

Appendix: Residual Plots

KBCG 19

January 2020

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1 Within-Event Residuals

1.1 Global Distance

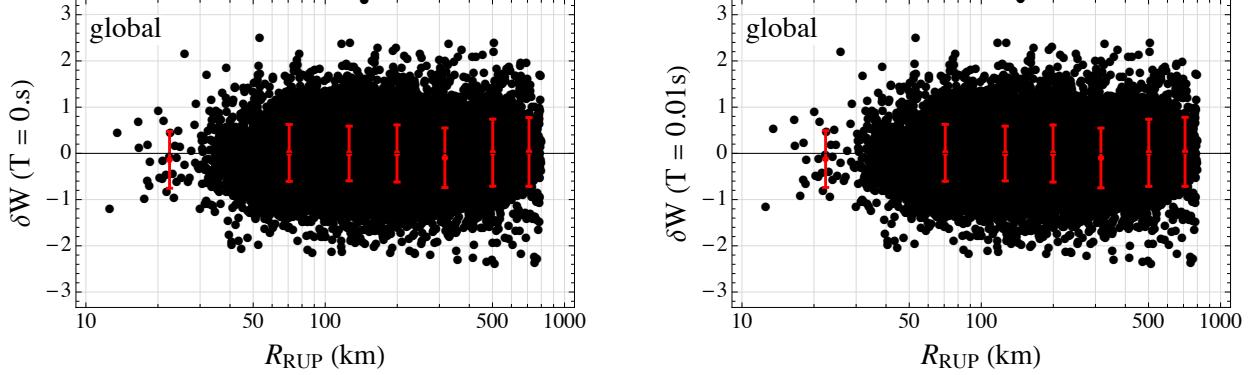


Figure 1: Plot of within-event residuals versus rupture distance and PSA at $T = 0.$ sec (left) and $T = 0.01$ sec (right) for the global model.

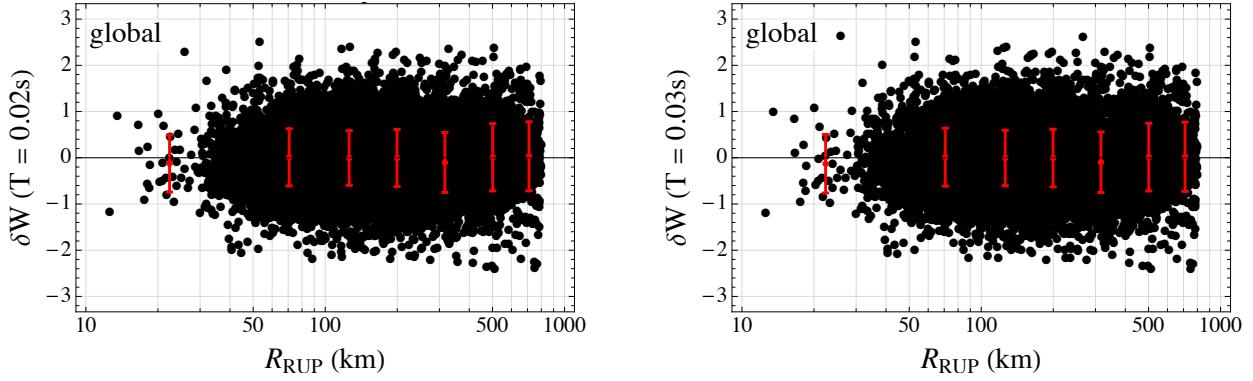


Figure 2: Plot of within-event residuals versus rupture distance and PSA at $T = 0.02$ sec (left) and $T = 0.03$ sec (right) for the global model.

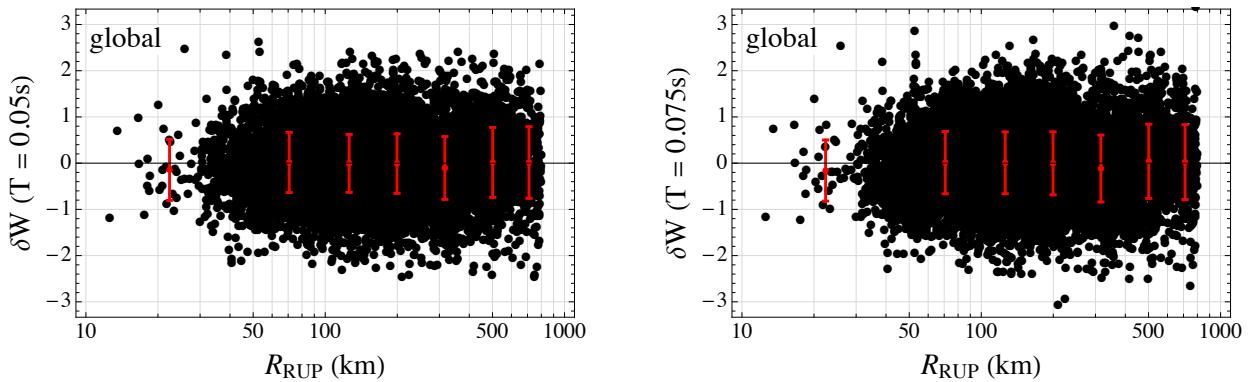


Figure 3: Plot of within-event residuals versus rupture distance and PSA at $T = 0.05$ sec (left) and $T = 0.075$ sec (right) for the global model.

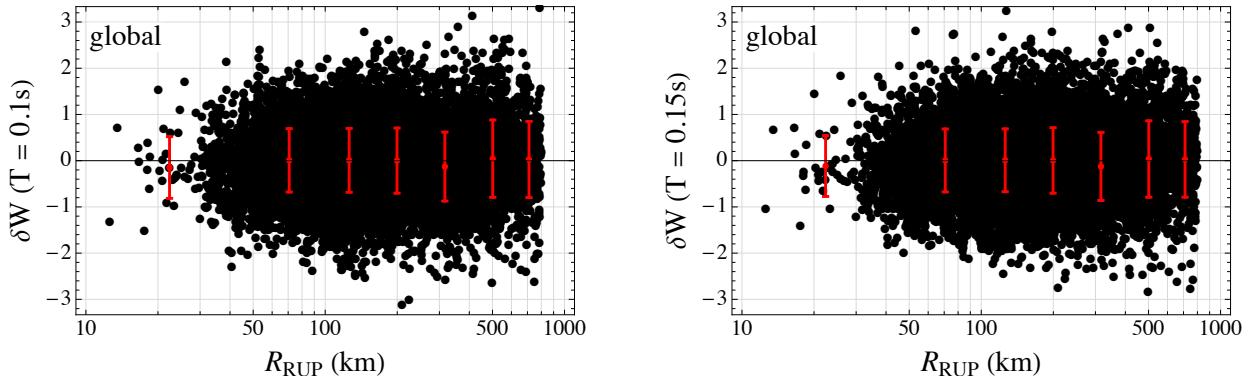


Figure 4: Plot of within-event residuals versus rupture distance and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for the global model.

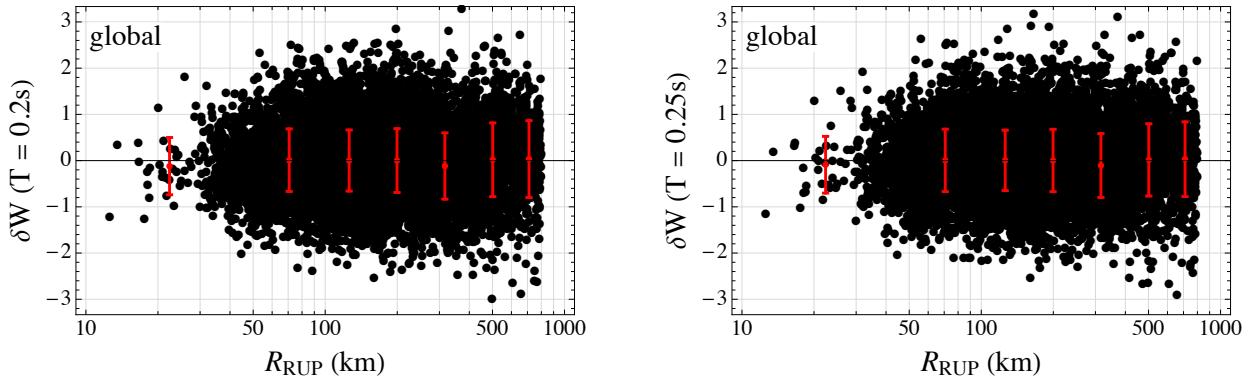


Figure 5: Plot of within-event residuals versus rupture distance and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for the global model.

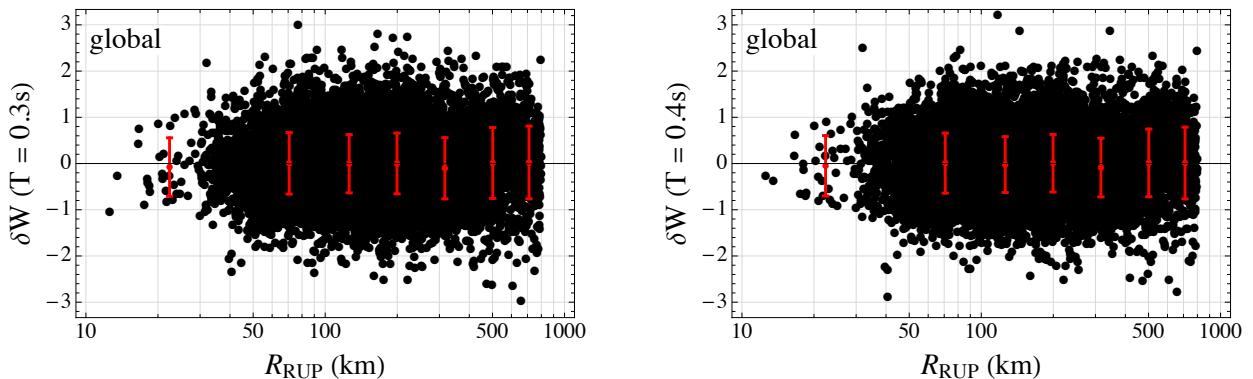


Figure 6: Plot of within-event residuals versus rupture distance and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for the global model.

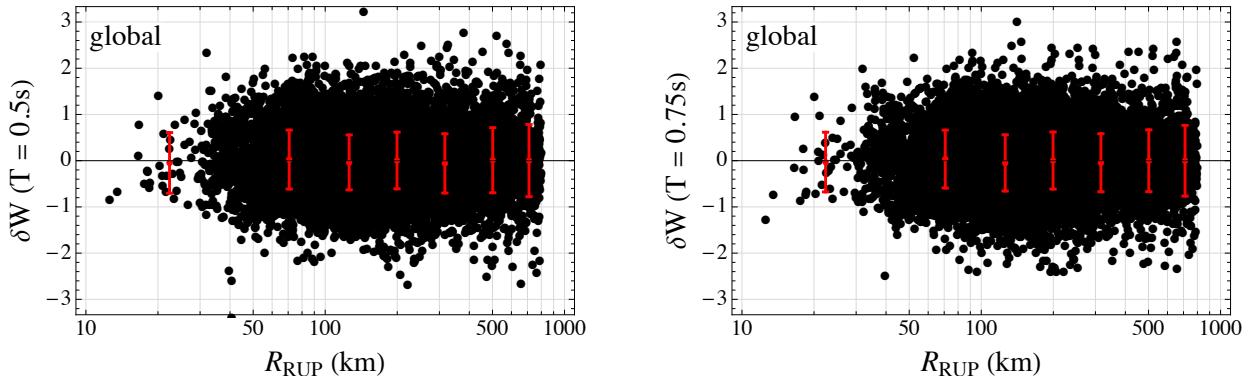


Figure 7: Plot of within-event residuals versus rupture distance and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for the global model.

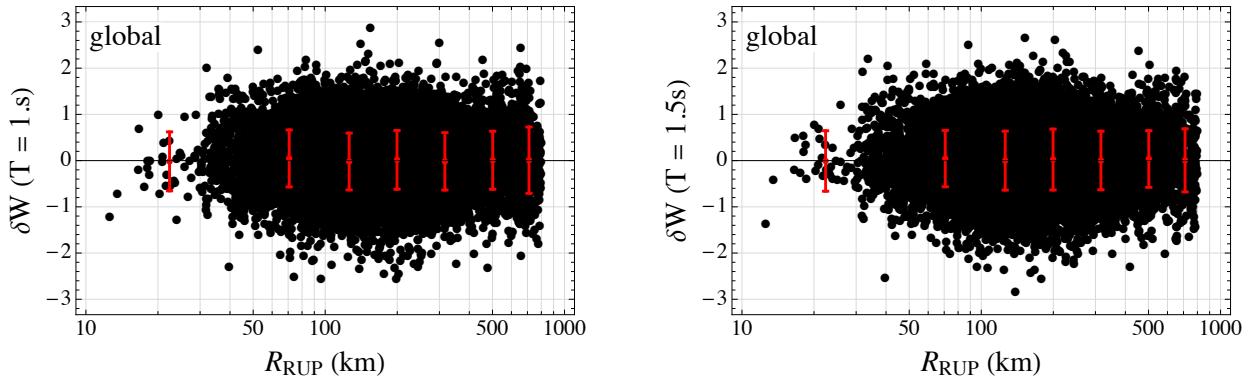


Figure 8: Plot of within-event residuals versus rupture distance and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for the global model.

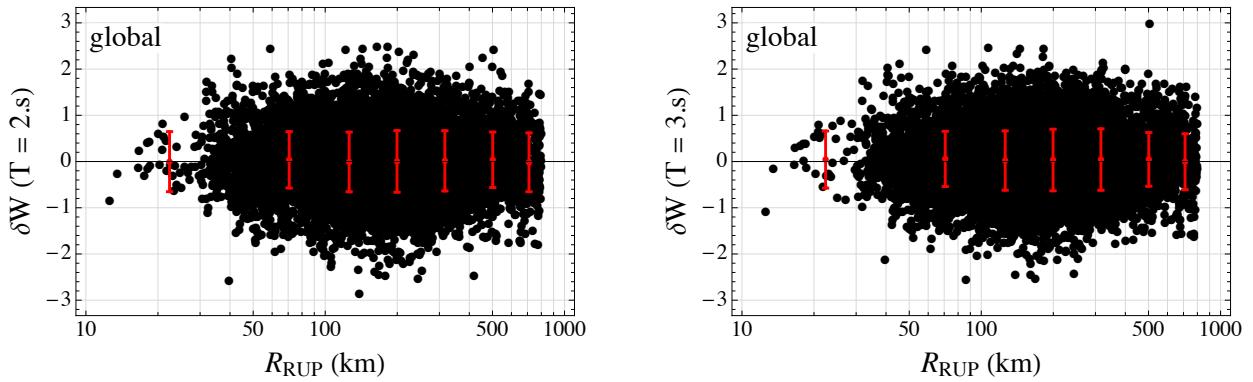


Figure 9: Plot of within-event residuals versus rupture distance and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for the global model.

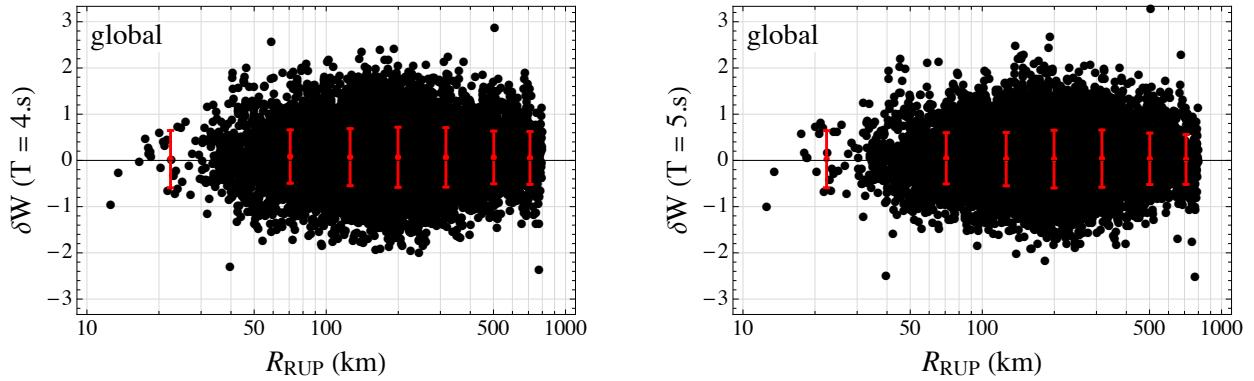


Figure 10: Plot of within-event residuals versus rupture distance and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for the global model.

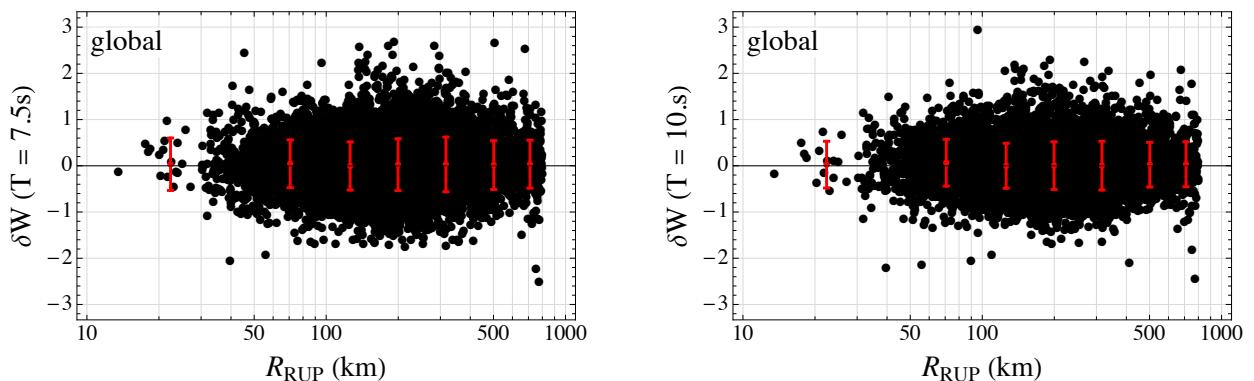


Figure 11: Plot of within-event residuals versus rupture distance and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for the global model.

