

# Flotilla Predictions of the Resistance of 10 NPL Catamarans

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## Abstract

Summary of Flotilla predictions for 10 NPL model ( $L = 1.6$  m) catamarans with five different demihull spacings. Measured values of squat were used as input to the program. These results can be reproduced by running the batch files named `rnplcat02bulk.bat`, `rnplcat03bulk.bat`, `rnplcat04bulk.bat`, and `rnplcat05bulk.bat`.

## 1 Hull Geometry

NPL Series			
Ship Model	$L/B$	$B/T$	$L/\nabla^{1/3}$
3b	7.00	2.0	6.288
4a	10.40	1.5	7.439
4b	9.00	2.0	7.435
4c	8.00	2.5	7.404
5a	12.80	1.5	8.543
5b	11.00	2.0	8.499
5c	9.90	2.5	8.535
6a	15.10	1.5	9.538
6b	13.10	2.0	9.549
6c	11.70	2.5	9.540

Table 1: Principal dimensions and parameters of the NPL series of model hulls.

## 2 Specific Resistance

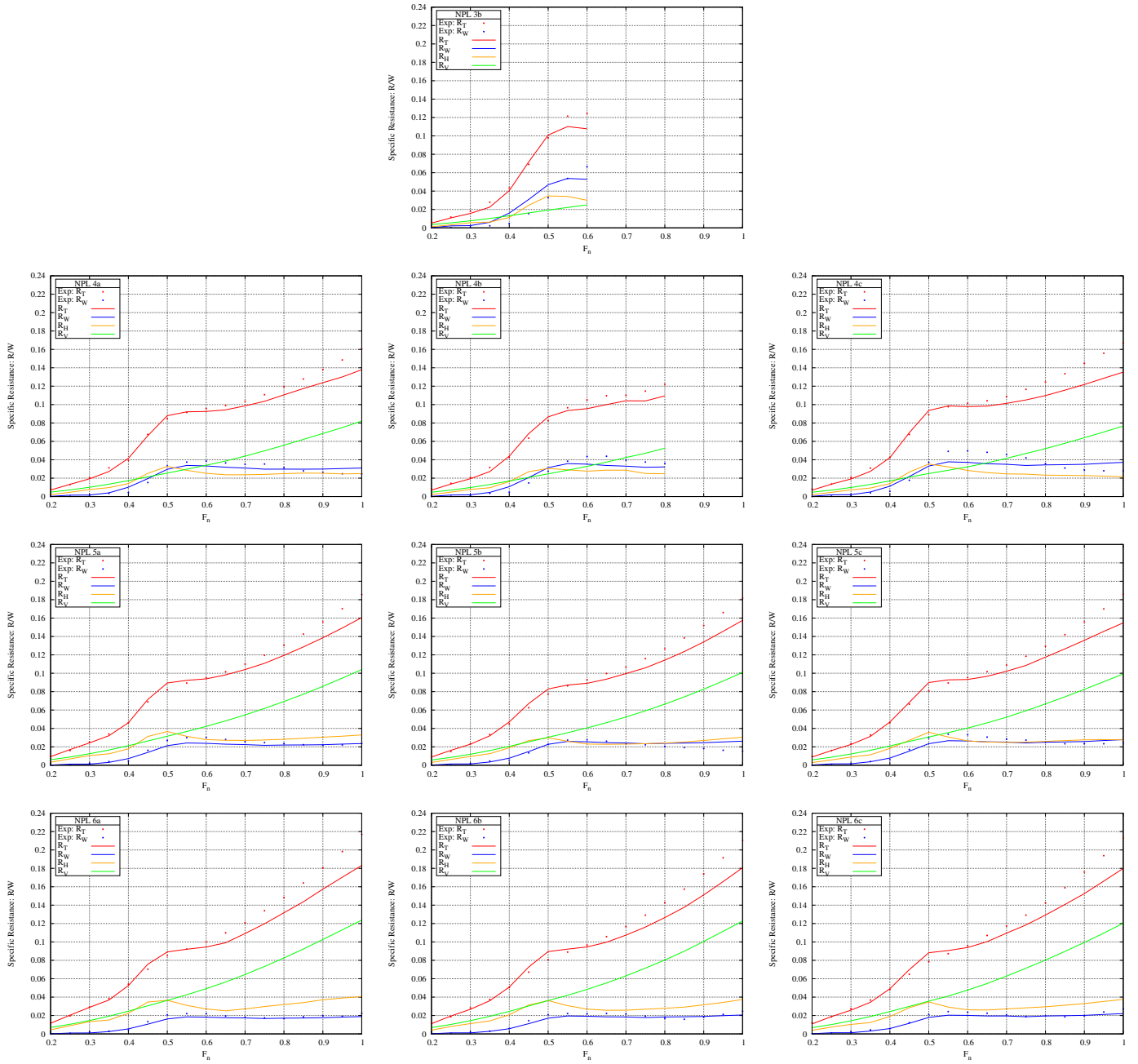


Figure 1: Specific resistance of NPL model catamarans with hull spacing  $w/L = 0.2$ . Where available, measured values of squat were used as input to Flotilla.

