

## ***Interactive comment on “Determination of Natural Frequencies and Mode Shapes of a Wind Turbine Rotor Blades using Timoshenko Beam Elements” by Evgueni Stanoev and Sudhanva Kusuma Chandrashekhara***

**Anonymous Referee #2**

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I think this paper conveys the information, which is useful for the Wind Energy Science community. However, I've got an impression that the novelty and the significance of this submission are not clearly outlined.

The authors have included the paper by A. Bazoune, Y.A. Khulief and N.G. Stephen (JSV, 2003) in the list of references and mentioned it in Section 1 just in passing. However, it is not quite clear whether they have done anything novel in formulation of the stiffness matrix as compared with this reference. The formulation of the inertia matrix is reproduced from the earlier publication of the first author. I think the authors

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should be more prudent in assessment of novelty of their contribution.

The numerical example, which aims to validate the proposed solution method is unconvincing. In Conclusions, lines 16.18, the authors acknowledge difficulties in assessment of shear correction coefficients and confess that the values used for their calculations (10% and 20%, page 15, line 9) are 'very rough approximation' (page 18, line 18). How sensitive are the frequencies reported in Table 1 to the choice of these parameters? What would give the Bernoulli-Euler model?

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