1.2 Alaska Distance

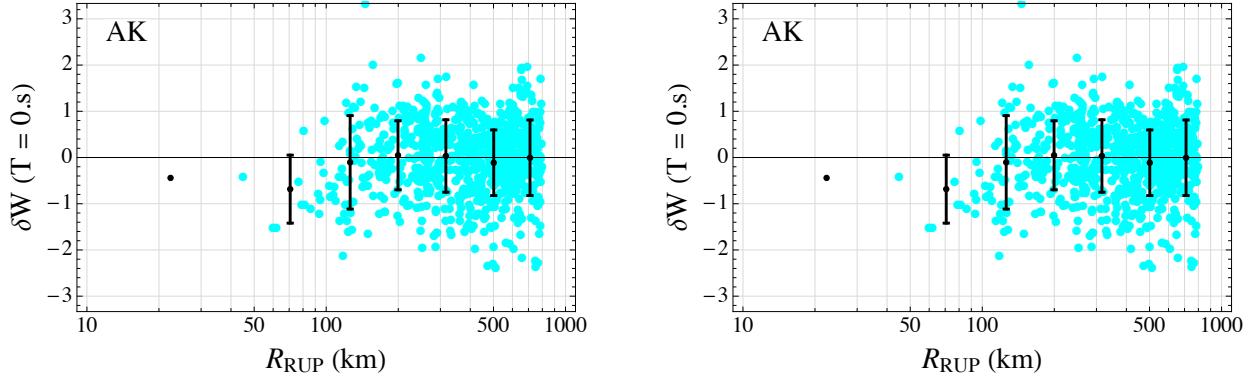


Figure 12: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0$. sec (left) and $T = 0.01$ sec (right) for Alaska.

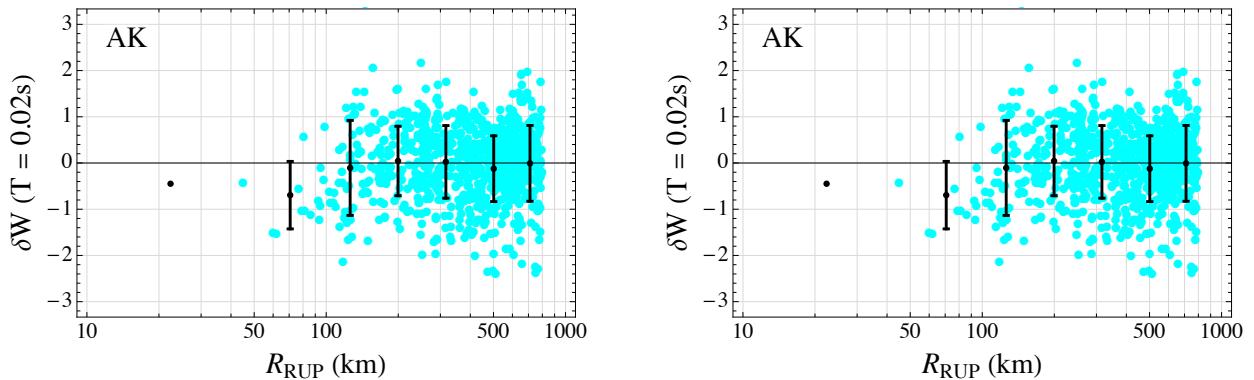


Figure 13: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02$ sec (left) and $T = 0.03$ sec (right) for Alaska.

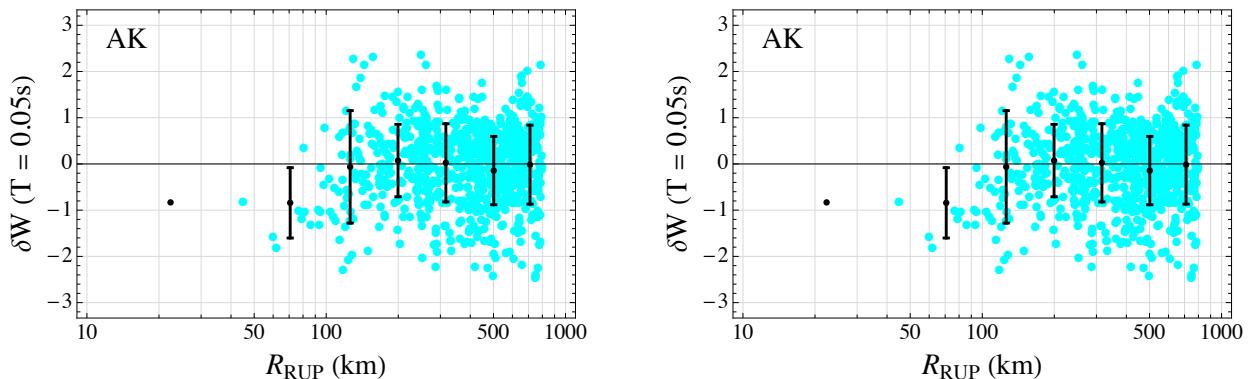


Figure 14: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05$ sec (left) and $T = 0.075$ sec (right) for Alaska.

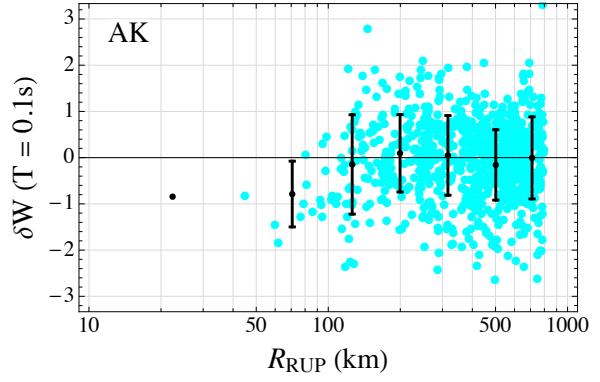
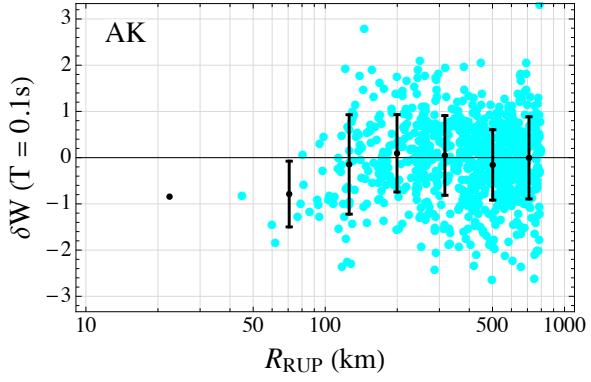


Figure 15: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for Alaska.

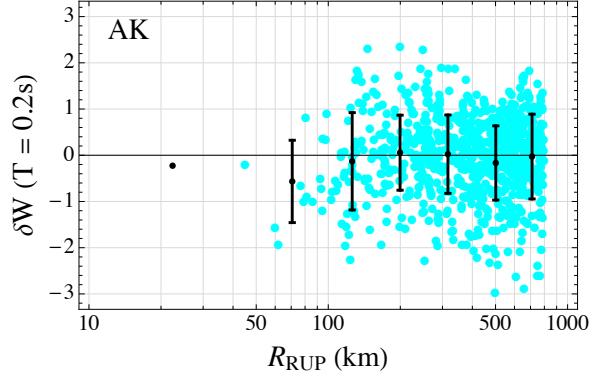
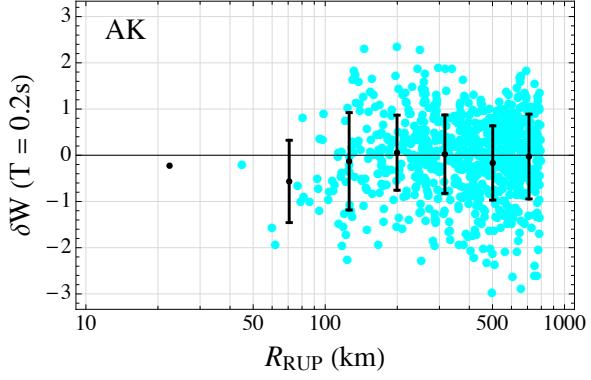


Figure 16: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for Alaska.

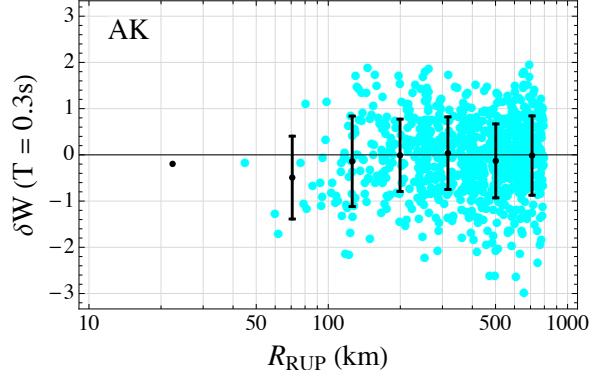
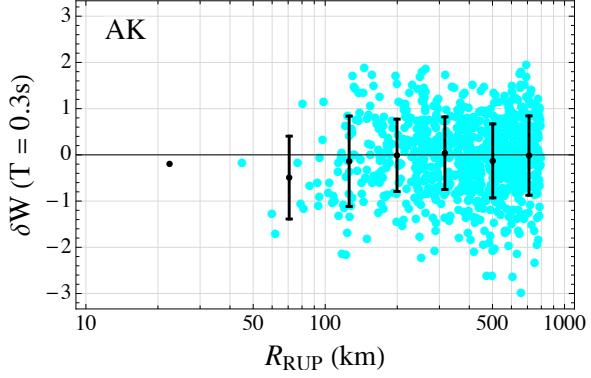


Figure 17: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for Alaska.

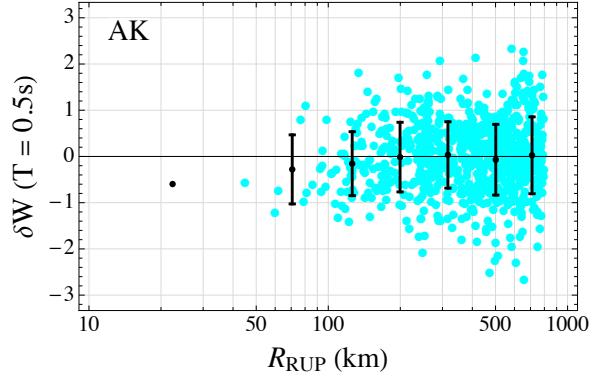
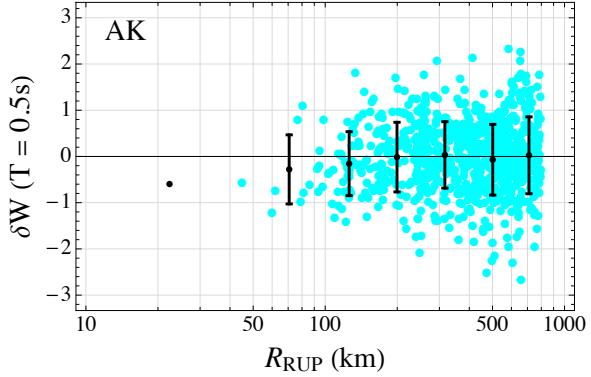


Figure 18: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for Alaska.

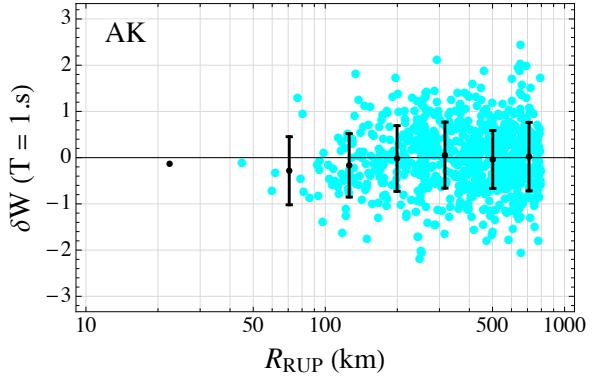
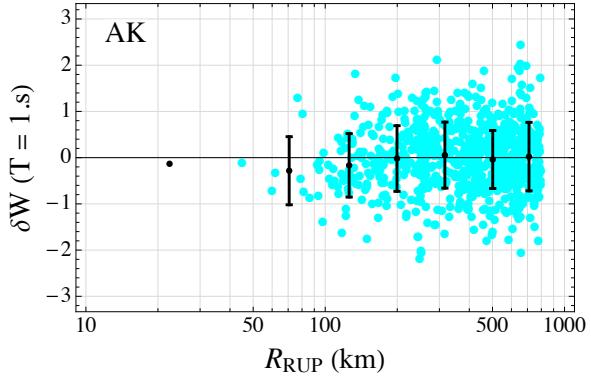


Figure 19: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for Alaska.

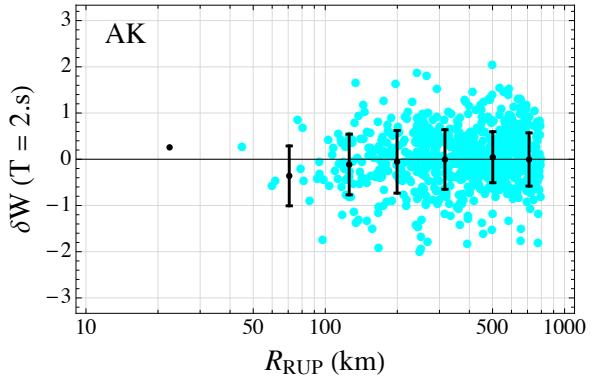
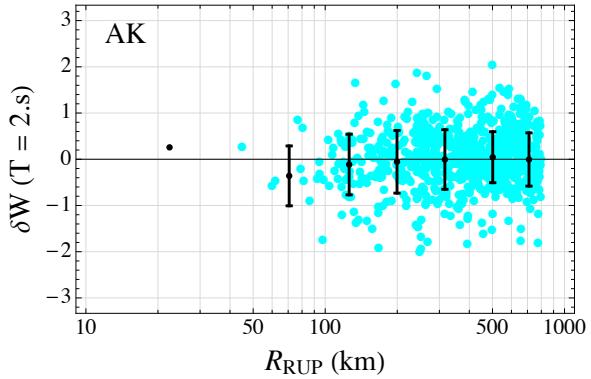


Figure 20: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for Alaska.

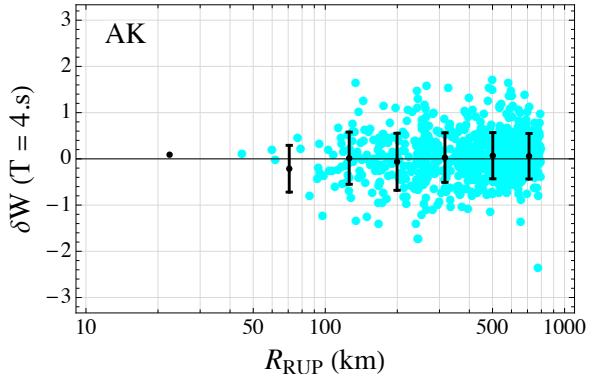
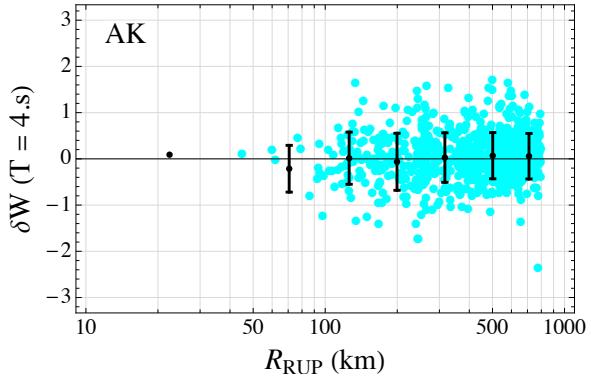


Figure 21: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for Alaska.

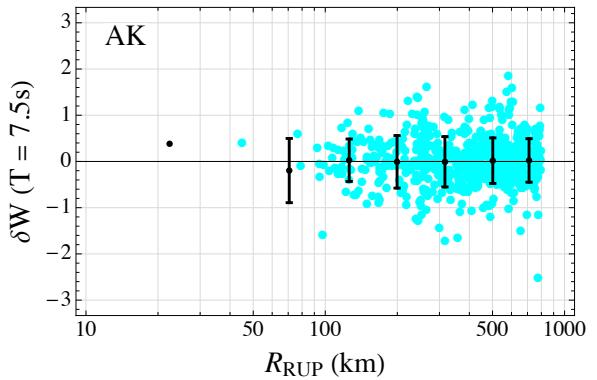
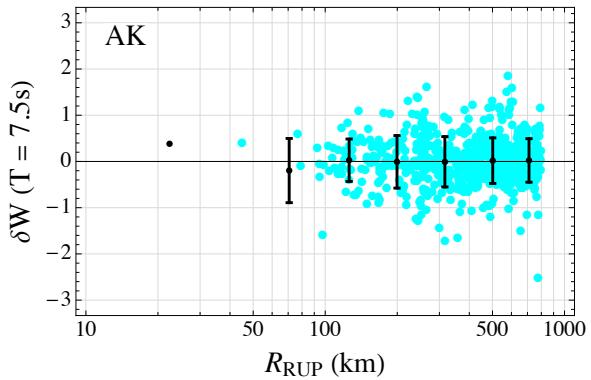


Figure 22: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for Alaska.