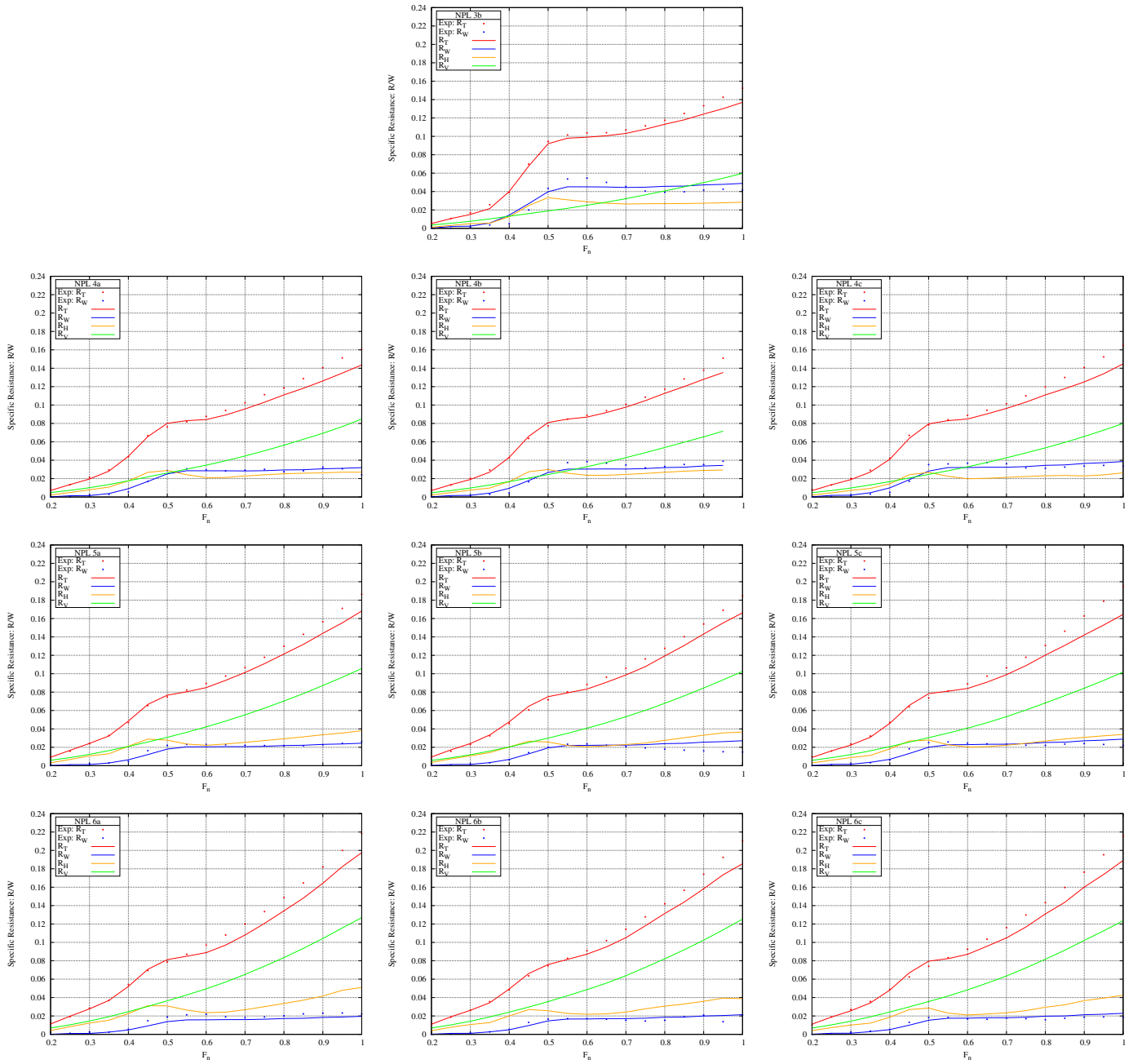


Figure 2: Specific resistance of NPL model catamarans with hull spacing  $w/L = 0.3$ . Where available, measured values of squat were used as input to Flotilla.

