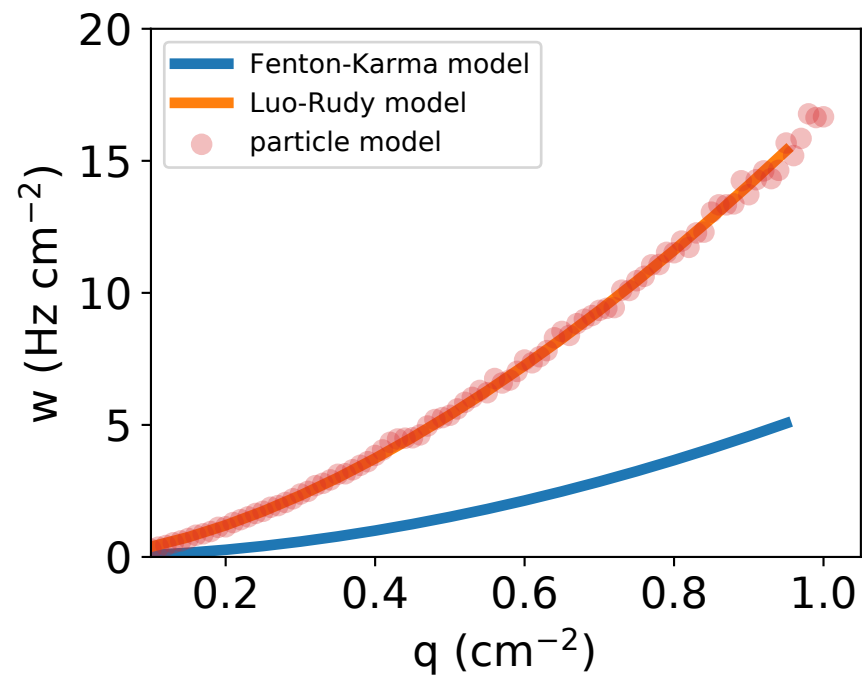
force_code=2, neighbors=0, reflect=0
 $r = 0.20014$ cm, $\kappa = 210.54500$ Hz
 $D = 0.38418$ cm²/s, $a = 10.38610$ cm²/s, $x_0 = 0$ cm



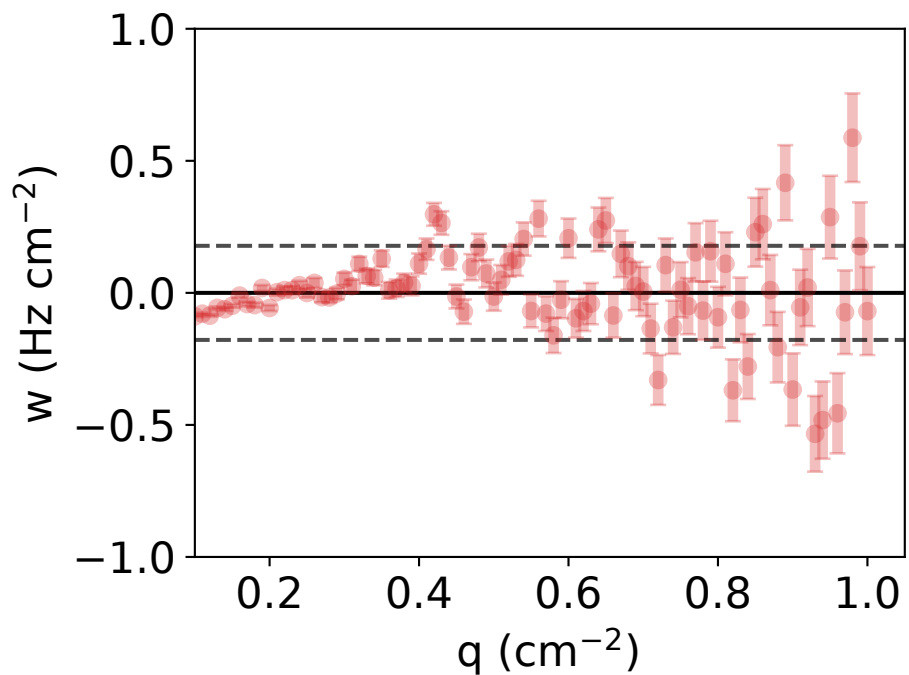
$\nu = 1.660 \pm 0.014$, $M = 16.584 \pm 0.589$ cm²($\nu - 1$)/s
 $RMSE_{particle \text{ vs full}} = 0.178$ Hz/cm²



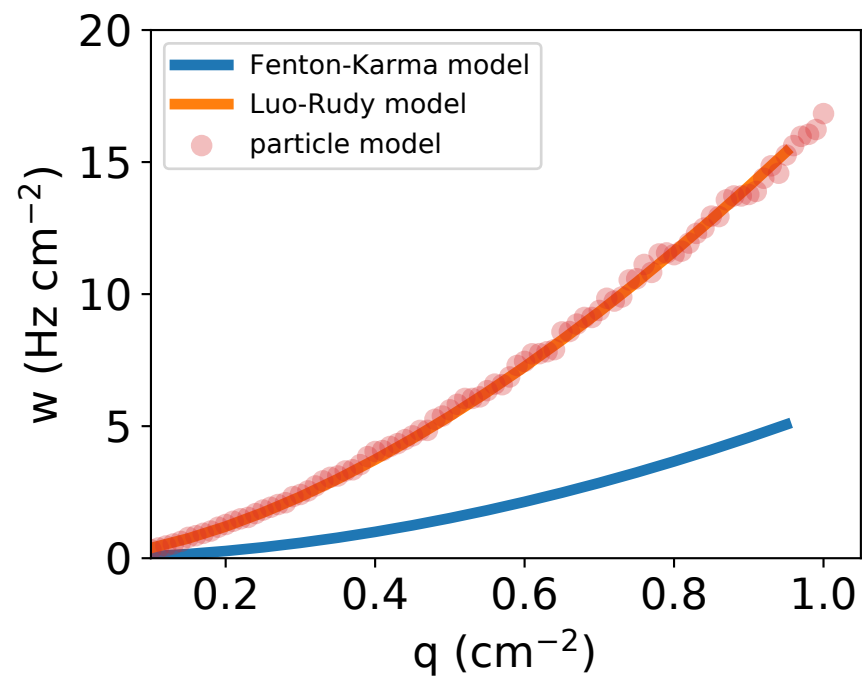
force_code=2, neighbors=0, reflect=0
 $r = 0.17534$ cm, $\kappa = 265.61500$ Hz
 $D = 0.20000$ cm²/s, $a = 9.50842$ cm²/s, $x_0 = 0$ cm