1.3 Cascadia Distance

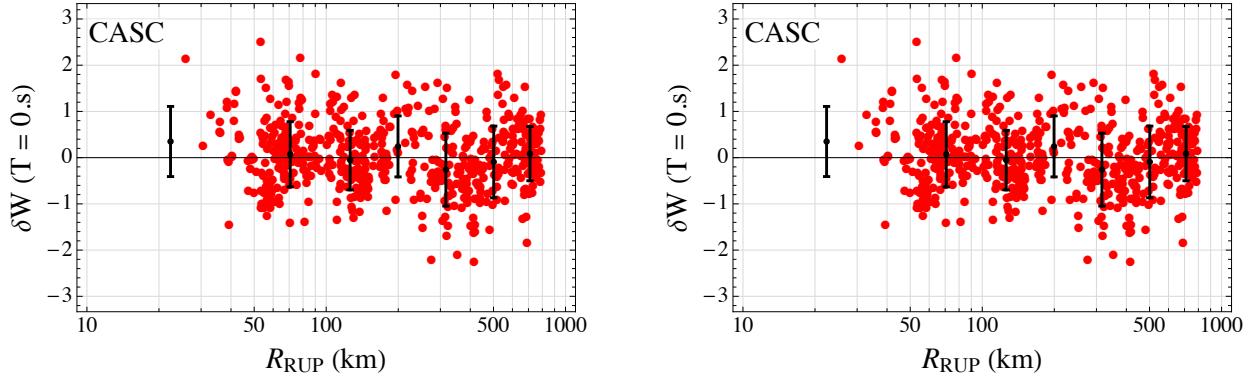


Figure 23: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.$ sec (left) and $T = 0.01$ sec (right) for Cascadia.

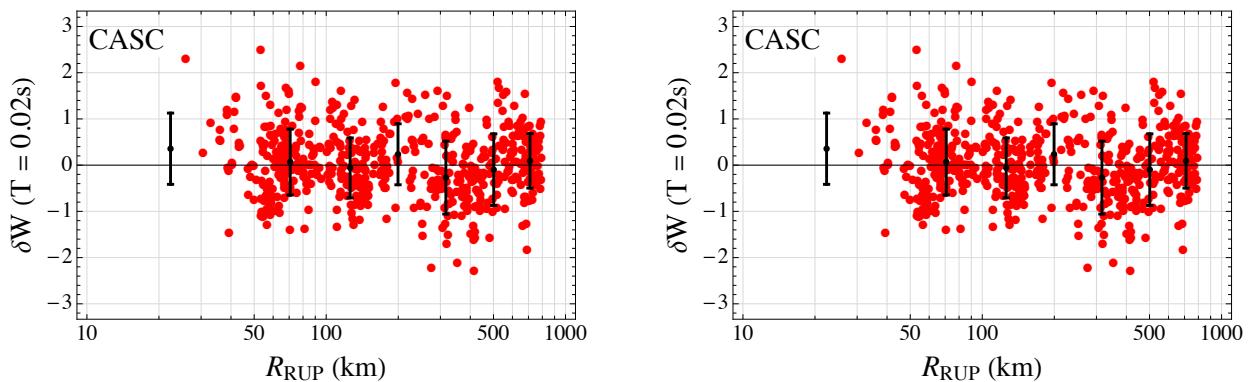


Figure 24: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02$ sec (left) and $T = 0.03$ sec (right) for Cascadia.

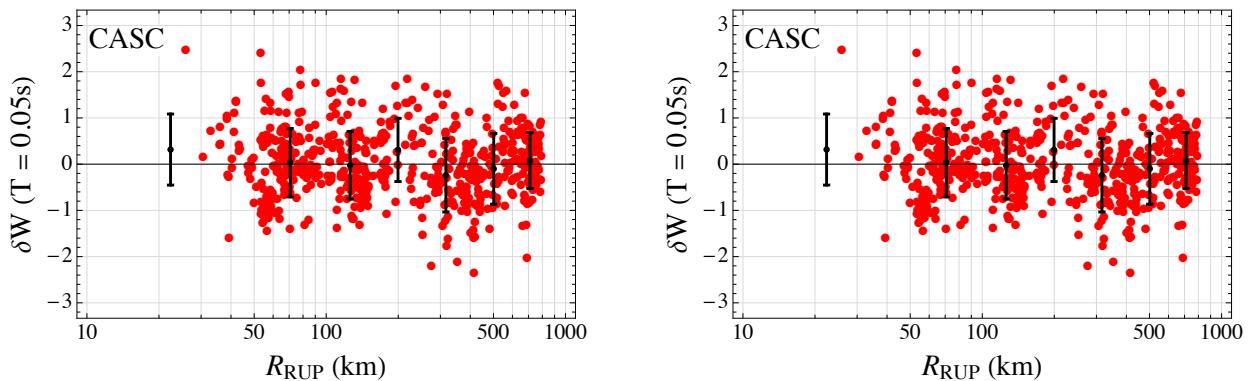


Figure 25: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05$ sec (left) and $T = 0.075$ sec (right) for Cascadia.

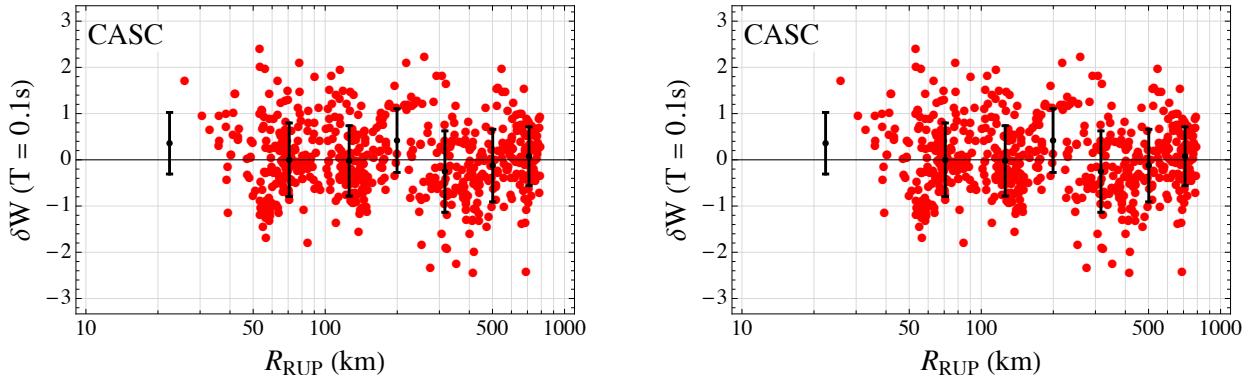


Figure 26: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for Cascadia.

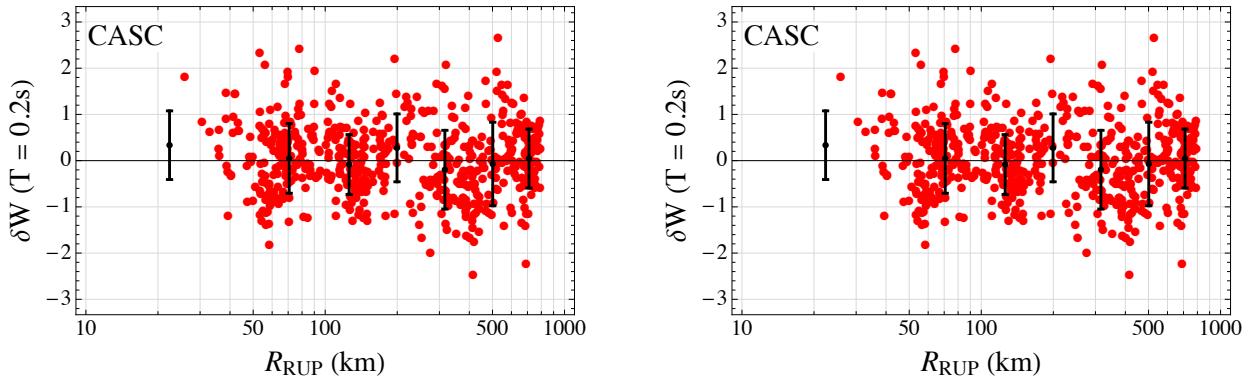


Figure 27: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for Cascadia.

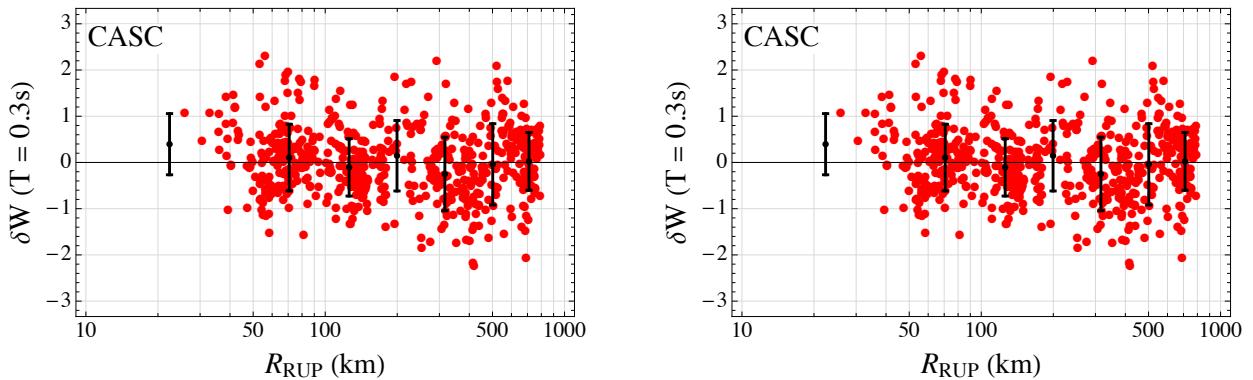


Figure 28: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for Cascadia.

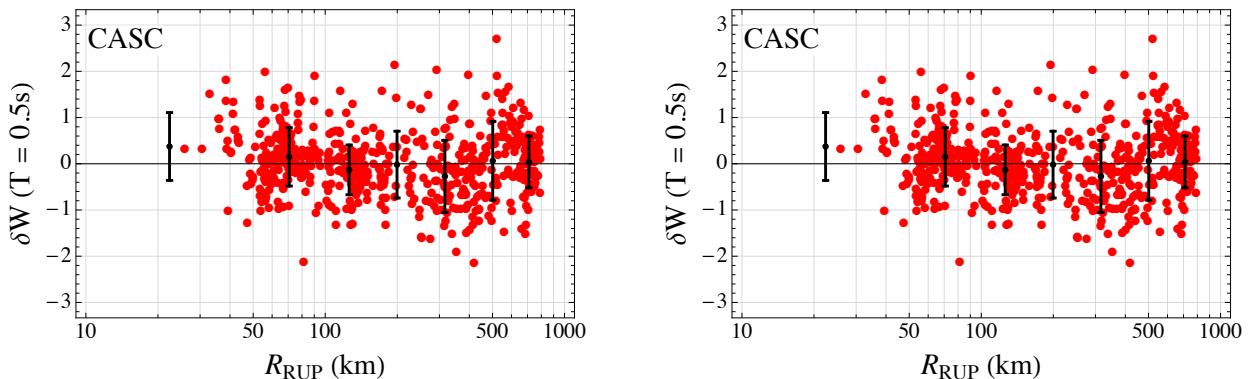


Figure 29: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for Cascadia.

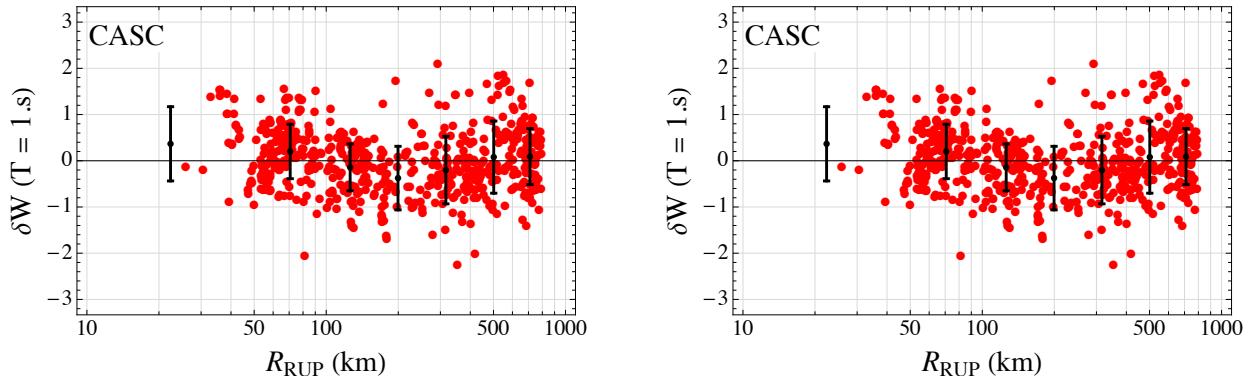


Figure 30: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for Cascadia.

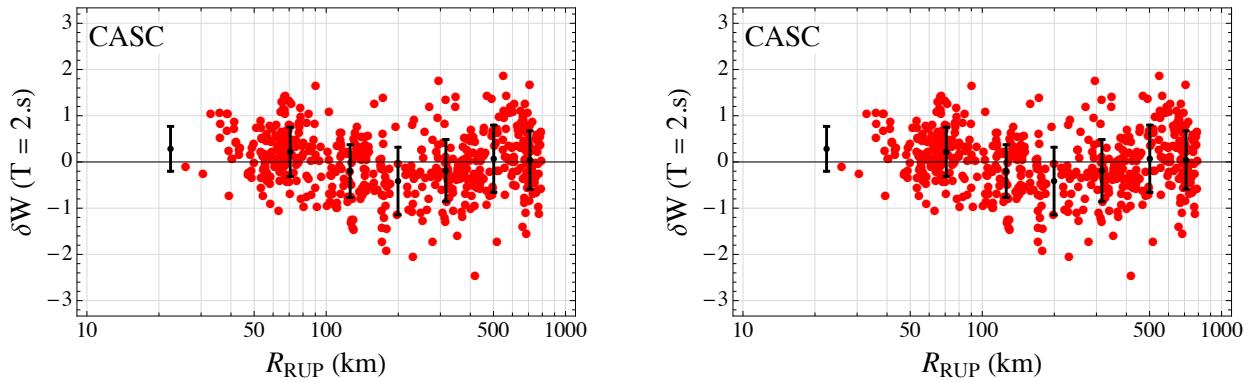


Figure 31: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for Cascadia.

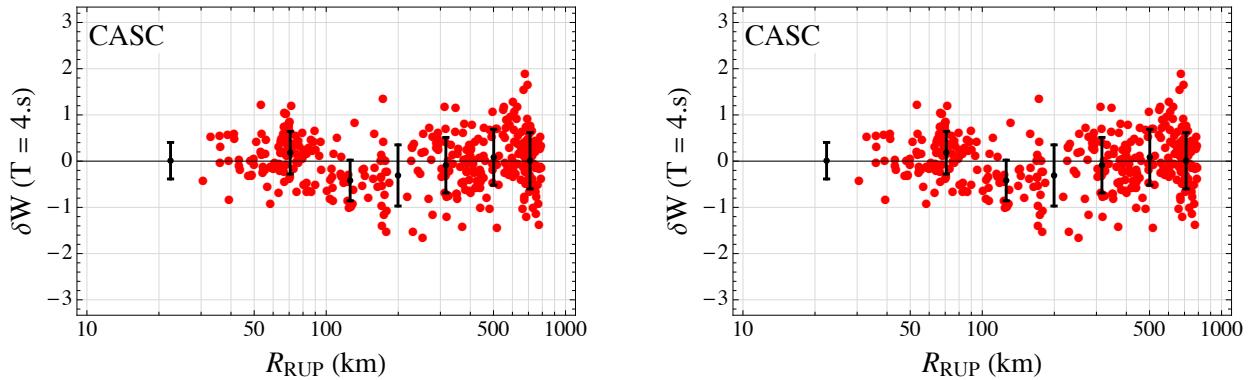


Figure 32: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for Cascadia.

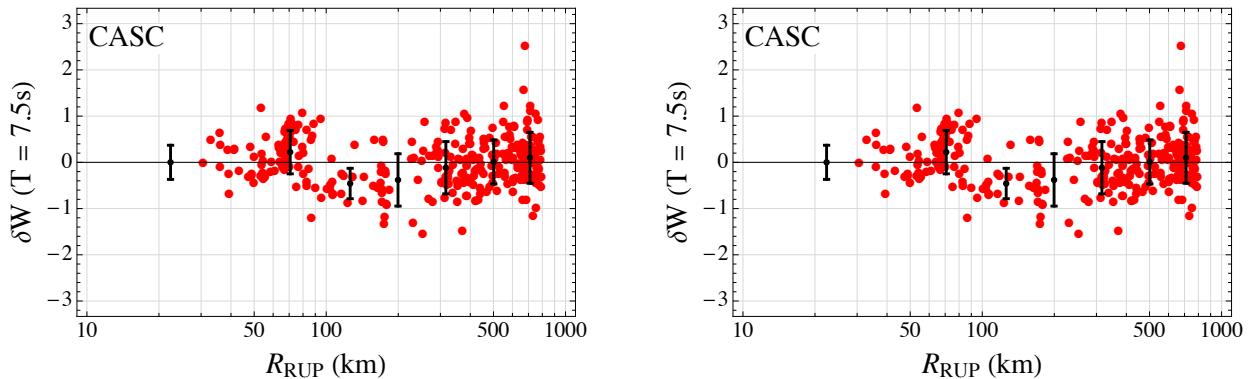


Figure 33: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for Cascadia.