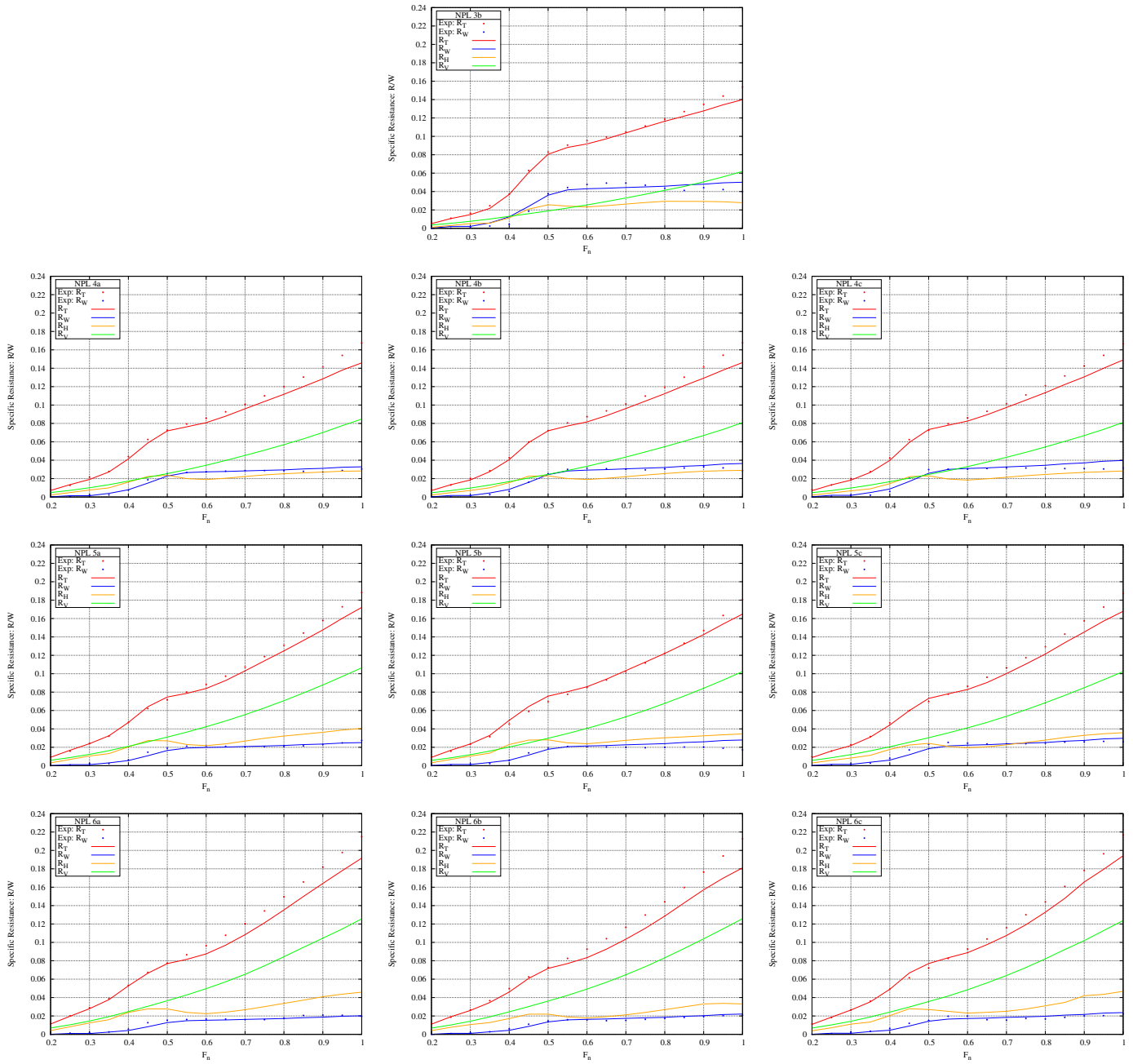


Figure 3: Specific resistance of NPL model catamarans with hull spacing  $w/L = 0.4$ . Where available, measured values of squat were used as input to Flotilla.