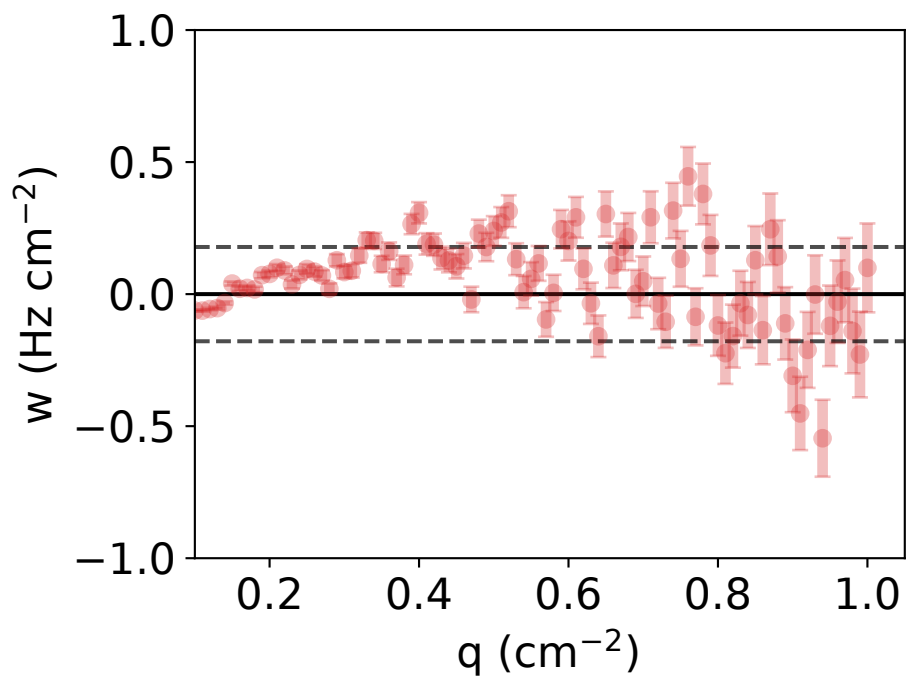
$\nu = 1.676 \pm 0.015$, $M = 16.538 \pm 0.613$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.178 Hz/cm²



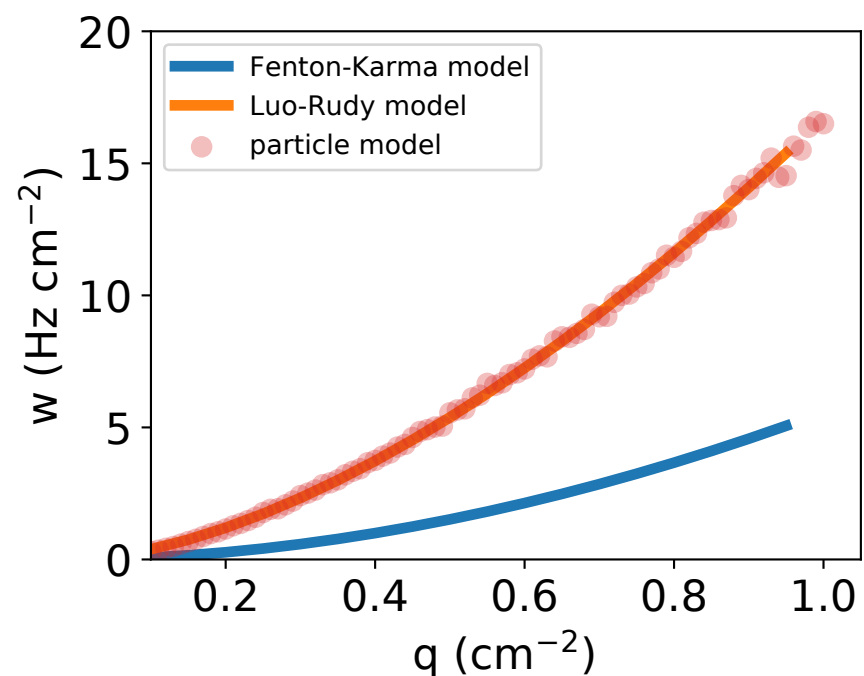
force_code=2, neighbors=0, reflect=0
 $r = 0.17609$ cm, $\kappa = 253.60000$ Hz
 $D = 0.69040$ cm²/s, $a = 10.12390$ cm²/s, $x_0 = 0$ cm