1.4 CentralAmericaMexico Distance

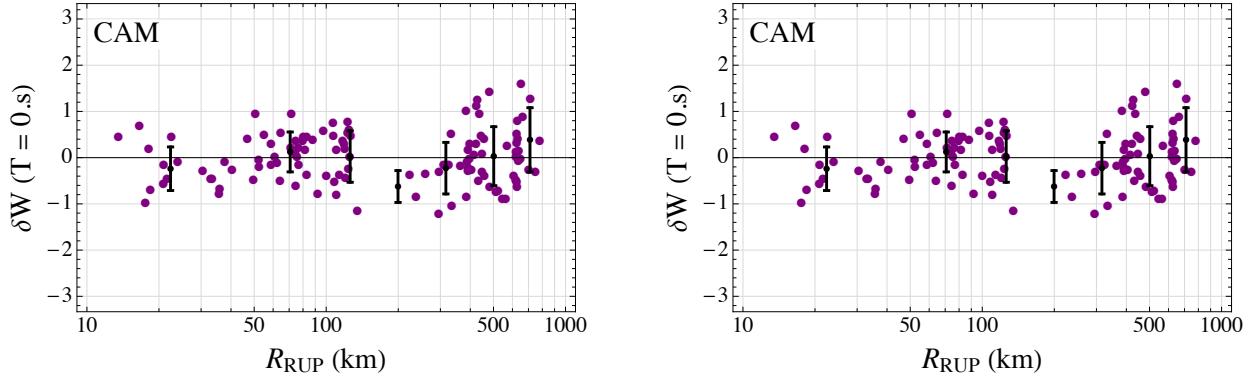


Figure 34: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.0 \text{ sec}$ (left) and $T = 0.01 \text{ sec}$ (right) for CentralAmericaMexico.

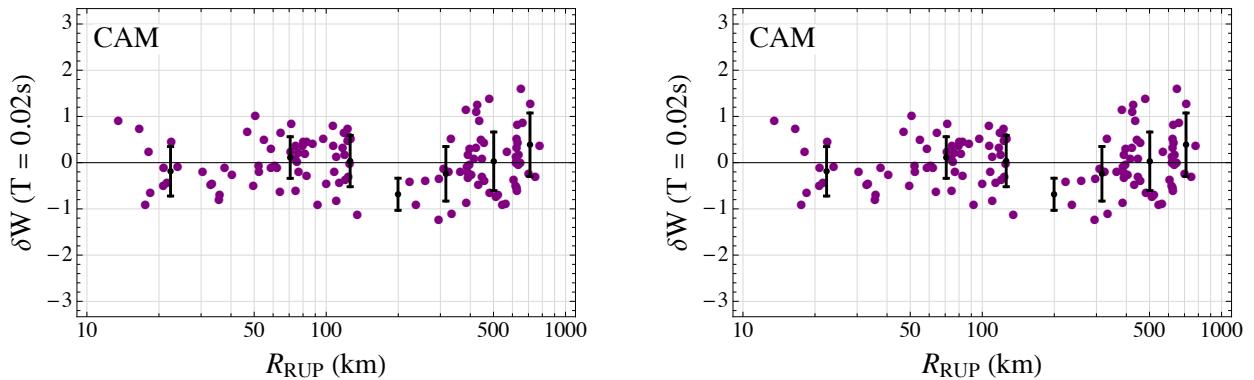


Figure 35: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02 \text{ sec}$ (left) and $T = 0.03 \text{ sec}$ (right) for CentralAmericaMexico.

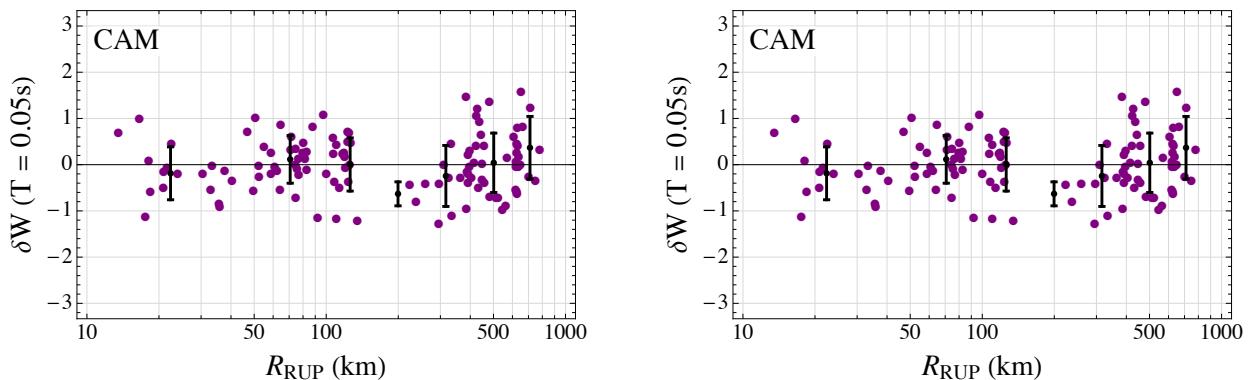


Figure 36: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05 \text{ sec}$ (left) and $T = 0.075 \text{ sec}$ (right) for CentralAmericaMexico.

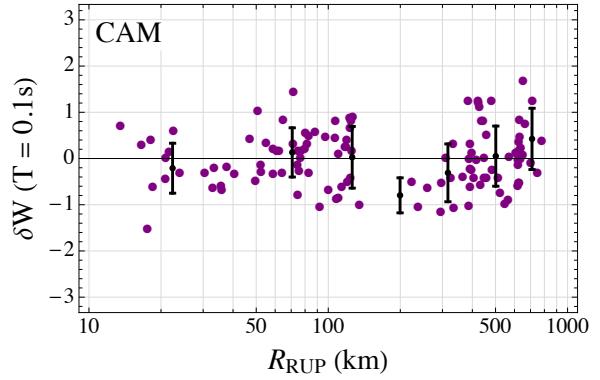
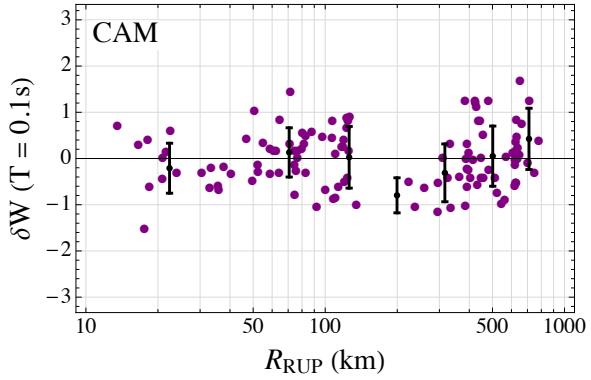


Figure 37: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for CentralAmericaMexico.

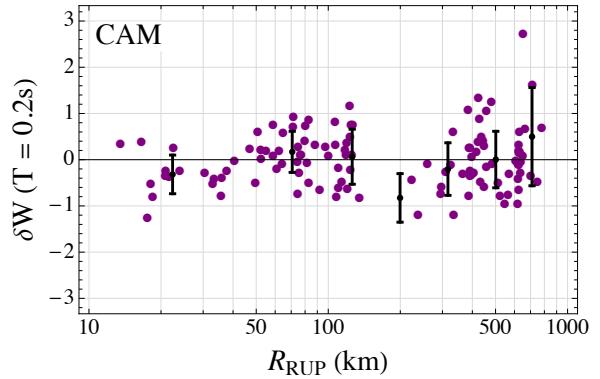
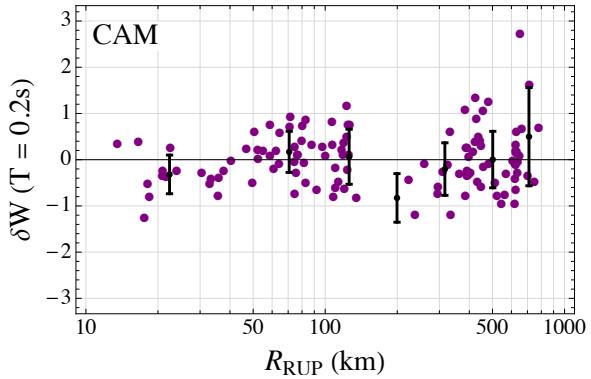


Figure 38: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for CentralAmericaMexico.

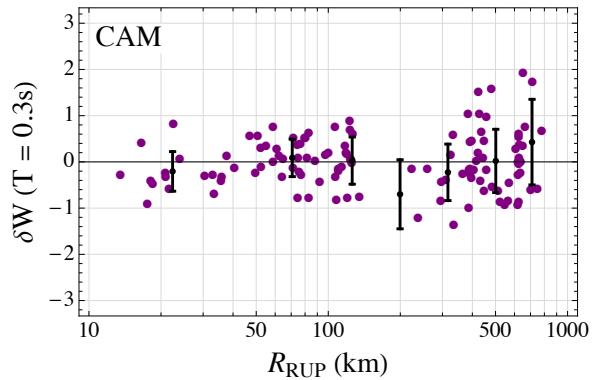
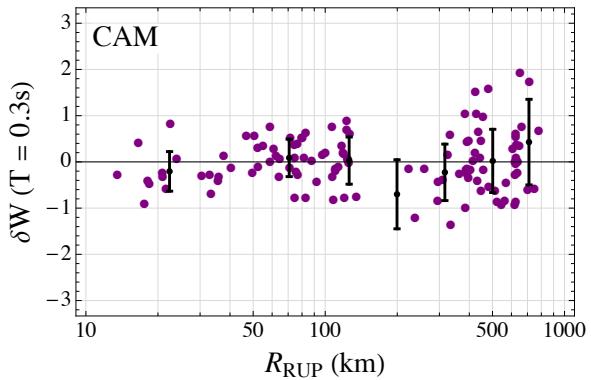


Figure 39: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for CentralAmericaMexico.

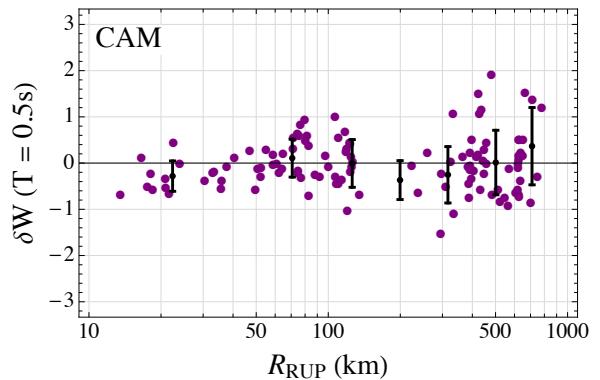
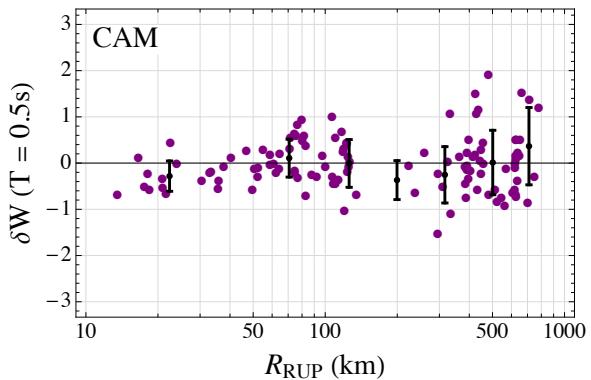


Figure 40: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for CentralAmericaMexico.

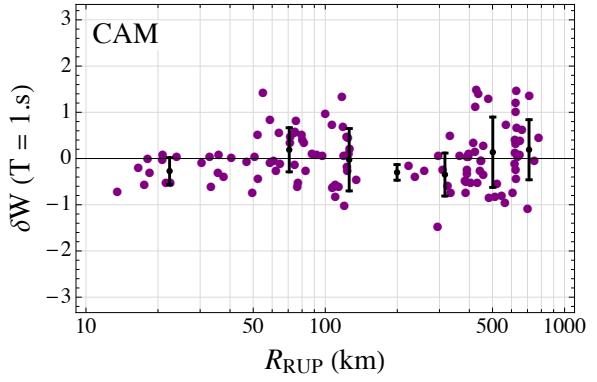
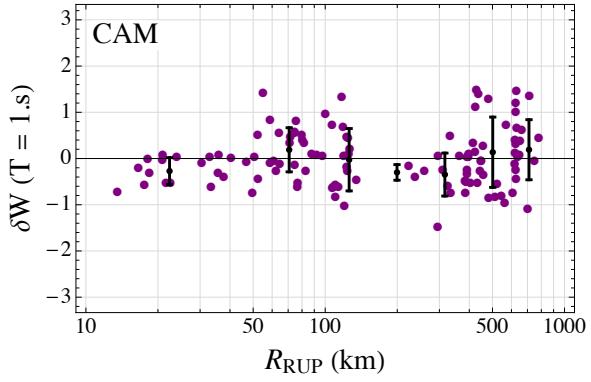


Figure 41: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for CentralAmericaMexico.

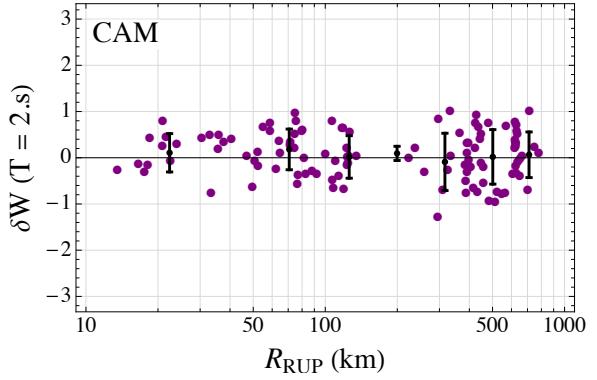
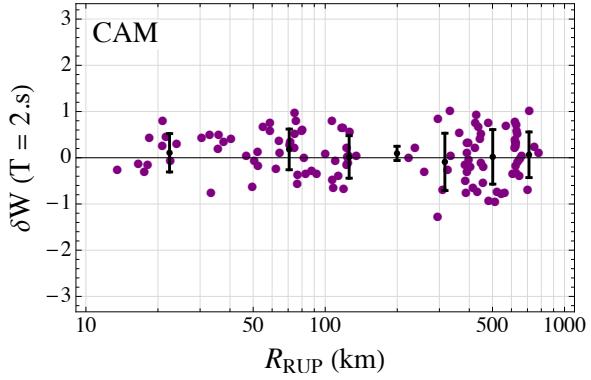


Figure 42: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for CentralAmericaMexico.

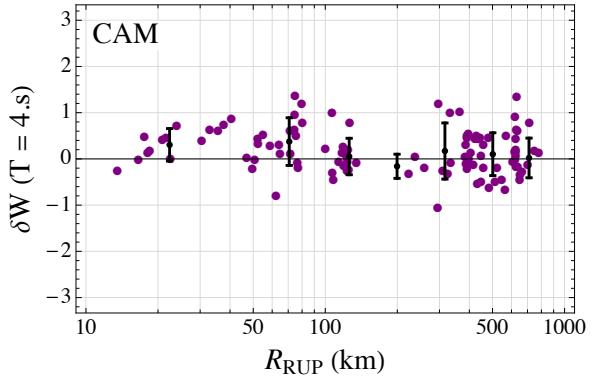
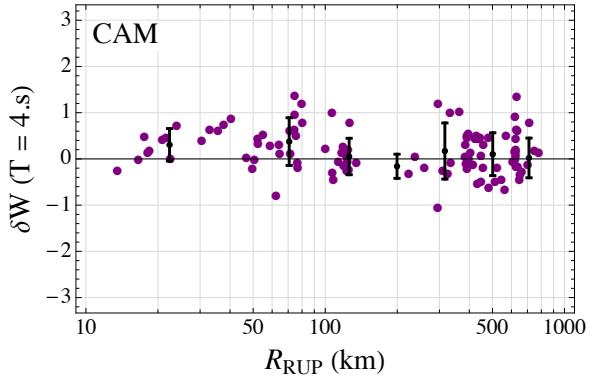


Figure 43: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for CentralAmericaMexico.

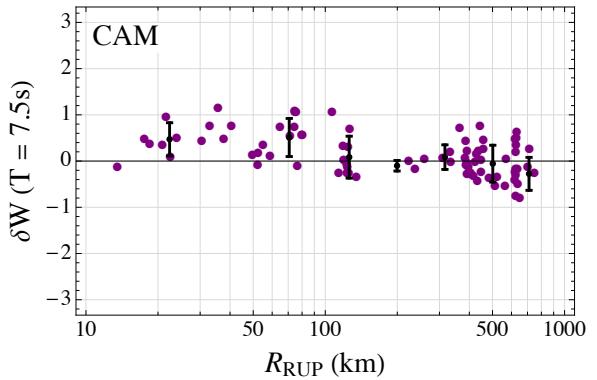
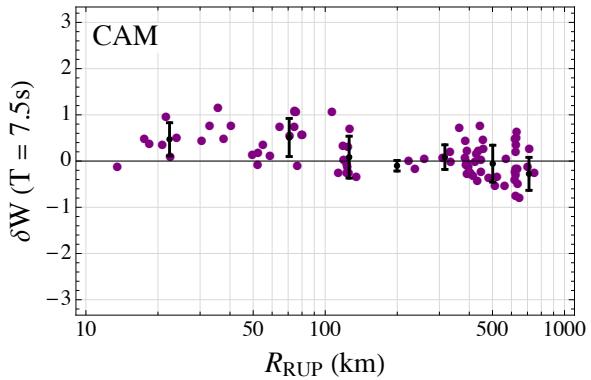


Figure 44: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for CentralAmericaMexico.

