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Interactive comment on "Modal Properties and Stability of Bend-Twist Coupled Wind Turbine Blades" *by* Alexander R. Stäblein et al.

Anonymous Referee #1

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General comments: Overall a well-written and interesting paper which covers much ground on investigating the dynamics of bend-twist coupling on a large turbine (10 MW).

Specific comments:

1. Section 2- is any of this repeated in Stablein 2016a/b? If so, does it need to be repeated?

2. Sec 2.5.1 any explanation for the differences in the higher modes?

3. Sec 2.5.4 define gamma_y- is done later but should be here.

4. Sec 4.1 can you explain the sudden slope change in the tips for Fig 5/6

5. Sec 4.1.3 I am having difficulty understanding the phase angle relationships, the

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Discussion paper

work of the lift force, and the damping. Can this probably be described in more detail?

6. Sec 4.3 not clear how sensitivity to pitch is shown in Fig 12.

7. Sec 4.3 can you comment on the dip in Figure 18?

8. Sec 5 not clear how damping is shown in Fig 4.

Technical corrections:

1. Eq 3 and elsewhere- define length L- for the element or the entire blade. Eq 6 implies that that polynomial coefficients do not vary along L.

2. Fig 12/13/14/16 caption- should be amplitude (left column) phase (right column)

3. Sec 4.3 line 17- change camping to damping. No fun being dampened while camping.

4. Sec 5 "An observation that has also..." this sentence is not clear.

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