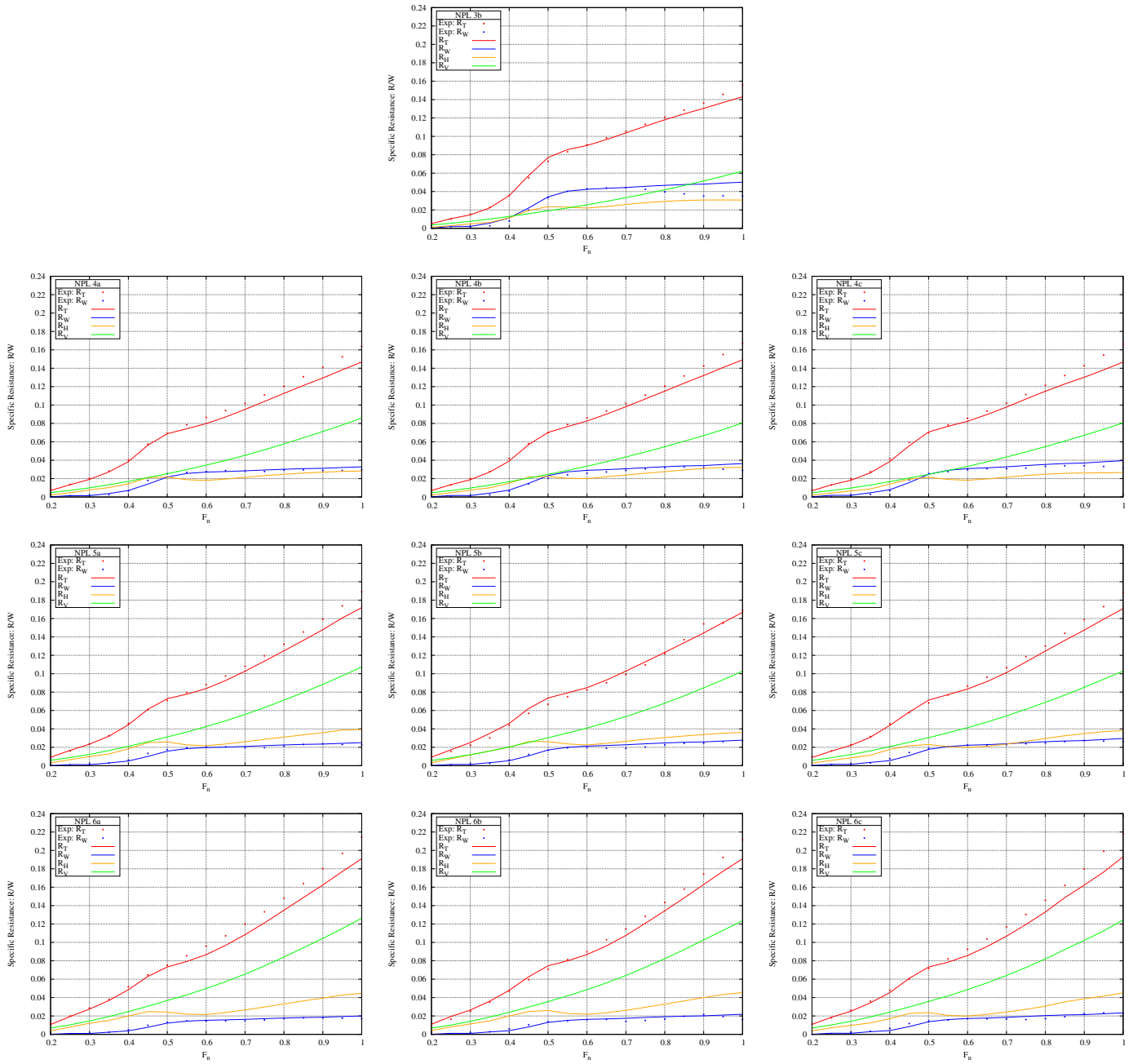


Figure 4: Specific resistance of NPL model catamarans with hull spacing  $w/L = 0.5$ . Where available, measured values of squat were used as input to Flotilla.