1.5 Japan Distance

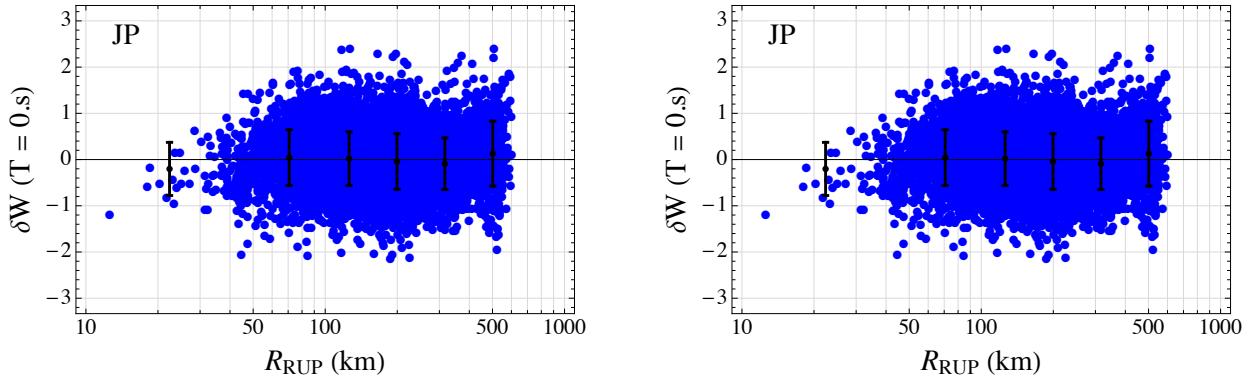


Figure 45: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.$ sec (left) and $T = 0.01$ sec (right) for Japan.

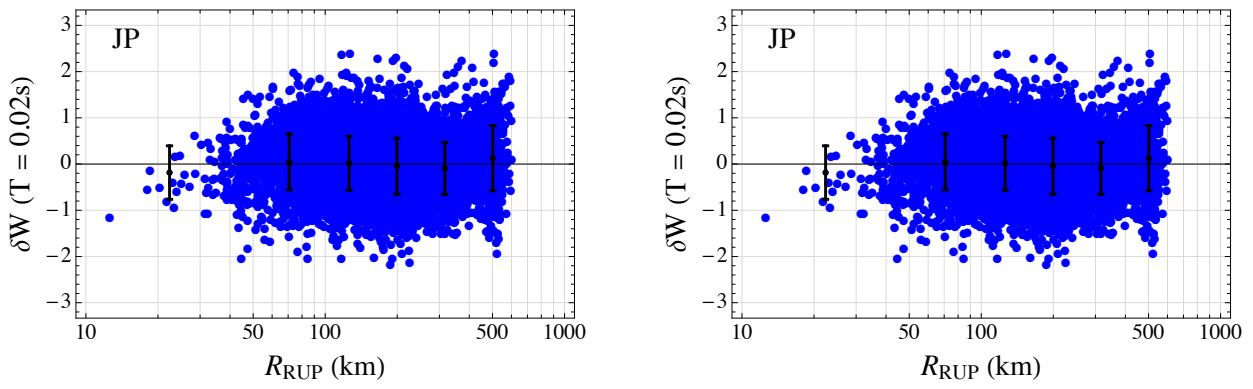


Figure 46: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02$ sec (left) and $T = 0.03$ sec (right) for Japan.

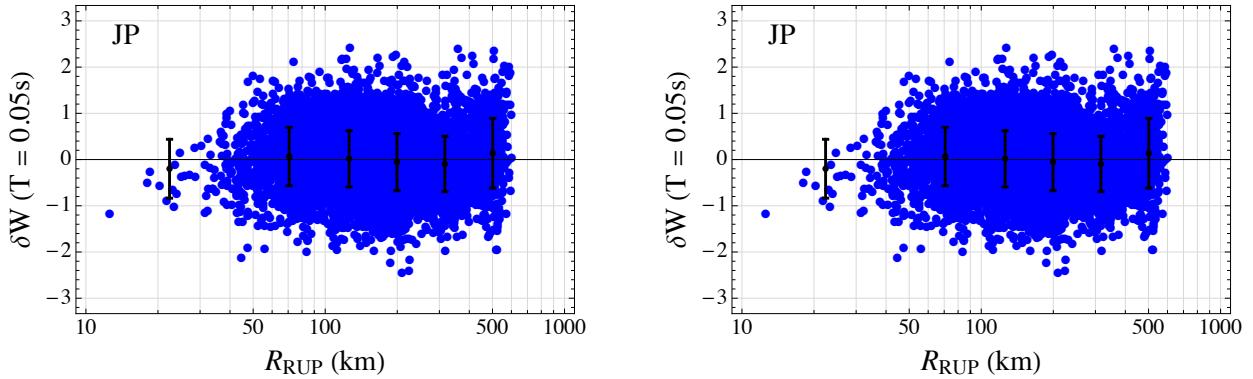


Figure 47: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05$ sec (left) and $T = 0.075$ sec (right) for Japan.

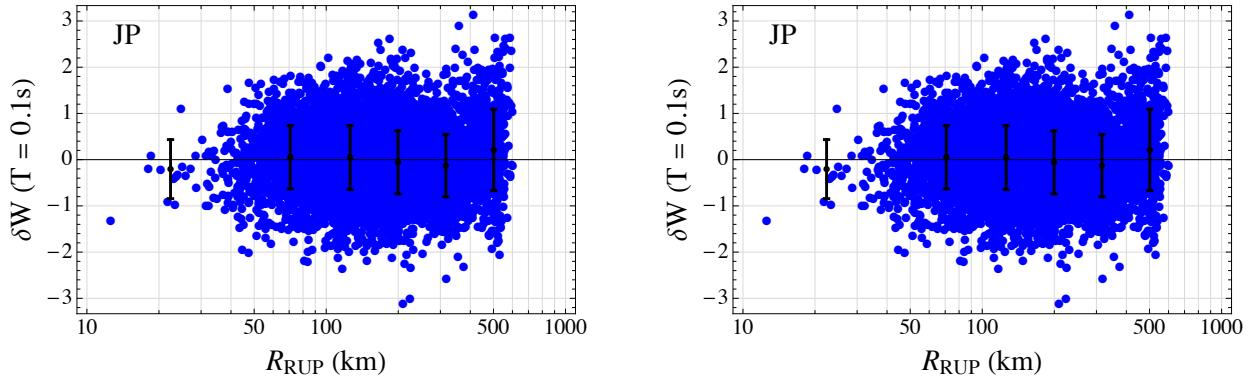


Figure 48: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for Japan.

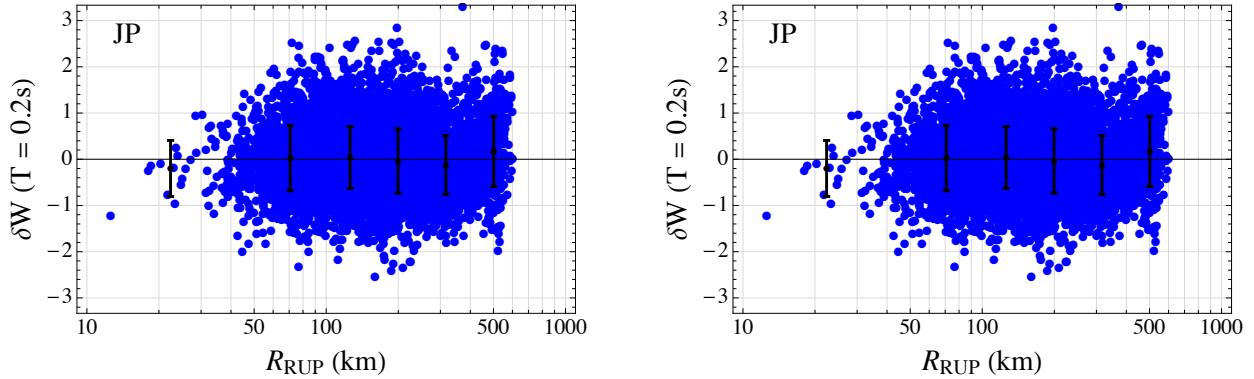


Figure 49: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for Japan.

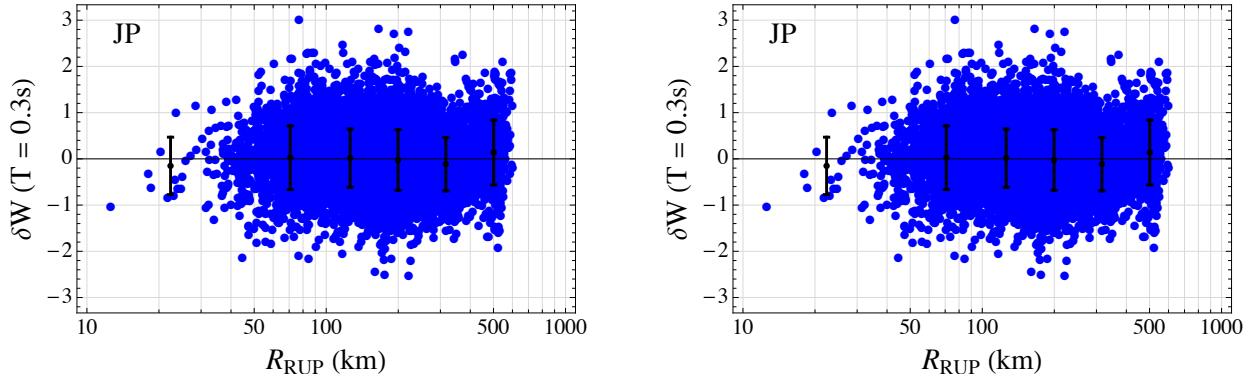


Figure 50: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for Japan.

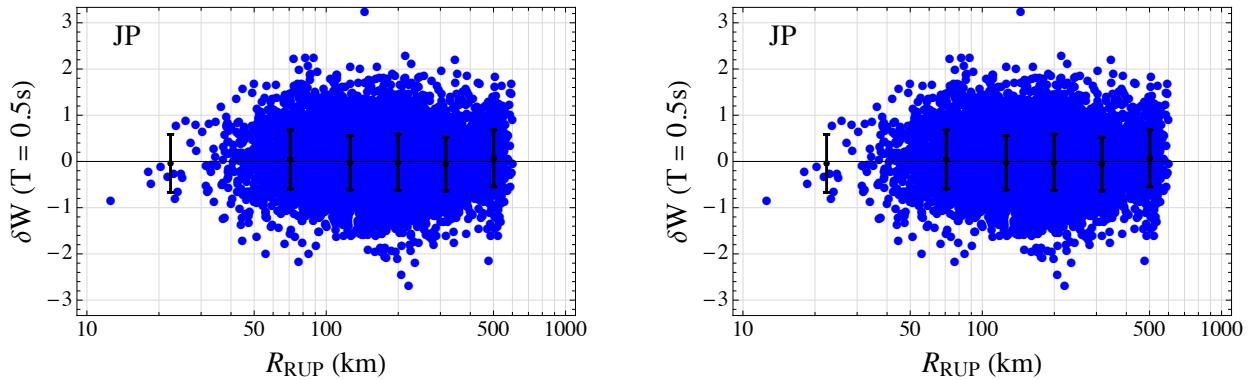


Figure 51: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for Japan.

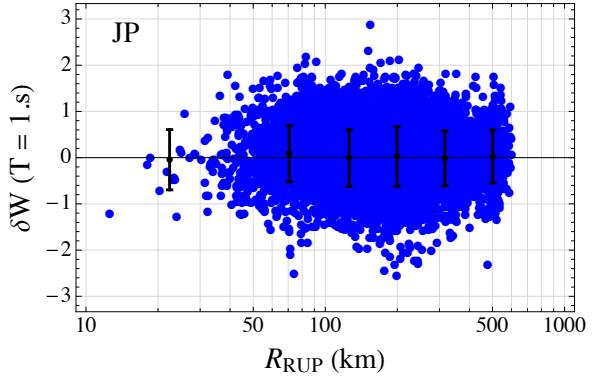
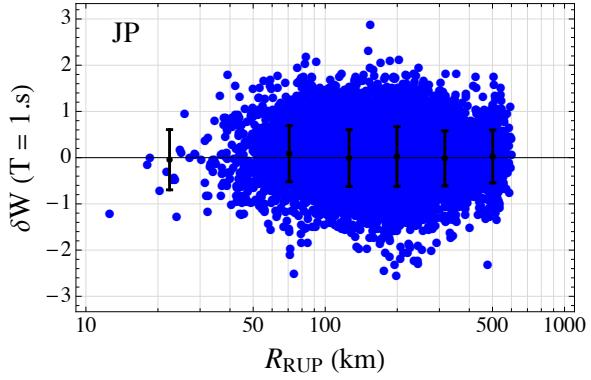


Figure 52: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for Japan.

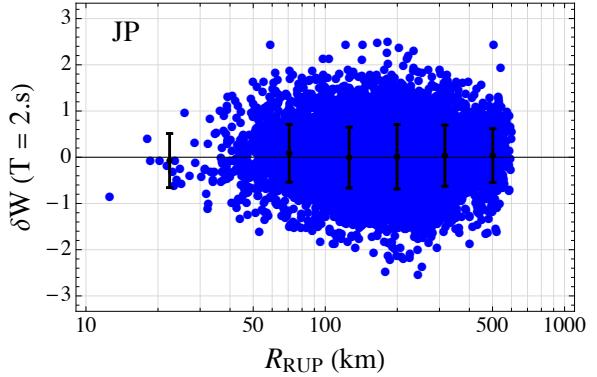
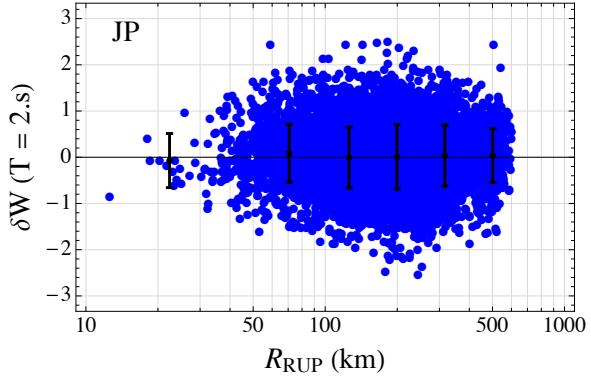


Figure 53: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for Japan.

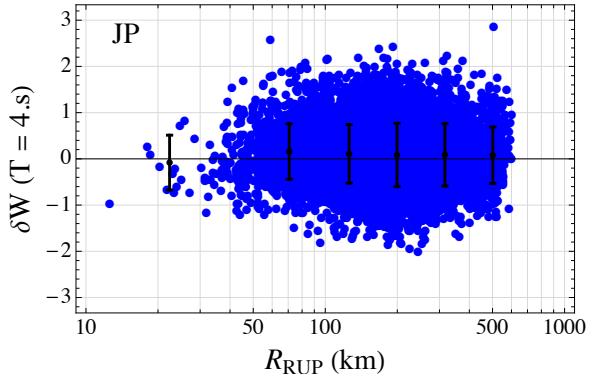
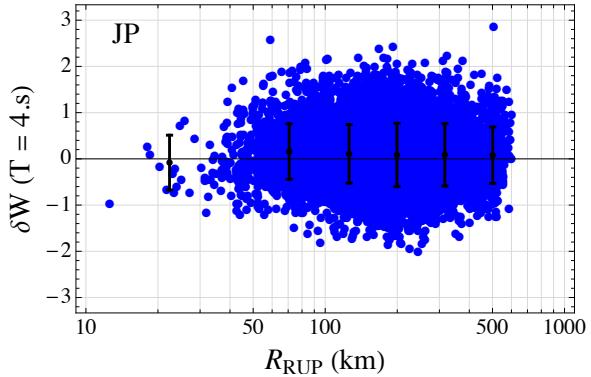


Figure 54: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for Japan.

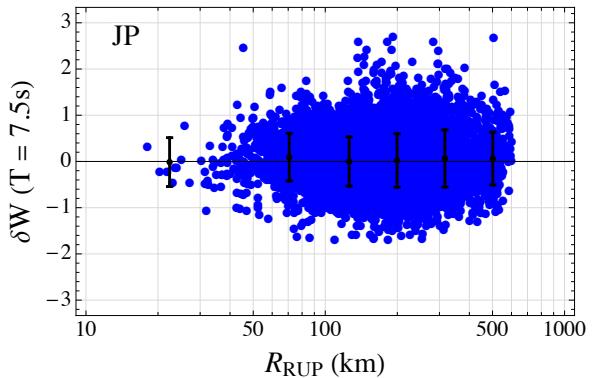
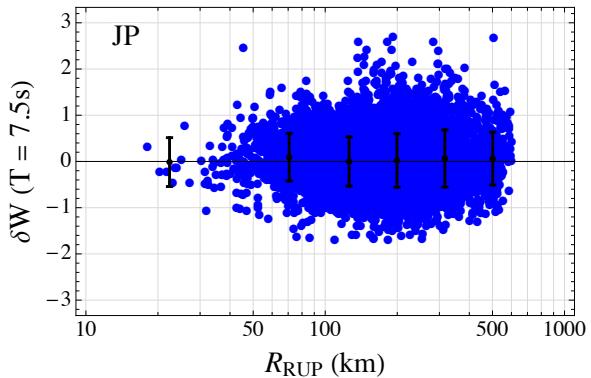


Figure 55: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for Japan.