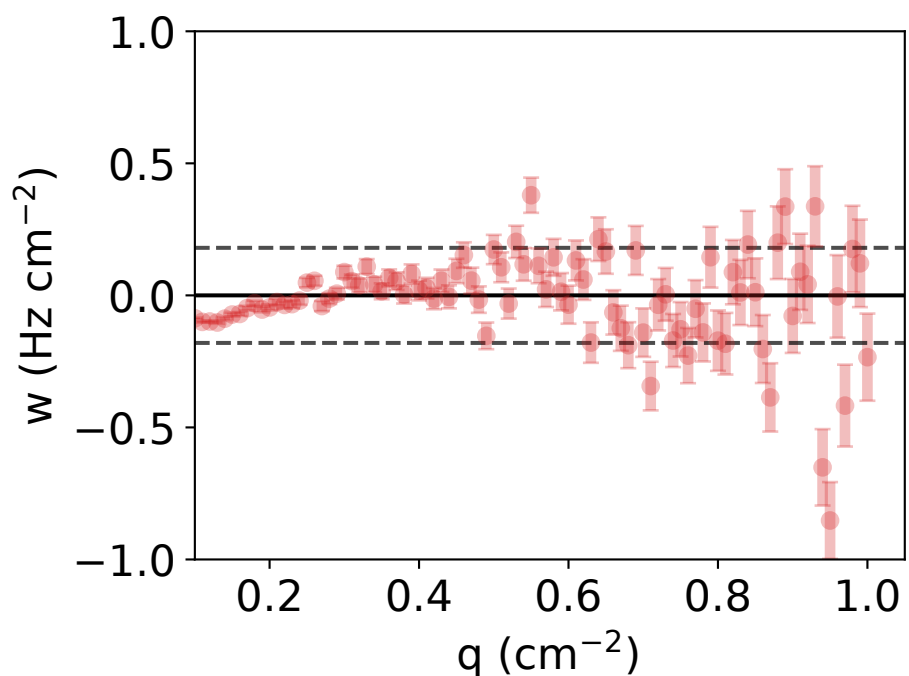
$\nu = 1.643 \pm 0.015$, $M = 16.462 \pm 0.597$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.179 Hz/cm²



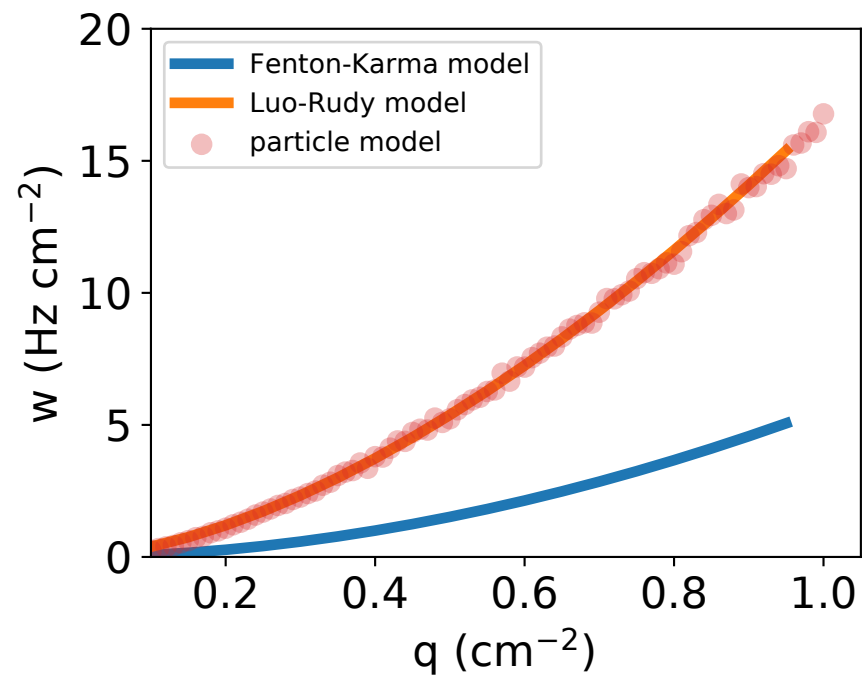
force_code=2, neighbors=0, reflect=0
 $r = 0.15649$ cm, $\kappa = 323.74600$ Hz
 $D = 0.15786$ cm²/s, $a = 8.76100$ cm²/s, $x_0 = 0$ cm



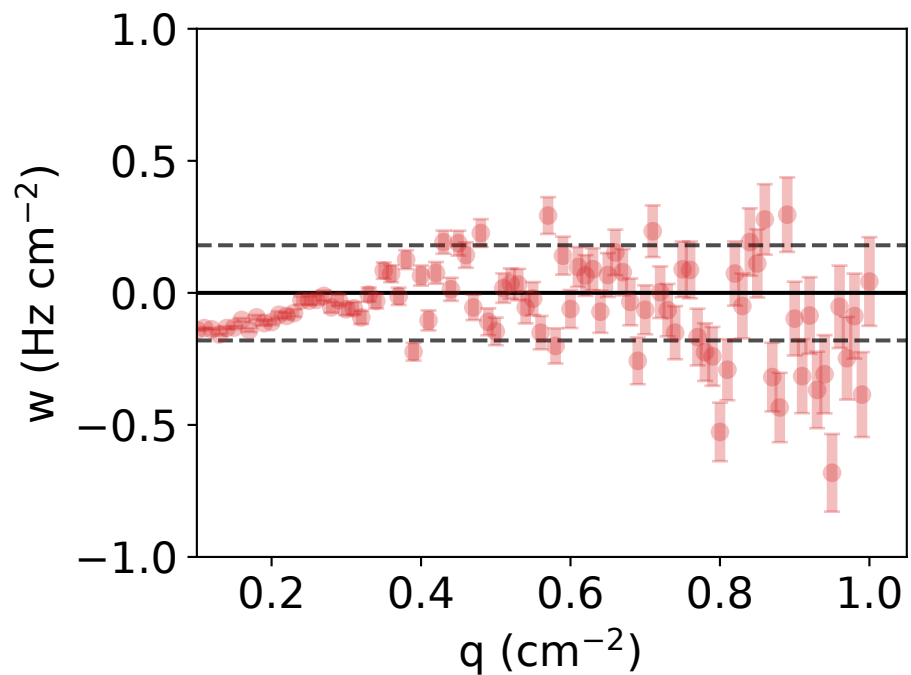
$\nu = 1.690 \pm 0.016$, $M = 16.471 \pm 0.649$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.180 Hz/cm²