# 3 Squat

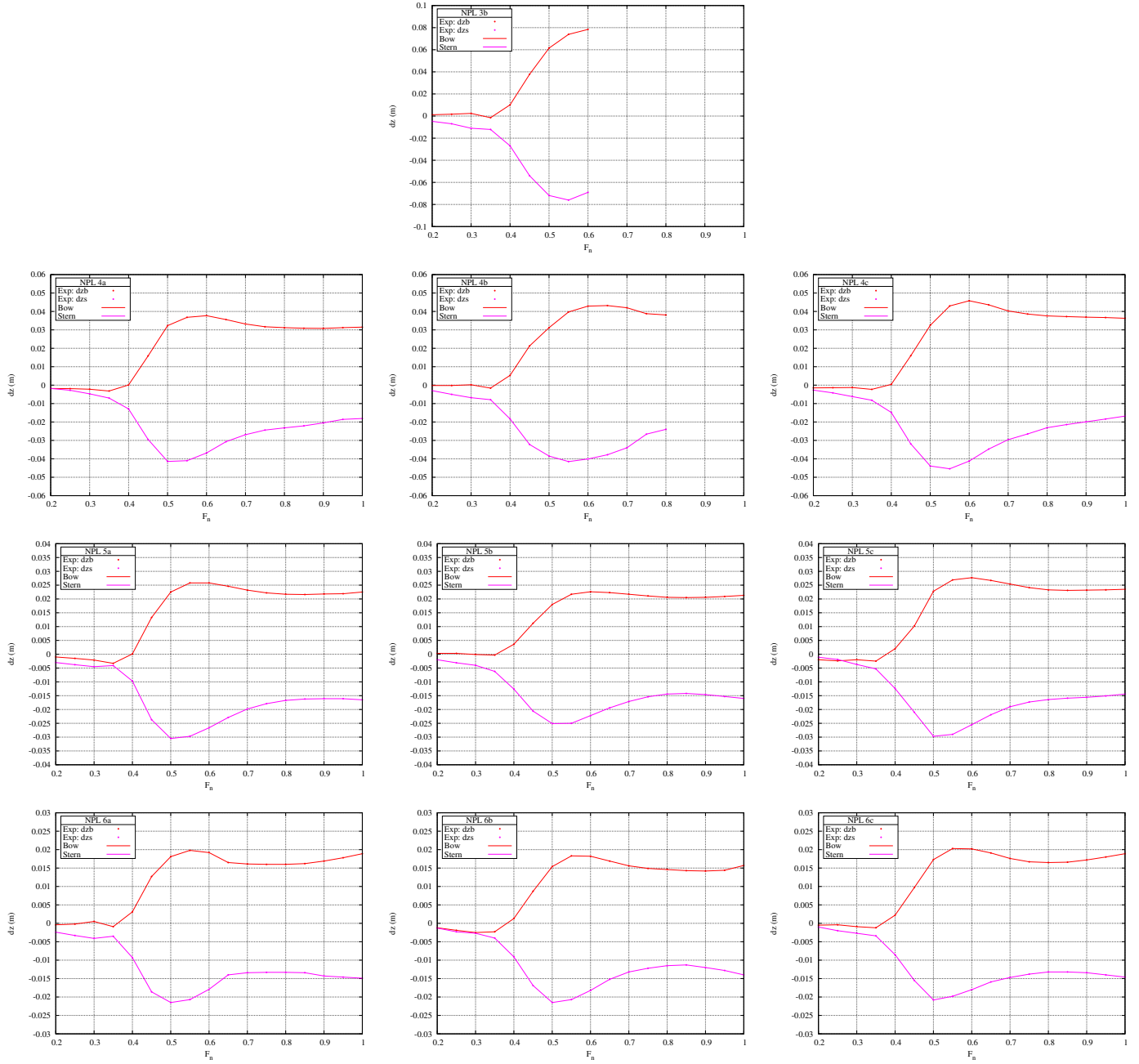


Figure 5: Squat of NPL model catamarans with hull spacing  $w/L = 0.2$ . (Predicted values are identical to measured values.)