1.6 NewZealand Distance

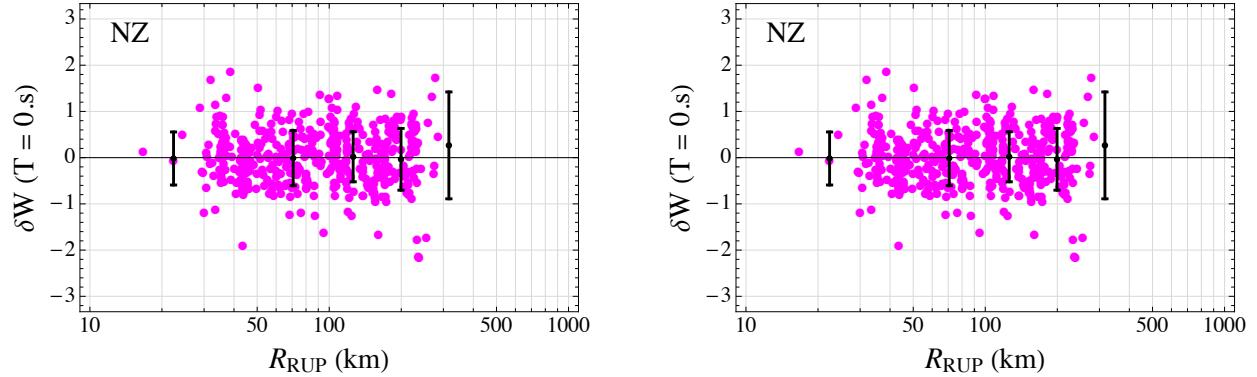


Figure 56: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0$. sec (left) and $T = 0.01$ sec (right) for NewZealand.

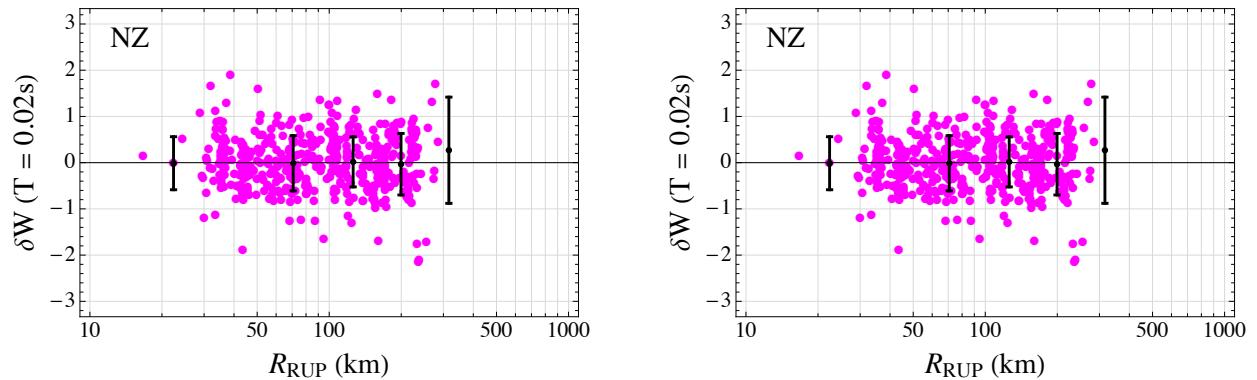


Figure 57: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02$ sec (left) and $T = 0.03$ sec (right) for NewZealand.

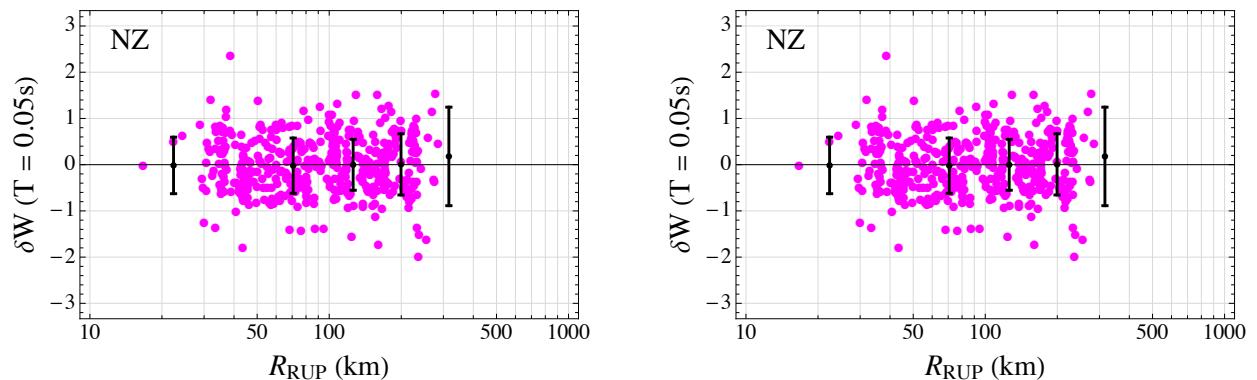


Figure 58: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05$ sec (left) and $T = 0.075$ sec (right) for NewZealand.

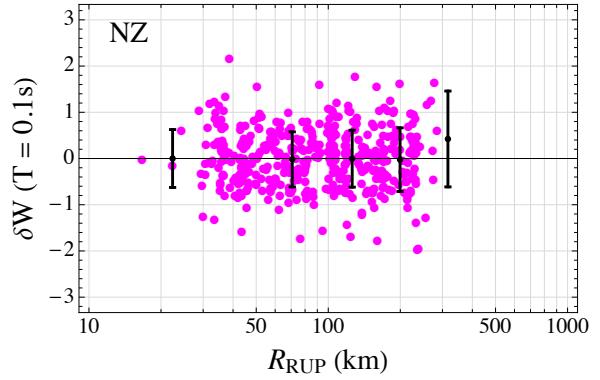
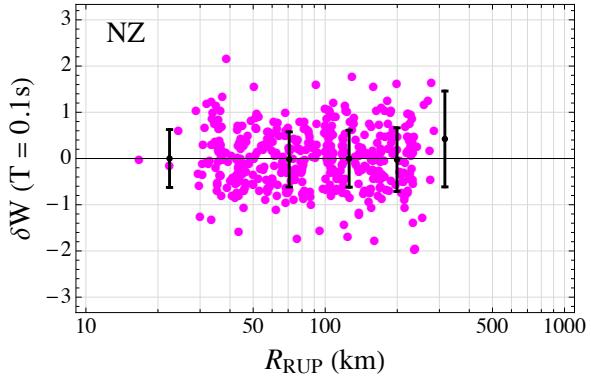


Figure 59: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1\text{ s}$ (left) and $T = 0.15\text{ s}$ (right) for New Zealand.

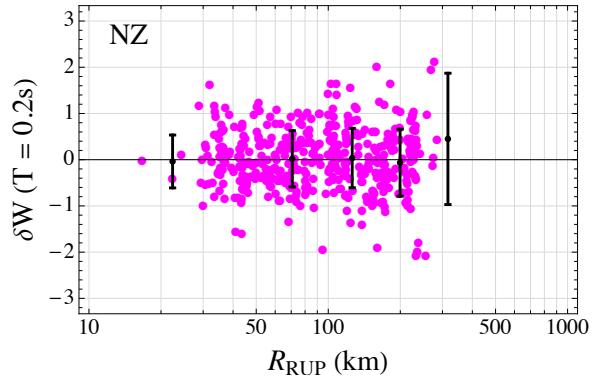
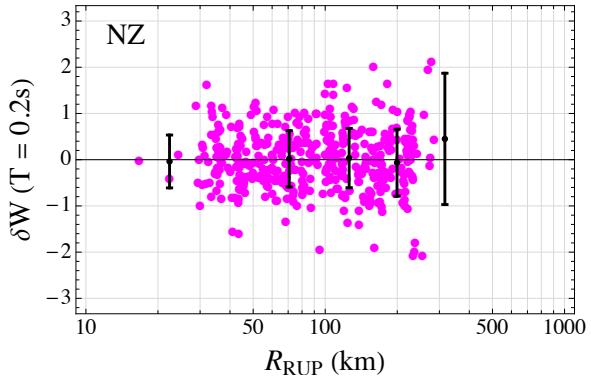


Figure 60: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2\text{ s}$ (left) and $T = 0.25\text{ s}$ (right) for New Zealand.

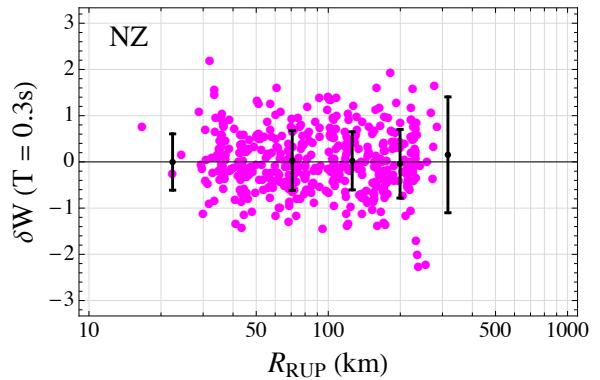
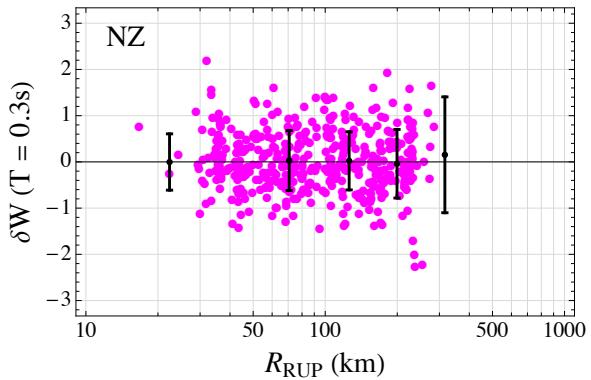


Figure 61: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3\text{ s}$ (left) and $T = 0.4\text{ s}$ (right) for New Zealand.

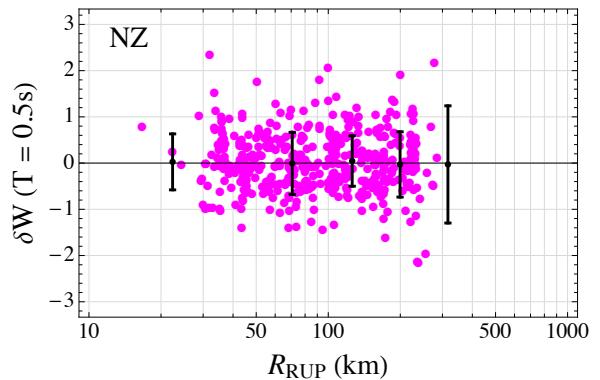
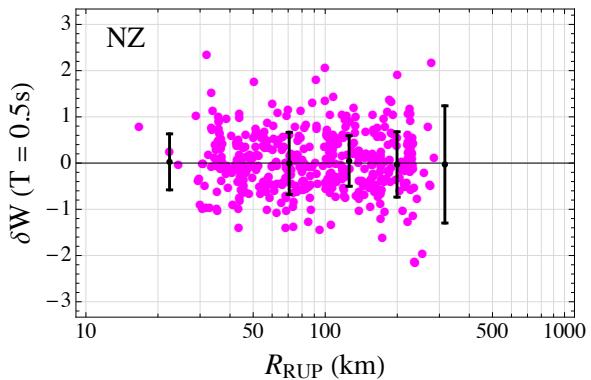


Figure 62: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5\text{ s}$ (left) and $T = 0.75\text{ s}$ (right) for New Zealand.

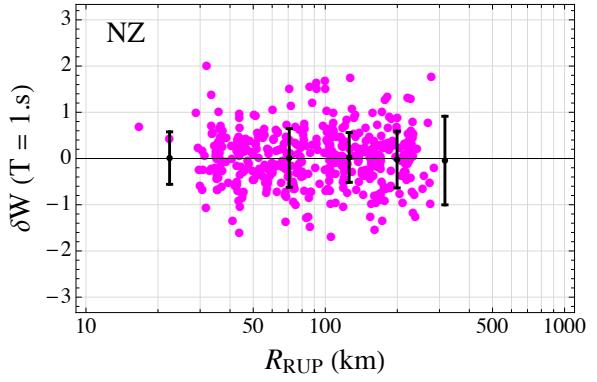
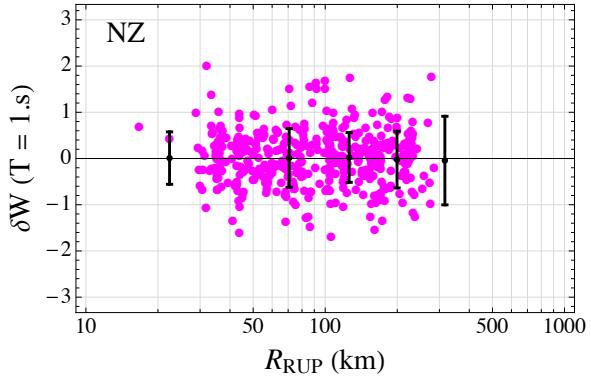


Figure 63: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for New Zealand.

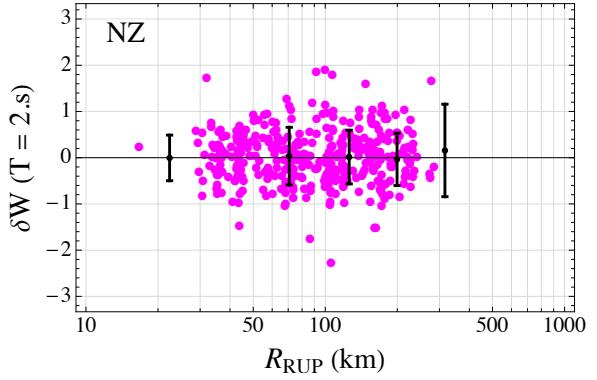
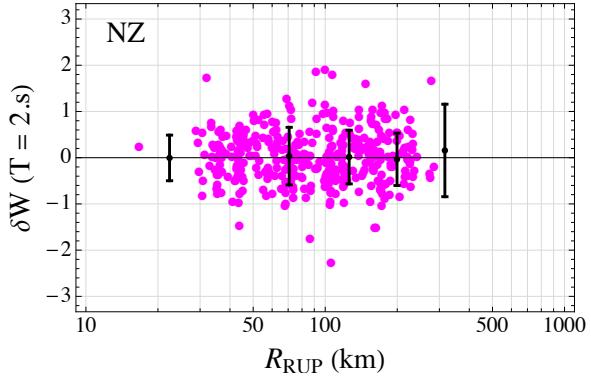


Figure 64: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for New Zealand.

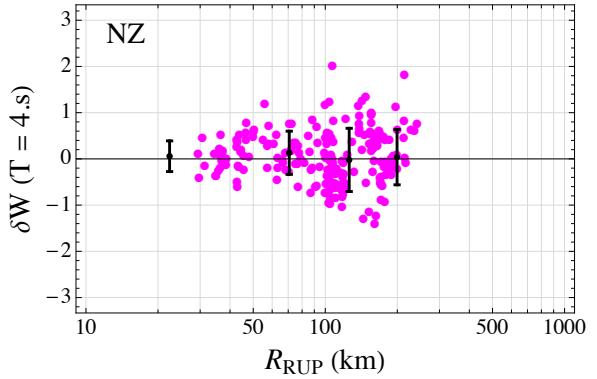
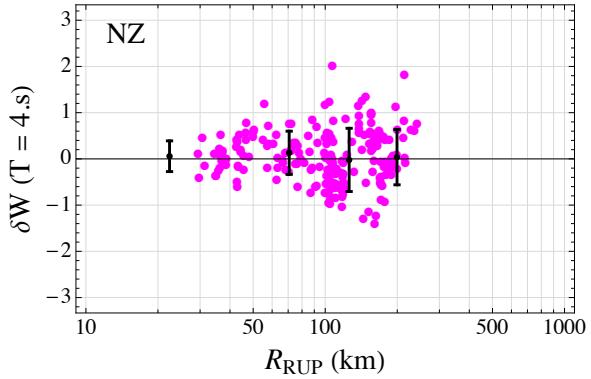


Figure 65: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for New Zealand.

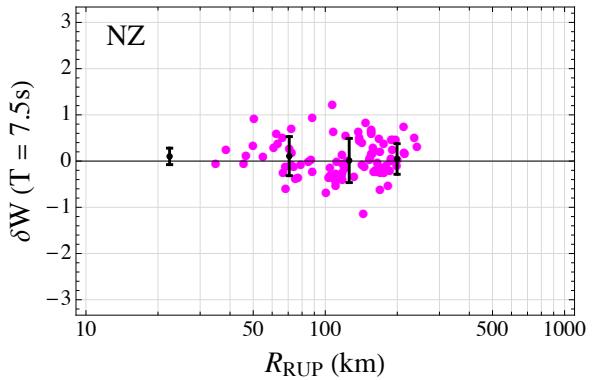
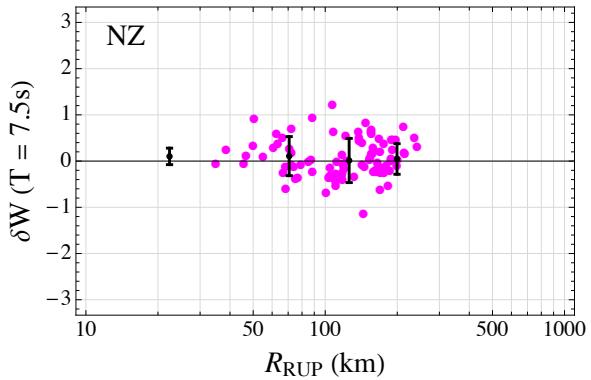


Figure 66: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for New Zealand.