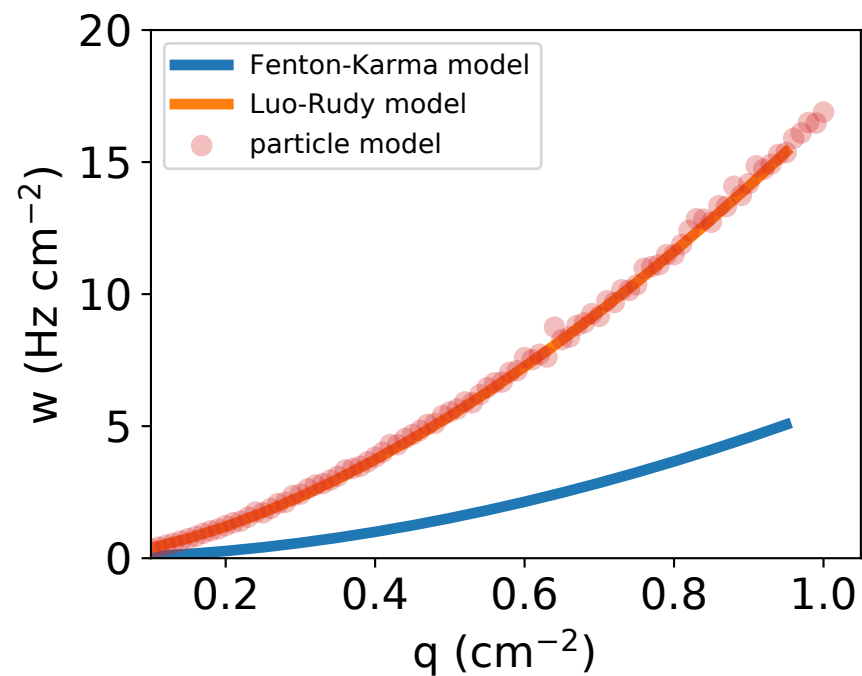
force_code=2, neighbors=0, reflect=0
 $r = 0.11328$ cm, $\kappa = 543.48400$ Hz
 $D = 0.17826$ cm²/s, $a = 7.28857$ cm²/s, $x_0 = 0$ cm



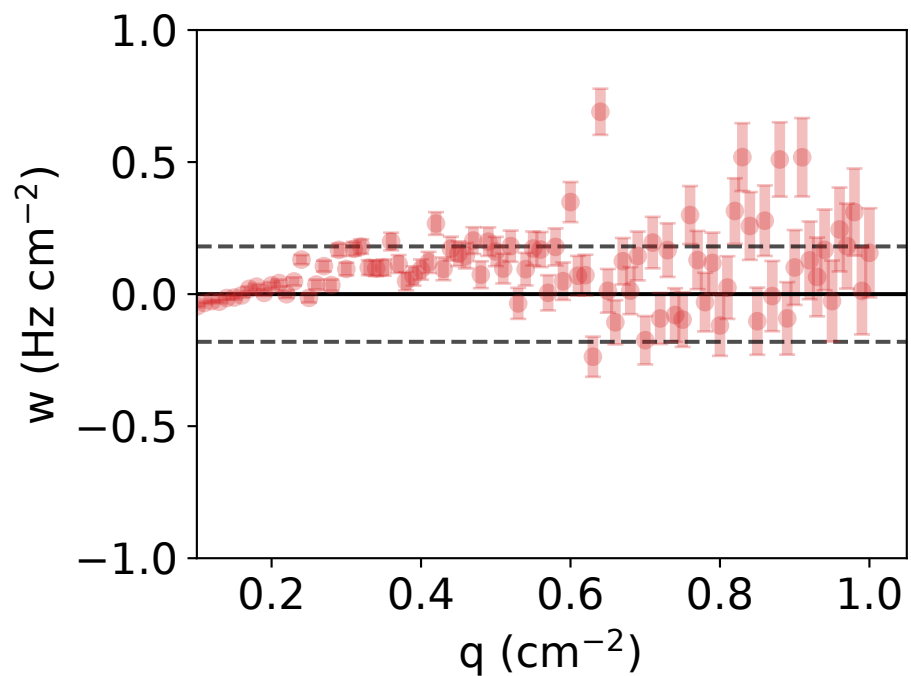
$\nu = 1.735 \pm 0.021$, $M = 16.387 \pm 0.839$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.180 Hz/cm²



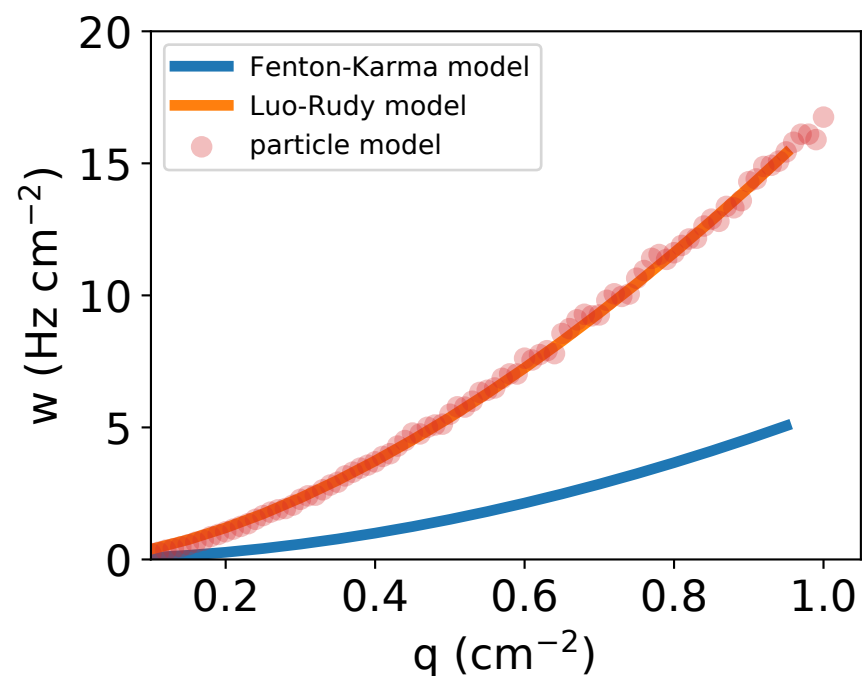
force_code=2, neighbors=0, reflect=0
 $r = 0.18607$ cm, $\kappa = 205.85100$ Hz
 $D = 0.00000$ cm²/s, $a = 21.04500$ cm²/s, $x_0 = 0$ cm