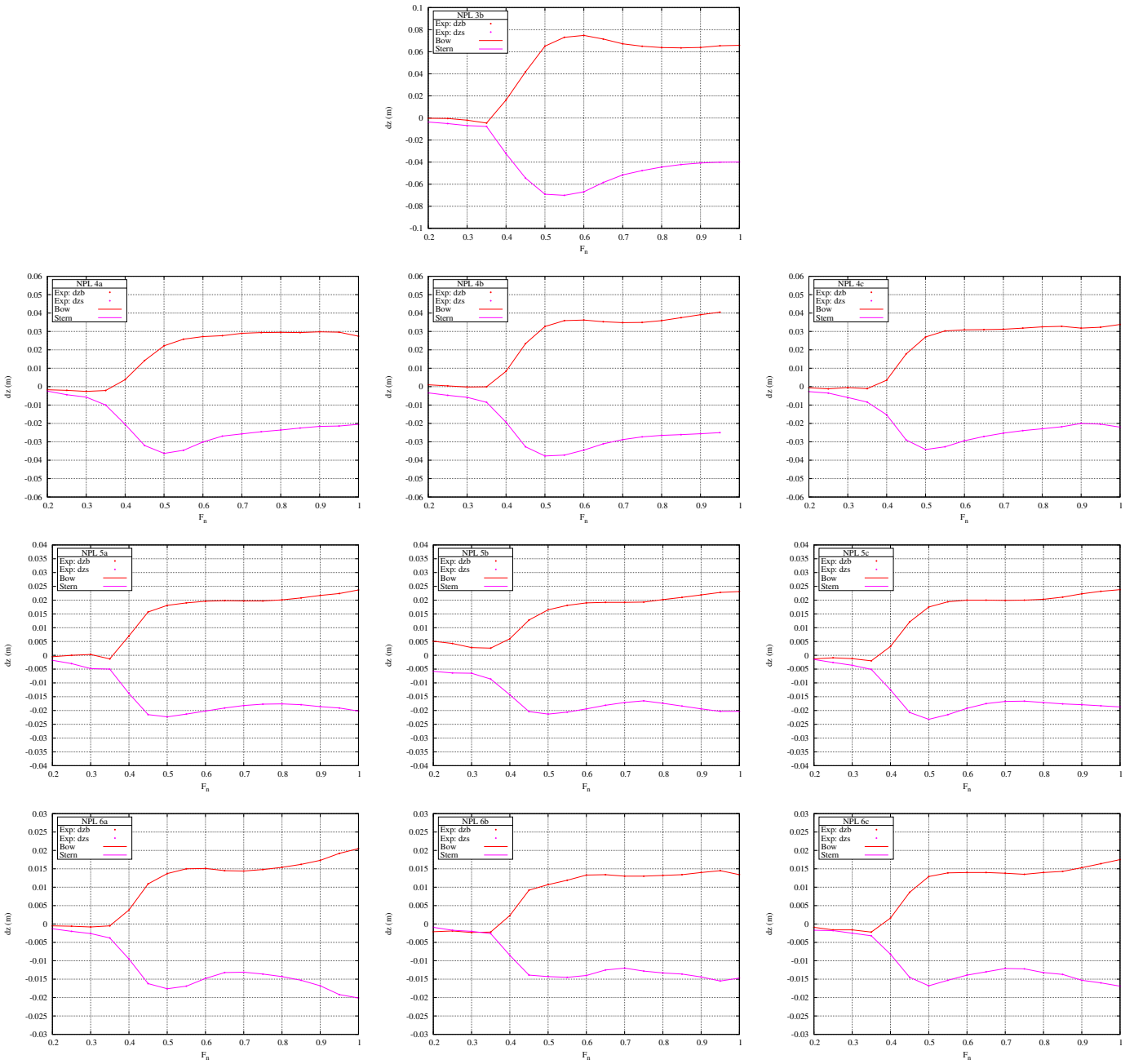


Figure 6: Squat of NPL model catamarans with hull spacing  $w/L = 0.3$ . (Predicted values are identical to measured values.)