1.7 SouthAmerica Distance

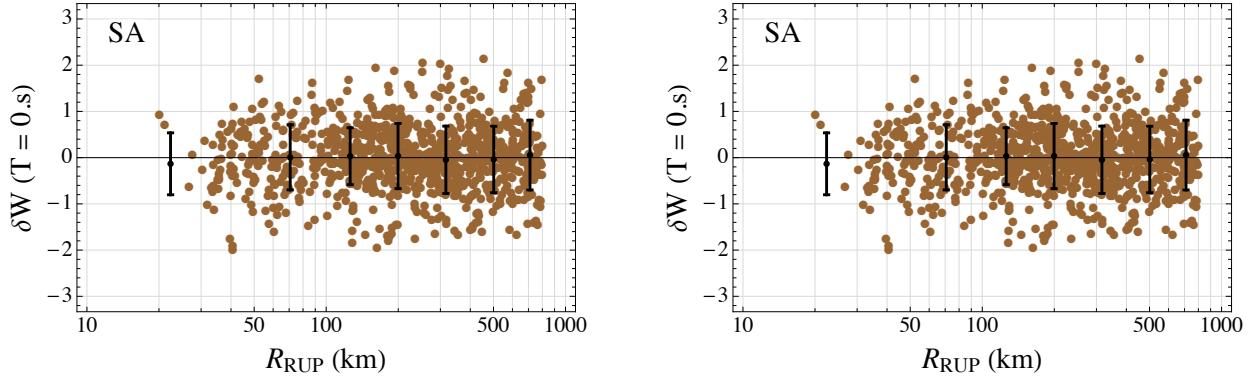


Figure 67: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.0 \text{ sec}$ (left) and $T = 0.01 \text{ sec}$ (right) for SouthAmerica.

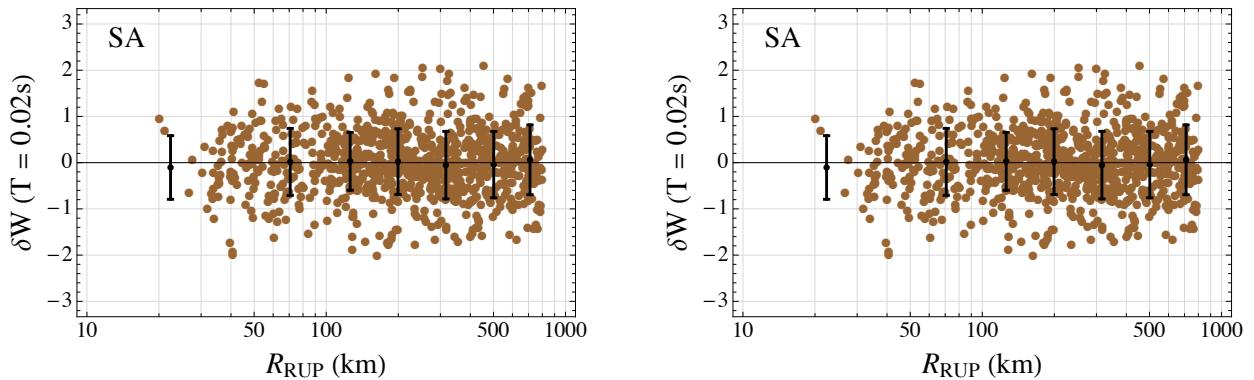


Figure 68: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02 \text{ sec}$ (left) and $T = 0.03 \text{ sec}$ (right) for SouthAmerica.

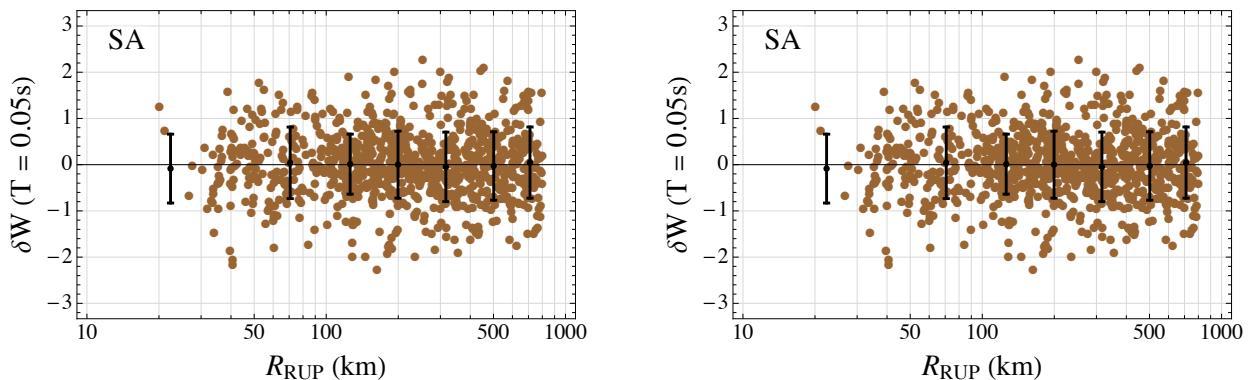


Figure 69: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05 \text{ sec}$ (left) and $T = 0.075 \text{ sec}$ (right) for SouthAmerica.

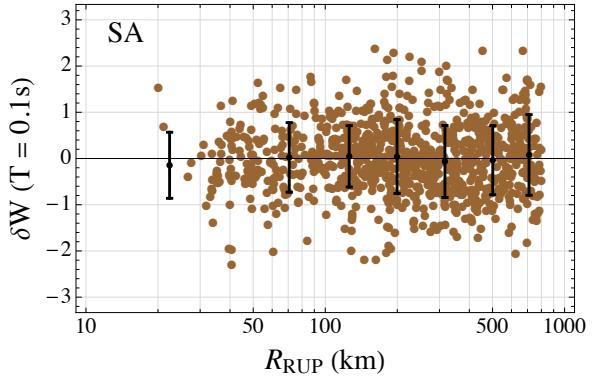
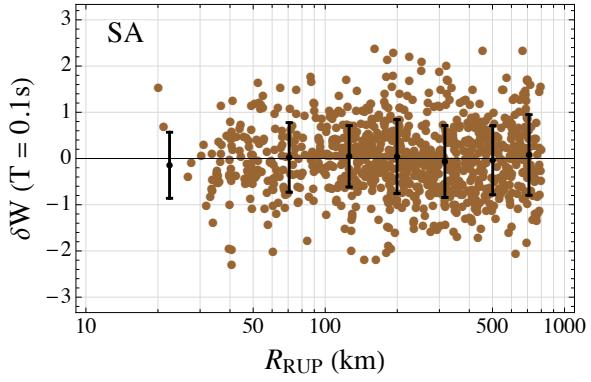


Figure 70: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for SouthAmerica.

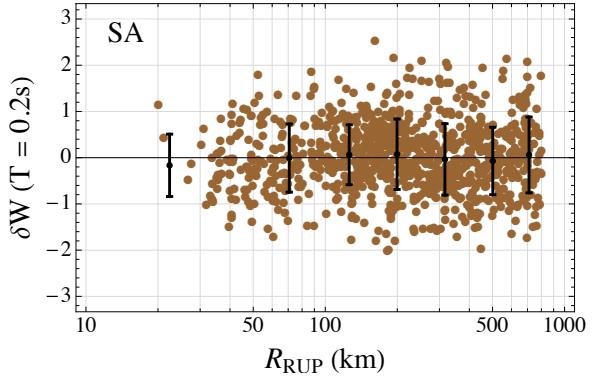
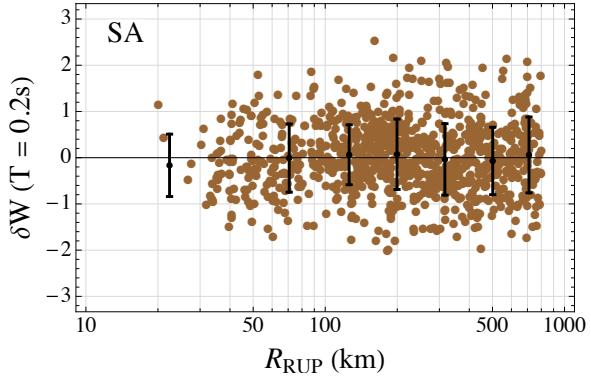


Figure 71: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for SouthAmerica.

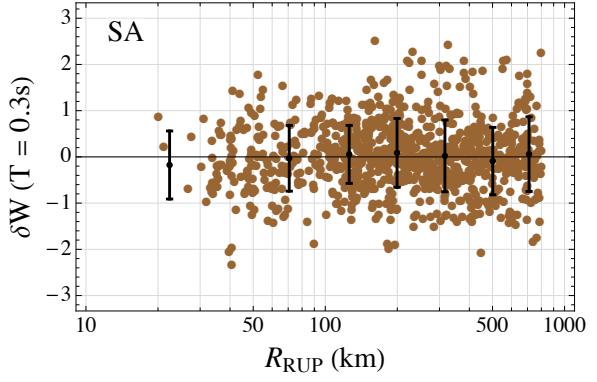
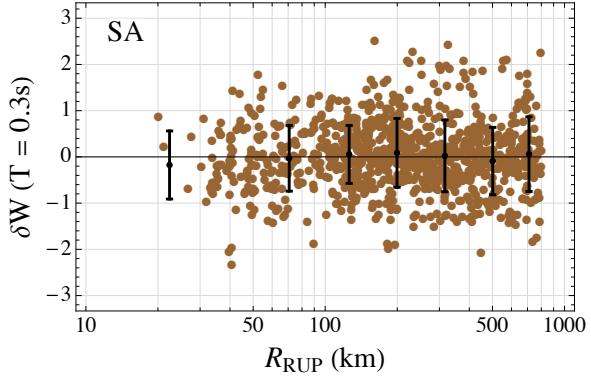


Figure 72: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for SouthAmerica.

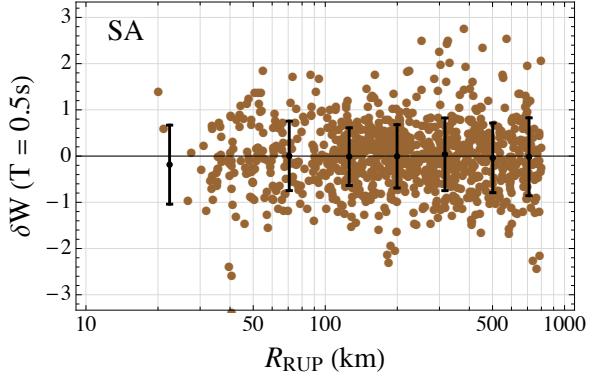
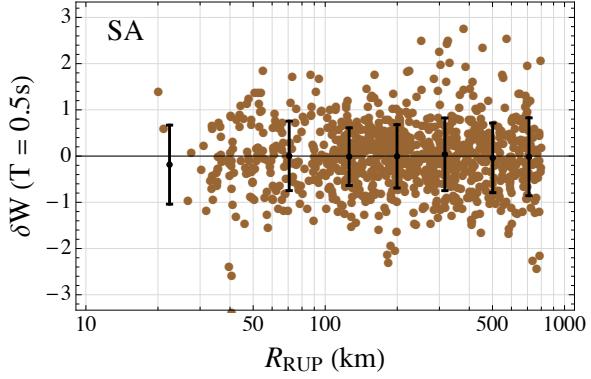


Figure 73: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for SouthAmerica.

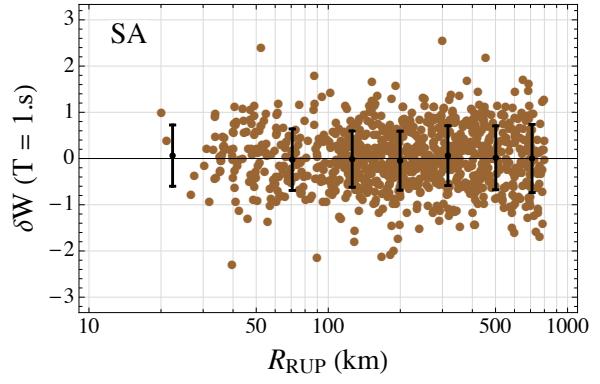
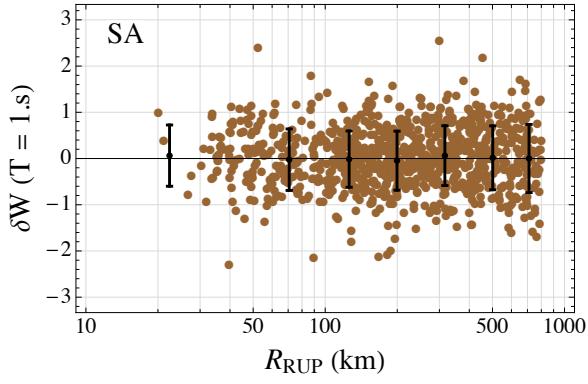


Figure 74: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for SouthAmerica.

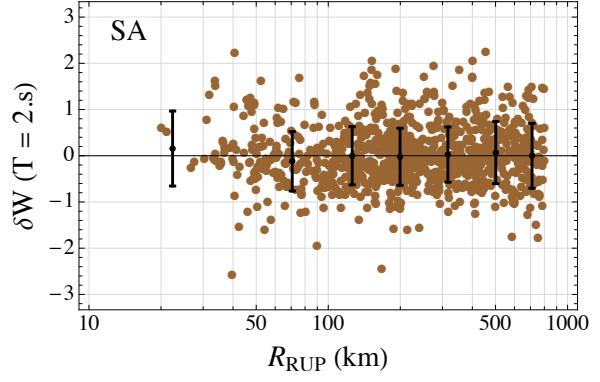
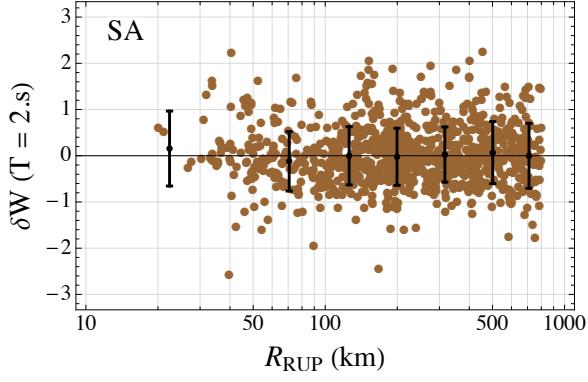


Figure 75: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for SouthAmerica.

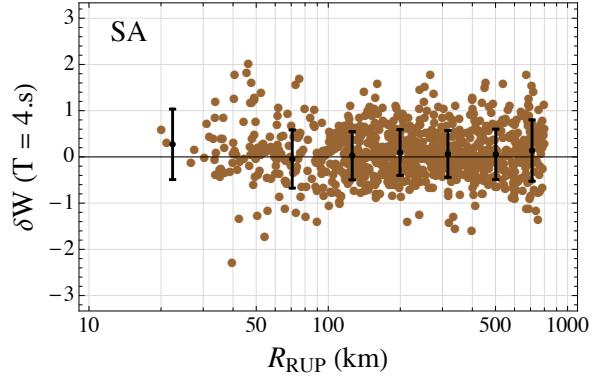
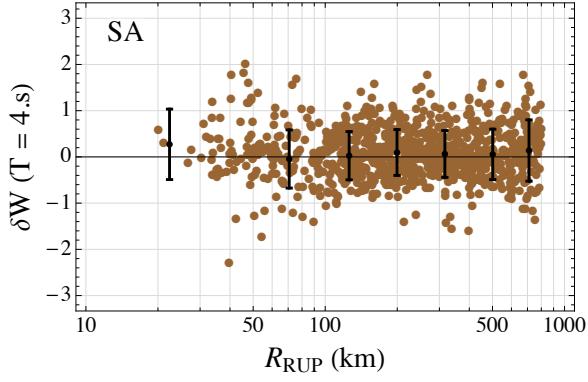


Figure 76: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for SouthAmerica.

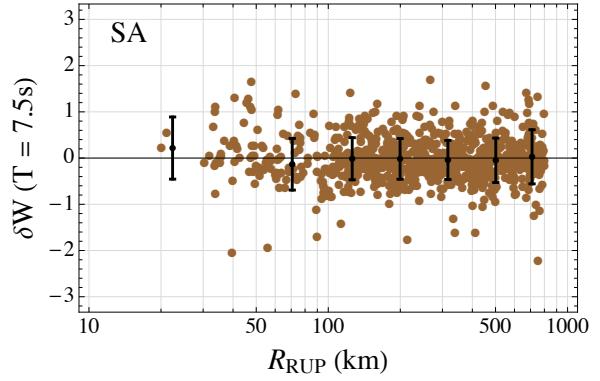
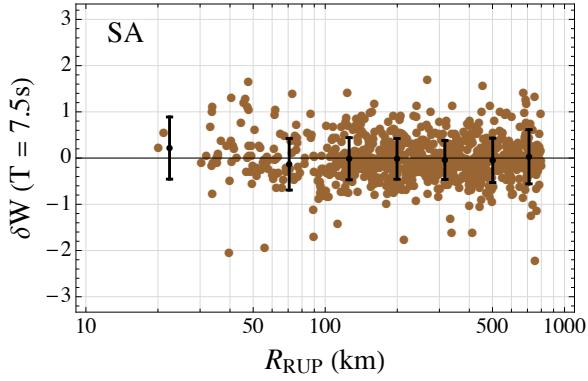


Figure 77: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for SouthAmerica.