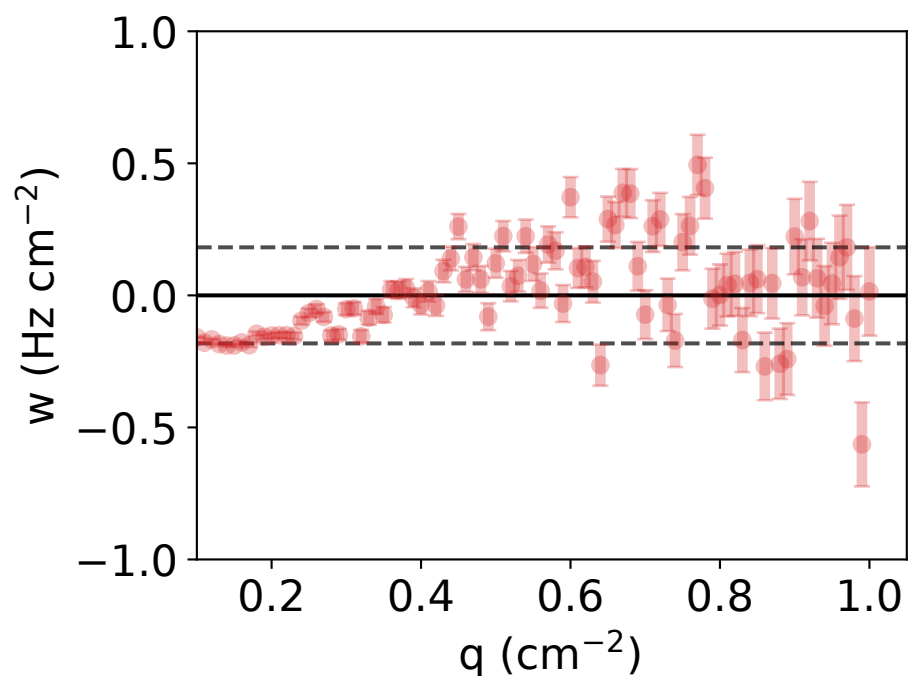
$\nu = 1.647 \pm 0.010$, $M = 16.773 \pm 0.462$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.181 Hz/cm²



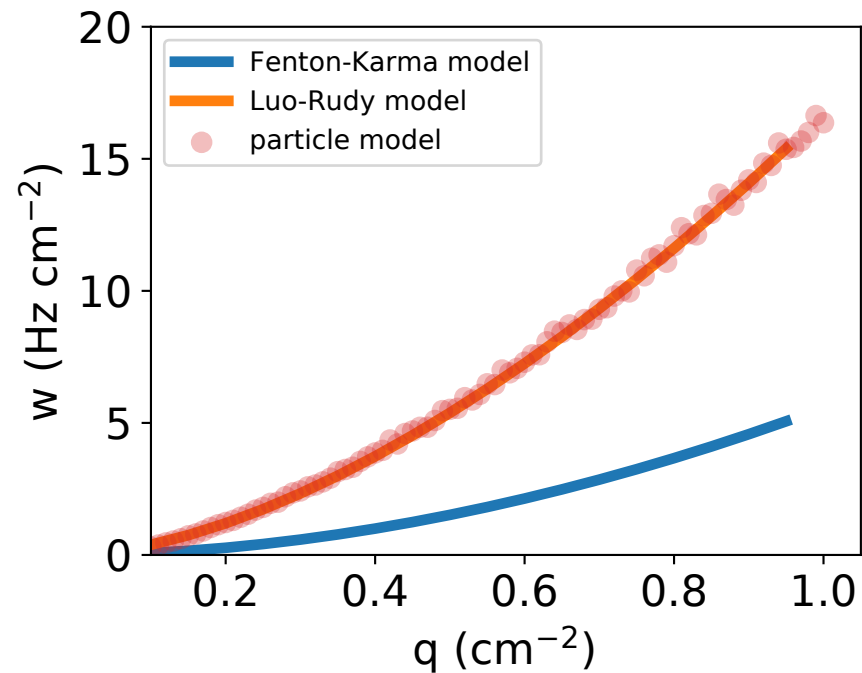
force_code=2, neighbors=0, reflect=0
 $r = 0.10185$ cm, $\kappa = 699.07800$ Hz
 $D = 0.50031$ cm²/s, $a = 6.29724$ cm²/s, $x_0 = 0$ cm