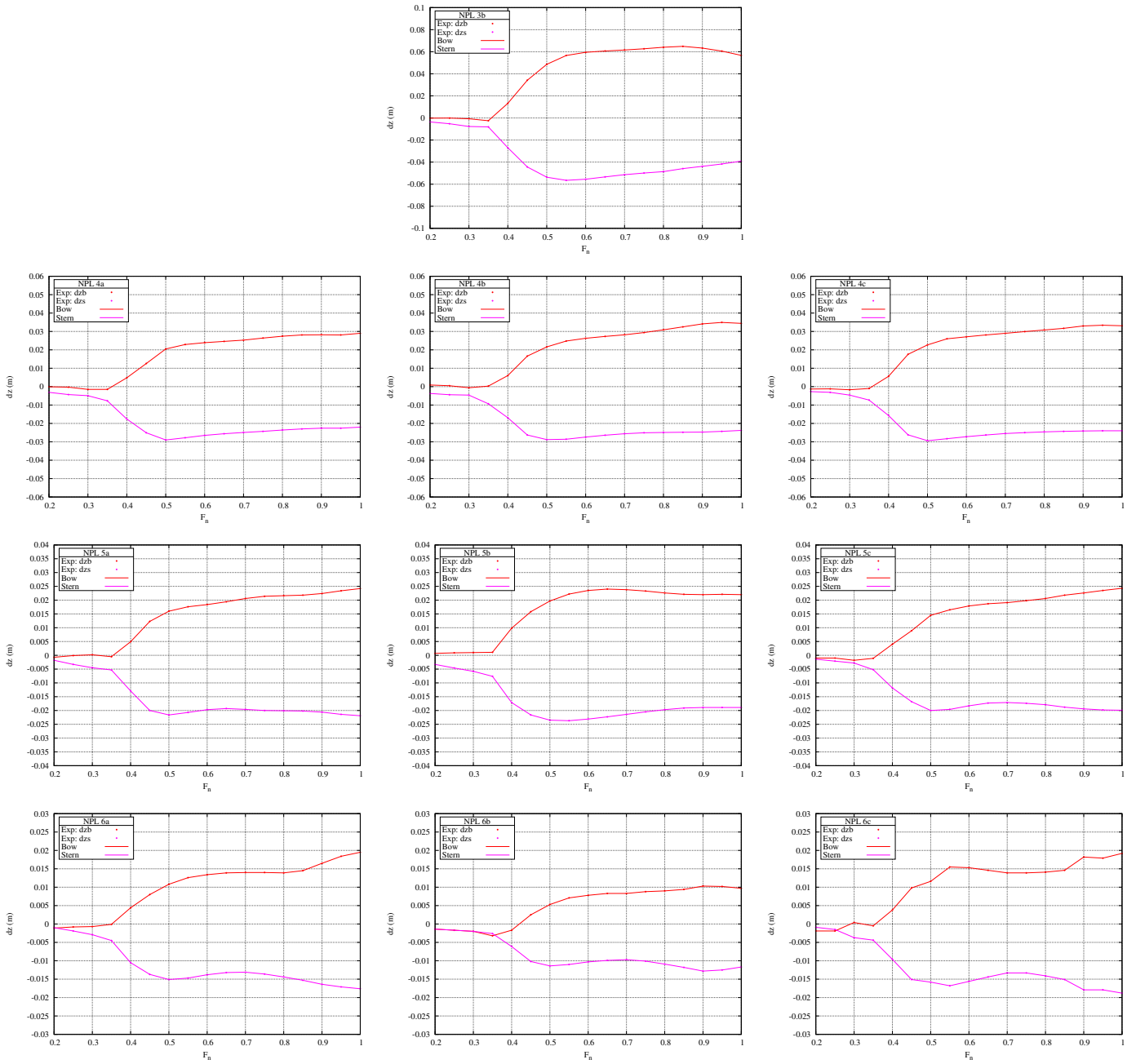


Figure 7: Squat of NPL model catamarans with hull spacing  $w/L = 0.4$ . (Predicted values are identical to measured values.)