1.8 Taiwan Distance

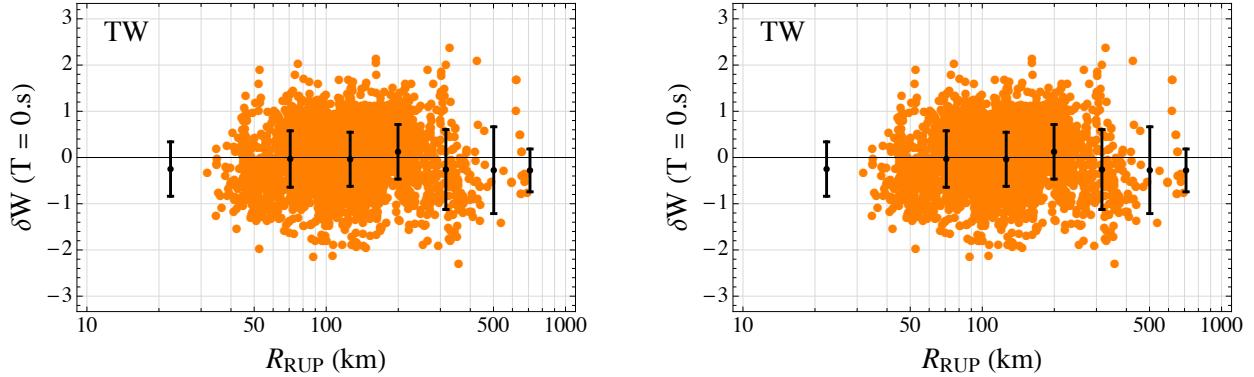


Figure 78: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.$ sec (left) and $T = 0.01$ sec (right) for Taiwan.

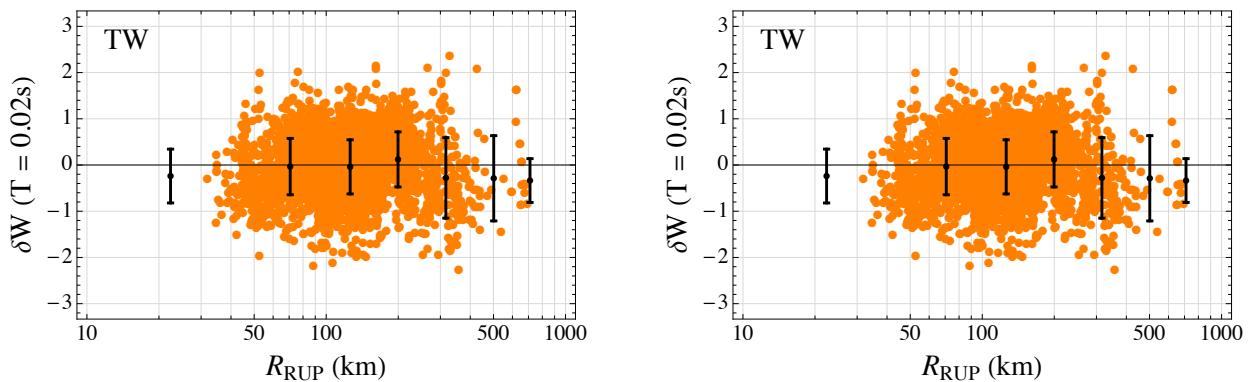


Figure 79: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.02$ sec (left) and $T = 0.03$ sec (right) for Taiwan.

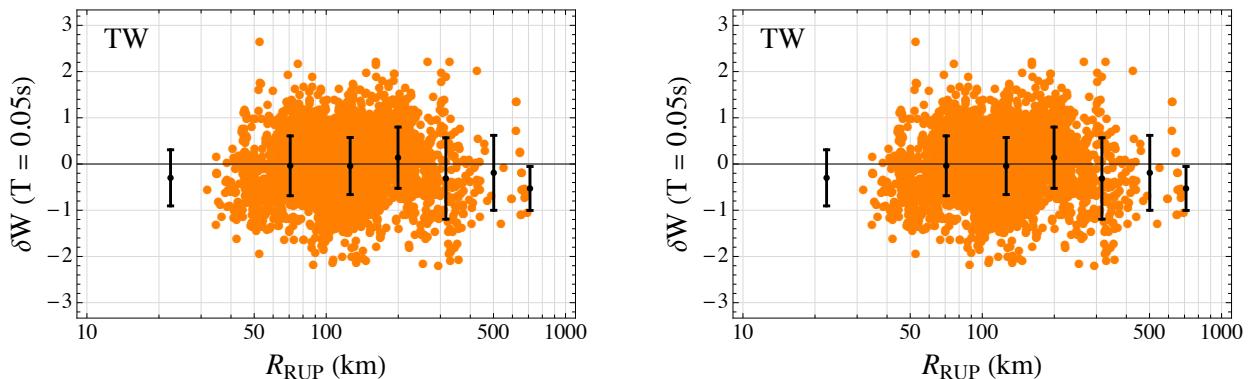


Figure 80: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.05$ sec (left) and $T = 0.075$ sec (right) for Taiwan.

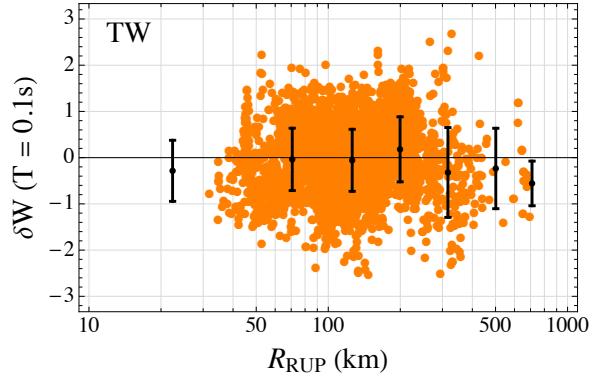
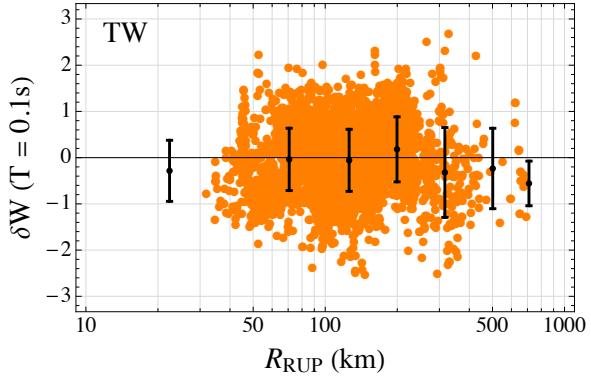


Figure 81: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.1$ sec (left) and $T = 0.15$ sec (right) for Taiwan.

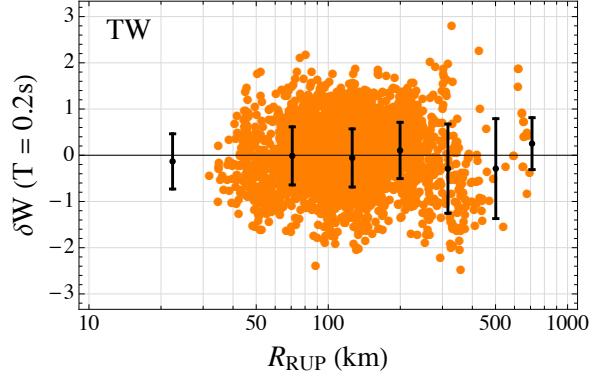
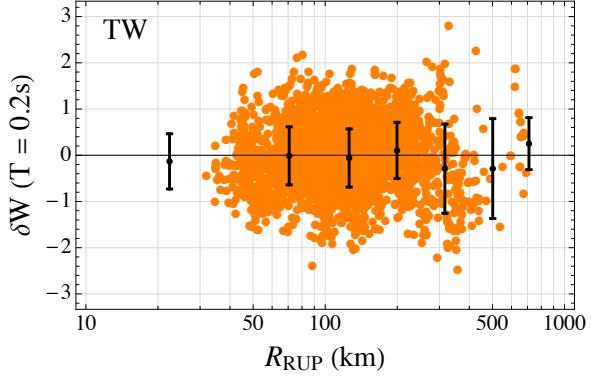


Figure 82: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.2$ sec (left) and $T = 0.25$ sec (right) for Taiwan.

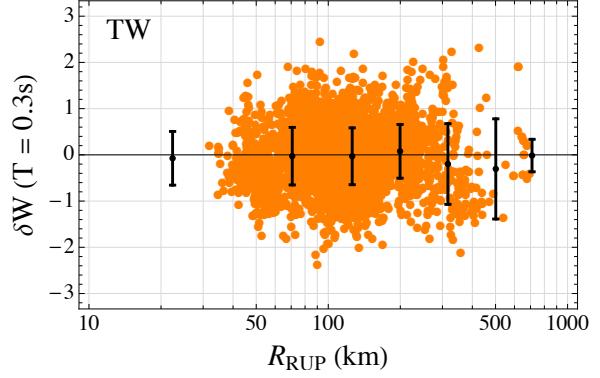
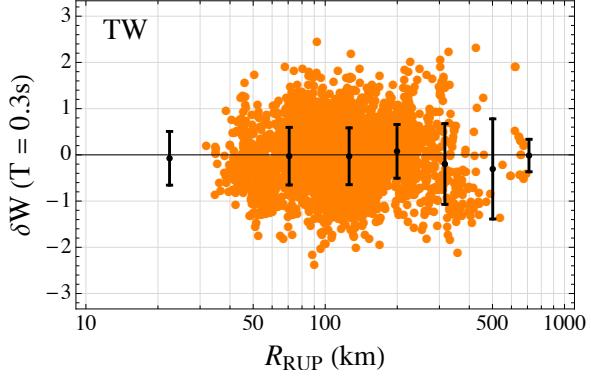


Figure 83: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.3$ sec (left) and $T = 0.4$ sec (right) for Taiwan.

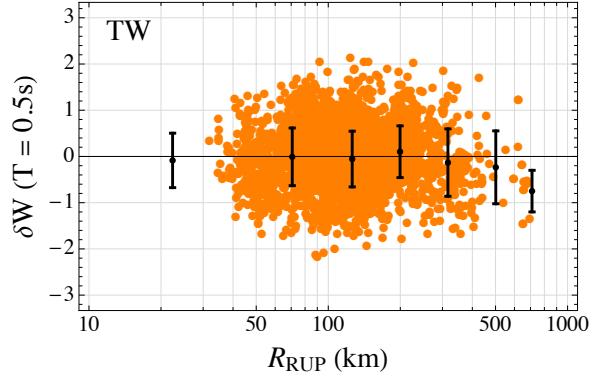
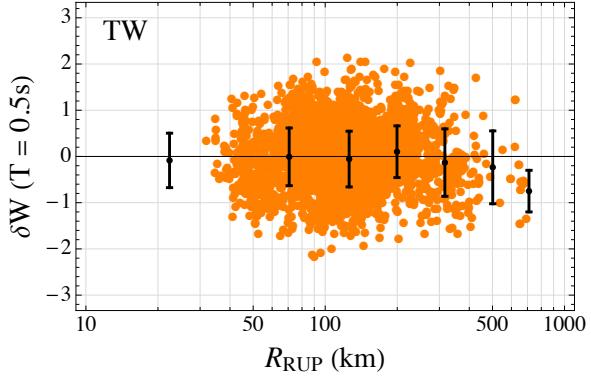


Figure 84: Plot of within-event residuals versus R_{RUP} and PSA at $T = 0.5$ sec (left) and $T = 0.75$ sec (right) for Taiwan.

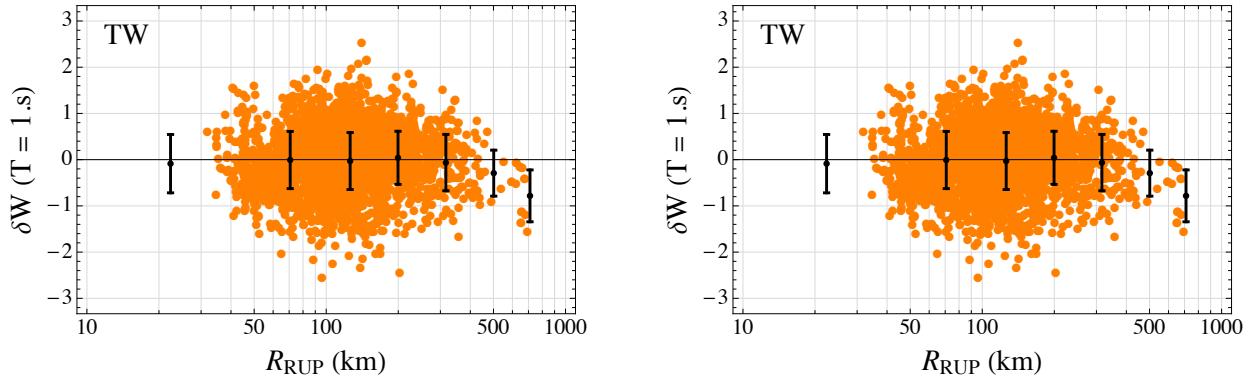


Figure 85: Plot of within-event residuals versus R_{RUP} and PSA at $T = 1.$ sec (left) and $T = 1.5$ sec (right) for Taiwan.

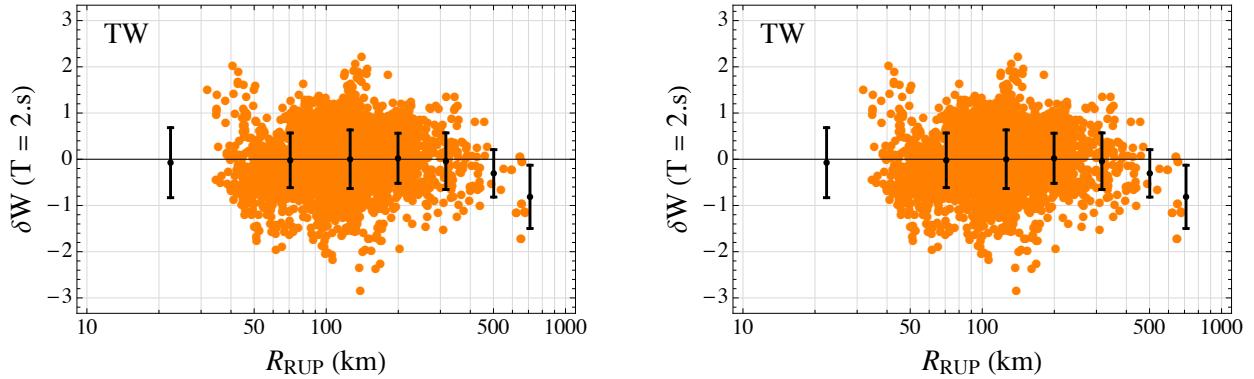


Figure 86: Plot of within-event residuals versus R_{RUP} and PSA at $T = 2.$ sec (left) and $T = 3.$ sec (right) for Taiwan.

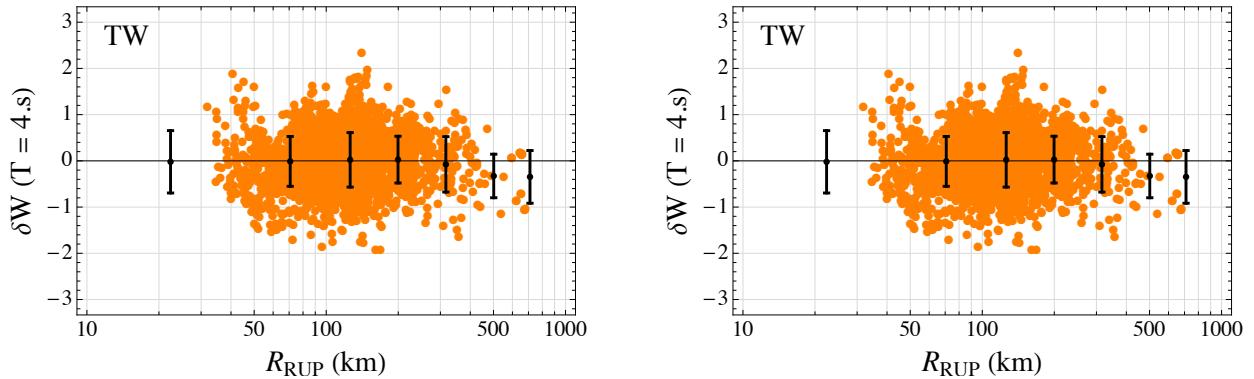


Figure 87: Plot of within-event residuals versus R_{RUP} and PSA at $T = 4.$ sec (left) and $T = 5.$ sec (right) for Taiwan.

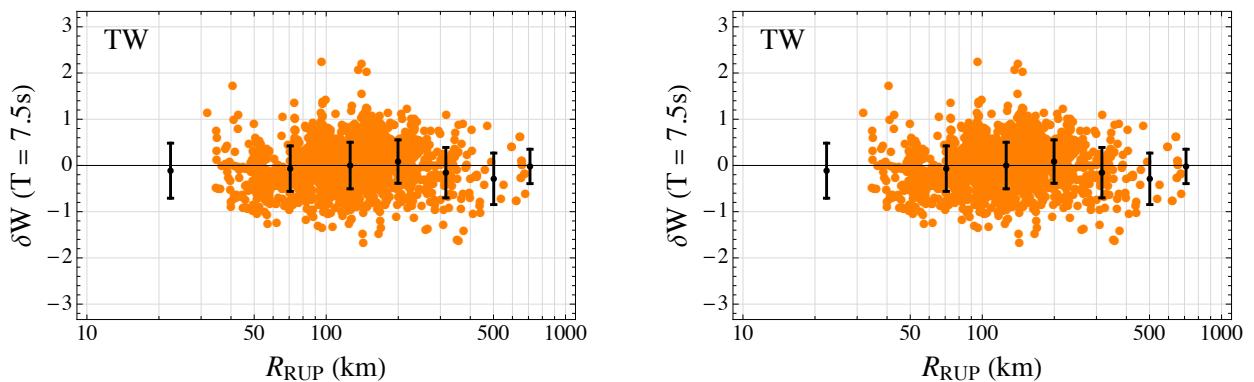


Figure 88: Plot of within-event residuals versus R_{RUP} and PSA at $T = 7.5$ sec (left) and $T = 10.$ sec (right) for Taiwan.