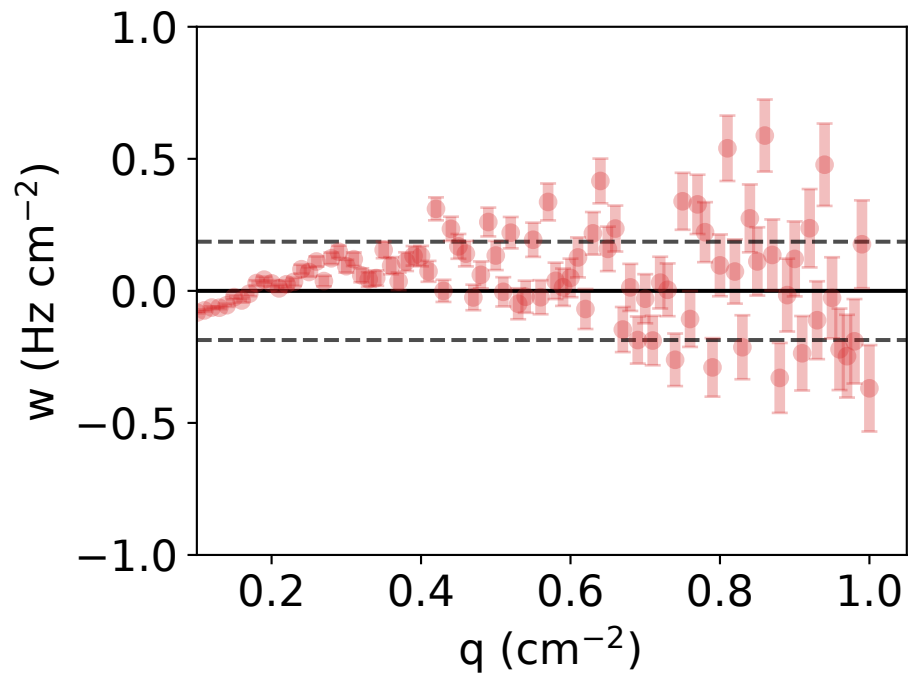
$\nu = 1.787 \pm 0.024$, $M = 16.627 \pm 0.997$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.182 Hz/cm²



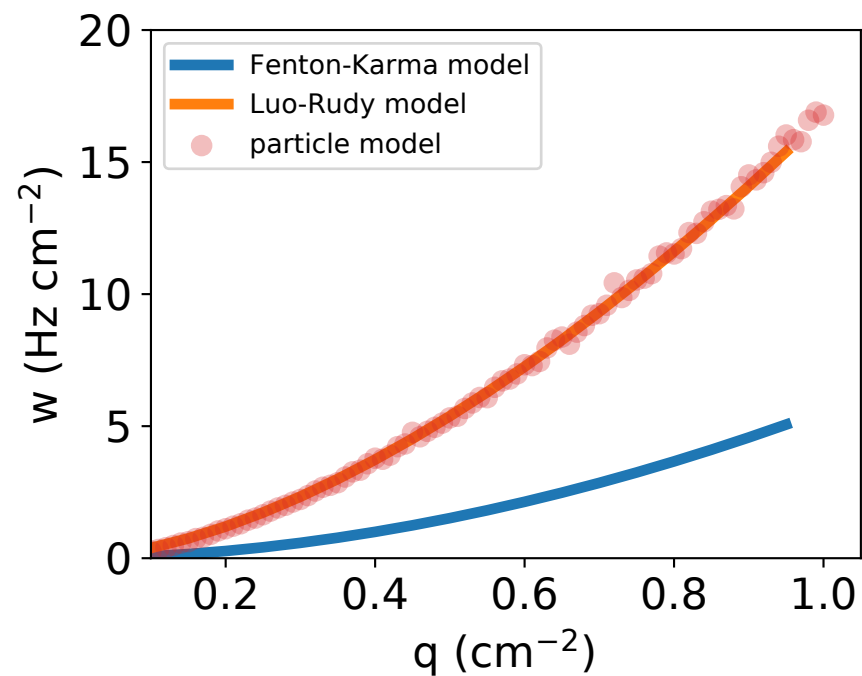
force_code=2, neighbors=0, reflect=0
 $r = 0.16935$ cm, $\kappa = 276.27100$ Hz
 $D = 0.17898$ cm²/s, $a = 9.72111$ cm²/s, $x_0 = 0$ cm



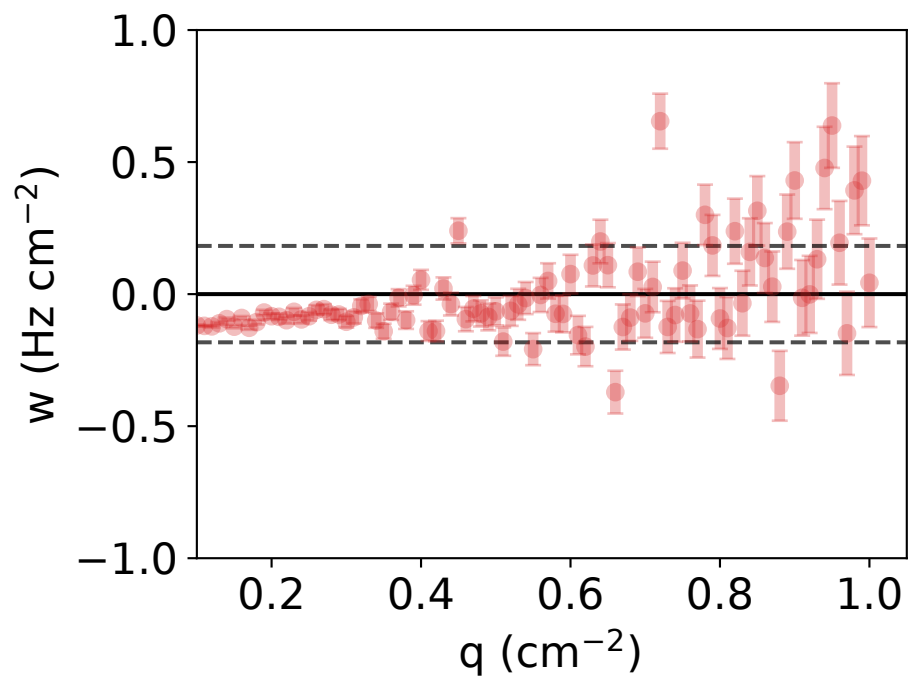
$\nu = 1.663 \pm 0.015$, $M = 16.572 \pm 0.633$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.186 Hz/cm²