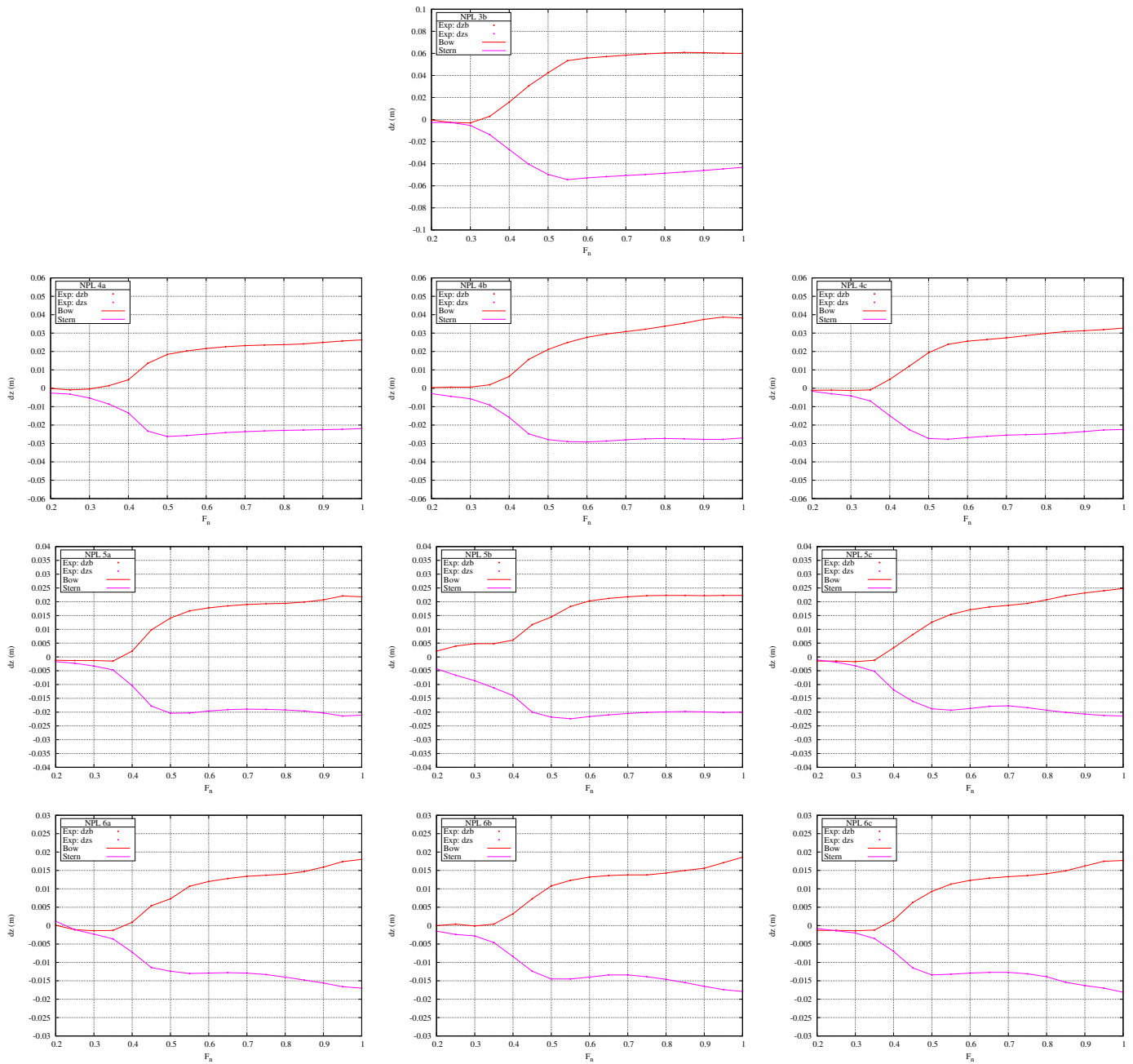


Figure 8: Squat of NPL model catamarans with hull spacing  $w/L = 0.5$ . (Predicted values are identical to measured values.)