

Authors' Closure

We want to thank Dr. Scharrer for his comments on clarifying some of the reasonings used in the nonlinearity study of bearing characteristics. As indicated by Dr. Scharrer, both the linear and higher order characteristics would have the same value at the equilibrium position. Such a comparison of the linear, higher order and approximation of the exact stiffness will provide valuable information on the nonlinearities of the

bearing. Evaluating the linear and higher order solution at the various eccentric locations will yield the same value as the exact approximation and will make the nonlinearity study not possible. The use of a larger perturbation size as indicated by Dr. Scharrer will result in averaging out the solution rather than the more accurate representation of the stiffness at the eccentric locations as presented in the appendix of the paper. Such reasoning is also explain why only small perturbation solution is used a the more eccentric position rather than using an averaged stiffness value of two extreme positions.