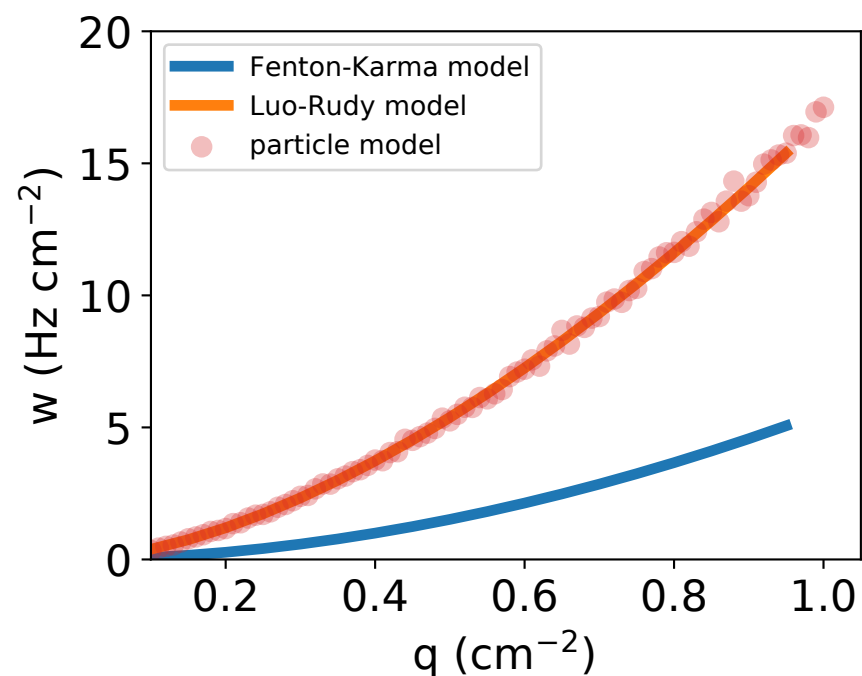
force_code=2, neighbors=0, reflect=0
 $r = 0.19403$ cm, $\kappa = 242.81500$ Hz
 $D = 0.39042$ cm²/s, $a = 8.27762$ cm²/s, $x_0 = 0$ cm



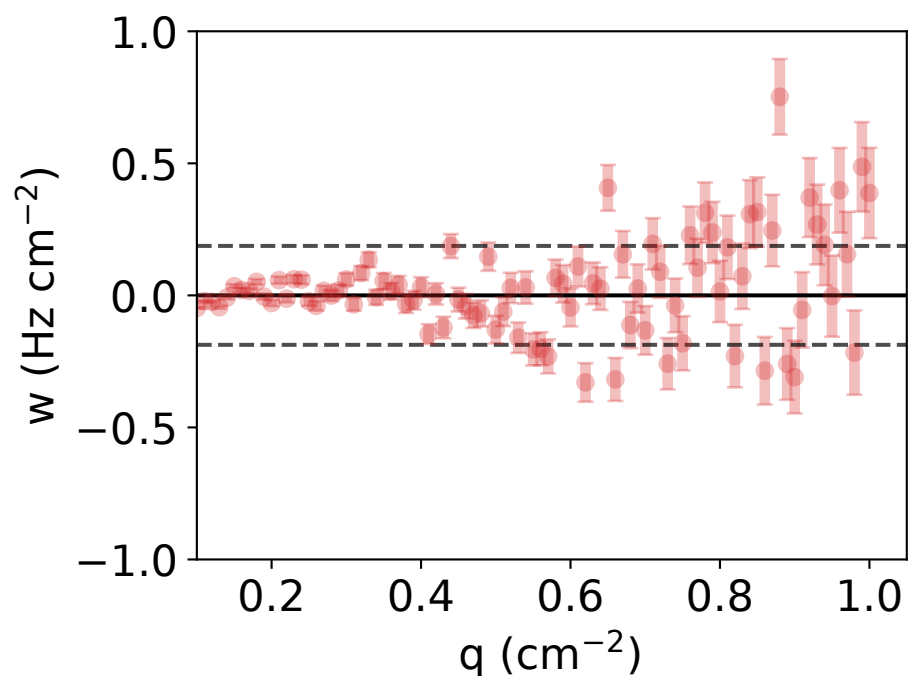
$\nu = 1.732 \pm 0.014$, $M = 16.876 \pm 0.585$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.183 Hz/cm²



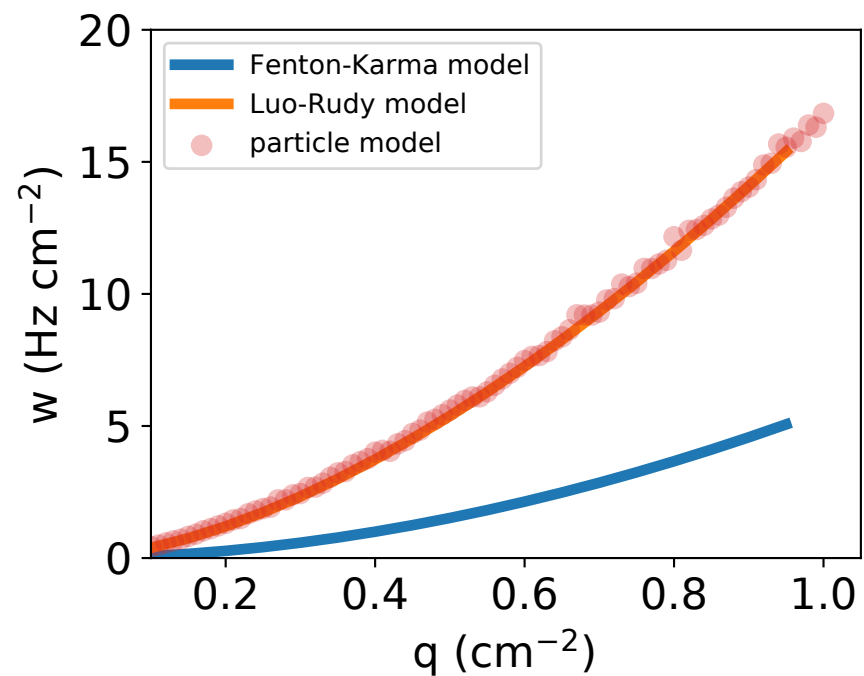
force_code=2, neighbors=0, reflect=0
 $r = 0.30312$ cm, $\kappa = 100.00000$ Hz
 $D = 0.57815$ cm²/s, $a = 14.01550$ cm²/s, $x_0 = 0$ cm



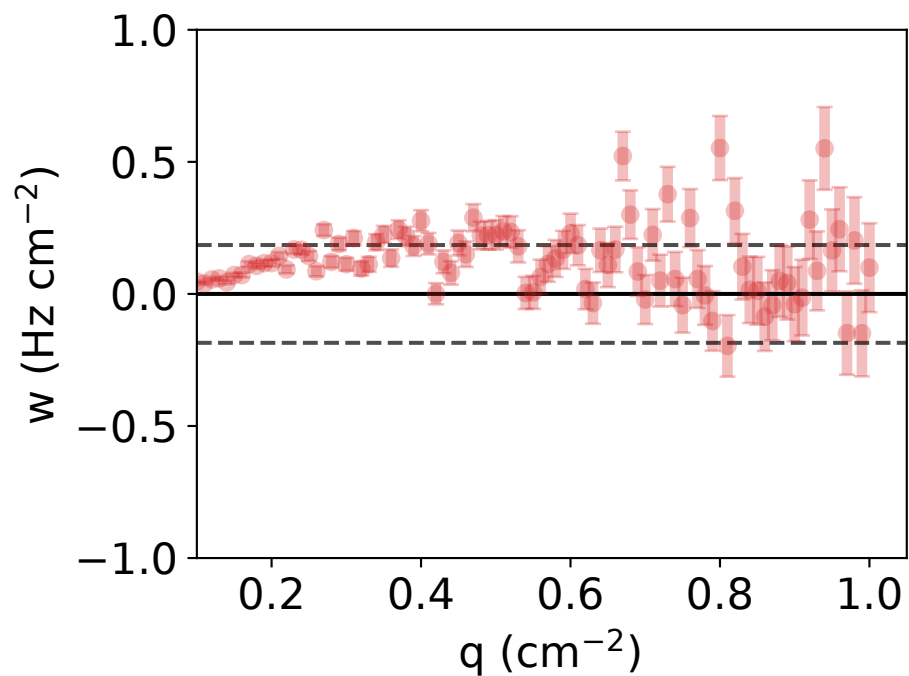
$\nu = 1.649 \pm 0.010$, $M = 16.864 \pm 0.459$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.187 Hz/cm²



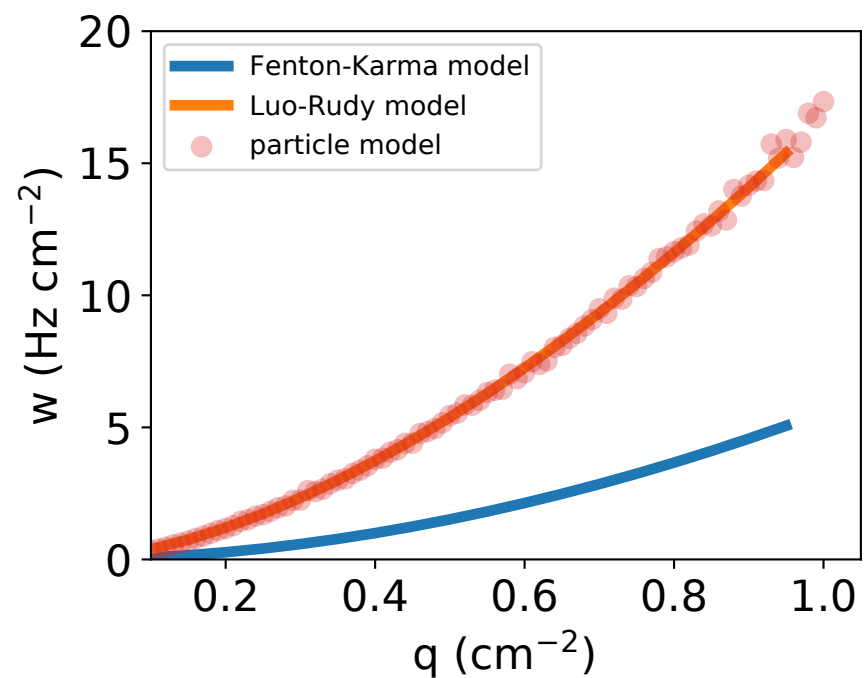
force_code=2, neighbors=0, reflect=0
 $r = 0.27987$ cm, $\kappa = 100.00000$ Hz
 $D = 0.00758$ cm²/s, $a = 28.21620$ cm²/s, $x_0 = 0$ cm



$\nu = 1.586 \pm 0.006$, $M = 16.728 \pm 0.313$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.185 Hz/cm²



force_code=2, neighbors=0, reflect=0
 $r = 0.23803$ cm, $\kappa = 160.34900$ Hz
 $D = 0.16035$ cm²/s, $a = 10.93850$ cm²/s, $x_0 = 0$ cm



$\nu = 1.673 \pm 0.010$, $M = 16.805 \pm 0.458$ cm²($\nu - 1$)/s
RMSE_{particle vs full} = 0.195 Hz/cm²

